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CITY OF LEEDS

REPORT

ON THE

Health & Sanitary Administration

OF THE CITY

FOR THE YEAR 1933

By J. JOHNSTONE JERVIS, M.D., D.P.H.,

Medical Officer of Health.

TABLE OF CONTENTS.

NATURAL AND SOCIAL CONDITIONS.

INFECTIOUS AND OTHER DISEASES.

INFECTIOUS AND OTHER DISEASES—*continued.* PAGE

TUBERCULOSIS.

MATERNITY AND CHILD WELFARE.

PAGE

INSPECTION AND SUPERVISION OF FOOD.

SANITARY CIRCUMSTANCES.

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Medical Officer of Health and Chief Tuberculosis Officer.	J. Johnstone Jervis, M.D., Ch.B. D.P.H.
Chief Assistant Medical Officer of Health	E. A. Underwood, M.A., B.Sc., M.B., Ch.B., D.P.H.
Assistant Medical Officer of Health for Maternity and Child Welfare and Medical Officer of Infants' Hospital	Gladys J. C. Russell, M.B., Ch.B., D.P.H.
Assistant Medical Officers for Maternity and Child Welfare	Sarah N. S. Barker, M.B., Ch.B., L.R.C.P., M.R.C.S. Maria L. Gaunt, M.B., Ch.B. Anne M. Forrest, M.B., Ch.B., D.P.H. Marion Knowles, M.B., Ch.B. Margaret S. M. Reid, M.D., D.P.H.
Consulting Clinical Tuberculosis Officer	H. de Carle Woodcock, M.D., M.R.C.S., F.R.C.P. (Edin.), D.P.H.
Chief Clinical Tuberculosis Officer ..	N. Tattersall, M.D., B.S., Ch.B.
Assistant Clinical Tuberculosis Officer	S. Thompson, M.B., Ch.B., L.M.S.S.A.
Assistant Clinical Tuberculosis Officer	M. I. Jackson, M.R.C.S., L.R.C.P.
Dental Officer for Maternity and Child Welfare and Tuberculosis	W. L. Fleming, L.D.S.
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Infectious Disease Hospital (Seacroft).	J. S. Anderson, M.A., M.D., Ch.B., D.P.H.
Killingbeck Sanatorium	W. S. Gilmour, M.B., Ch.B.
Gateforth Sanatorium	A. C. Meek, M.A., M.B., Ch.B., D.P.H.
Venereal Diseases Officer	J. P. Bibby, M.B., Ch.B., M.R.C.P.
Assistant Medical Officer for Venereal Disease	M. Stoddart-Scott, M.D., Ch.B.
Do. do. ..	Dorothy Priestley, M.D., B.S.
City Bacteriologist	J. W. McLeod, F.R.S., M.B., Ch.B.
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Do. do.	A. A. Roberts, M.B., Ch.B.
Do. do.	N. F. Winder, M.B., Ch.B.
Do. do.	J. Friend, L.S.A.

Public Vaccinators	F. W. M. Greaves, M.D., Ch.B., D.P.H.
Do. do.	J. E. Middlemiss, F.R.F.P.S., M.R.C.S.
Do. do.	J. Cardis, M.D.
Do. do.	C. P. Kelly, Jun., M.B., Ch.B., B.A.O.
Do. do.	J. J. Reynolds, M.B., Ch.B.
Do. do.	W. H. Bean, B.A., M.B., Ch.B.
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Do. do.	D. M. Sutherland, M.B., Ch.B.
Do. do.	T. D. Pratt, M.B., Ch.B., M.R.C.S., L.R.C.P.
Do. do.	W. G. Platt, M.B., Ch.B., M.R.C.S., L.R.C.P.
Do. do.	J. H. E. Moore, M.A., M.B., Ch.B.
Do. do.	E. A. Rock, M.R.C.S., L.R.C.P.
Do. do.	H. F. Hollis, M.B., Ch.B.
Do. do.	J. P. G. Daly, M.B., Ch.B., B.A.O.
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Do. do.	J. Fielding, M.B., Ch.B.
Do. do.	J. Dick, M.B., Ch.B., D.P.H.
Do. do.	F. Danks, M.B., Ch.B.
Do. do.	M. Melvin, M.B., Ch.B.
Chief Veterinary Officer	J. A. Dixon, M.R.C.V.S.
Assistant Veterinary Officer	E. F. McCleery, M.R.C.V.S., D.V.S.M.
City Analyst	C. H. Manley, M.A., F.I.C.
Assistant City Analyst	A. Houlbrooke, M.Sc., F.I.C.
Divisional Sanitary Inspector ..	E. Standish.
Do. do. ..	G. F. Marshall.
Removal Officer	D. Ferguson.
Chief Health Visitor and Inspector of Midwives	Mary E. Hughes.
Principal Clerks—	
Finance	A. R. Best.
Statistics	J. P. Moir.
Sanitary	A. Sparks.
Infectious Diseases	H. O. Peake.
Secretarial	P. A. Woodcock.
Food and Drugs	F. S. Kelly.
Tuberculosis Dispensary	F. H. Wood.

Special Inspectors including Smoke, Lodging-houses, Food and Drugs, Dairies, Meat, Housing, Workshops and Diseases of Animals ..	17
Laboratory Assistant	1
Sanitary Inspectors	19
Vaccination Officers (5 part-time)	6
Female Sanitary Inspectors	2
Health Visitors	35
Sunlight, Orthopædic and Dental Nurses	3
Chief Health Visitor and Inspector of Midwives	1
Tuberculosis Nurses	11
Dispensers	7
Masseuses	3
Clerical Staff and Almoners..	44
Removal and Disinfecting Staff	18
Flushing Staff	5
City Hospital, Seacroft (3 Assistant Medical Officers, 1 Matron, 2 Assistant Matrons, 1 Sister Tutor, 112 Nurses, 69 Female Servants, 1 Chief Engineer, 1 Steward, 43 Male Servants, including Engineers, Porters, etc., 1 Dispenser, 2 Clerks)	236
Killingbeck Sanatorium (2 Assistant Medical Officers, 1 Matron, 1 Assistant Matron, 1 Dispenser, 2 Clerks, 17 Porters, etc., 7 Sisters, 41 Nurses, 48 Maids, 2 Teachers, 1 Handicrafts Instructor) ..	123
Gateforth Sanatorium (1 Matron, 1 Sister, 1 Assistant Nurse, 2 Probationer Nurses, 1 Cook, 7 Maids, 1 Working Foreman, 1 Handyman, 1 Gardener and 1 Labourer)	17
The Hollies Children's Sanatorium (1 Matron, 1 Sister, 3 Assistant Nurses, 2 Teachers, 1 Cook, 3 Maids, 1 Handyman)	12
Infants' Hospital, Wyther (1 Matron, 1 Sister, 1 Masseuse, 4 Staff Nurses, 13 Probationer Nurses, 1 Nursery Attendant, 1 Cook, 5 Maids, 2 Laundresses, 1 Handyman, 1 Gardener)	31
Spring Bank Residential Nursery (1 Matron, 1 Sister, 11 Probationer Nurses, 3 Housemaids)	16
Cobden Place Day Nursery and Blenheim Hostel (1 Matron, 1 Home Sister, 1 Staff Nurse, 9 Probationer Nurses, 3 Maids)	15
The Factory-in-the-Field (1 Manager, 1 Clerk). Firewood Department :—(1 Foreman, 15 Men, 3 Drivers, 6 Travellers). Brush Department :—(1 Foreman, 6 Brushmakers, 1 Traveller). Printing Department :—(1 Foreman, 5 Printers), 1 Gardener, 1 Caretaker and Cook, 1 Assistant Cook	44

City of Leeds.

To the Chairman and Members of the Health Committee.

Ladies and Gentlemen,

The year 1933 was marked by a further fall in the birth-rate to the unprecedentedly low figure of 13·7 per thousand of the population. The death-rate was only 0·1 per thousand less, namely 13·6. These are remarkable figures the significance of which will I hope not escape those who read and ponder the contents of this report.

Of the children who were born alive 81 out of every thousand died before attaining their first birthday. That is a comparatively high figure and is explained by the unusual prevalence during the year of epidemic diarrhæa due to the hot dry summer as well as by the excessive rate of respiratory sickness. The part played by bad housing conditions cannot be ignored as may be seen from a study of the statistics of the unhealthy areas on page 249 of the report.

An epidemic of Diphtheria or rather the intensification of the outbreak of the previous three years occurred during the year and because of the gravity of the type gave rise to a good deal of apprehension. By the end of December more notifications had been received than had been the case for twenty-two years and the death-rate for the year (0·18) topped every record since 1912. It was the severity of the infection that was most disquieting; all the usual and erstwhile successful forms of treatment seemed suddenly to lose their efficacy and other and more drastic remedies had to be tried. The epidemic still prevails and the death-rate continues to soar. There is however one way of staying its ravages and that is by immunisation. For over five years this has been offered free of charge to the citizens but they have not taken the advantage of it which they might. Had they done so I should probably have a different tale to tell in this report.

Scarlet fever, a close ally of Diphtheria, was also prevalent during the year. Fortunately though the cases were many the deaths were relatively few and the death-rate remained the same as for the previous year, viz. 0·02.

The only other infectious disease worthy of mention was that already mentioned in an earlier paragraph, namely epidemic diarrhœa. Its enhanced prevalence is explained by the heat and drought of the Summer and Autumn. Infants were chiefly affected and the mortality was considerable.

Tuberculosis remained more or less stationary as far as the death-rate was concerned but there was an actual rise in the number of notified cases of the pulmonary form of the disease. In this connection I should like to draw attention to the statistics of the unhealthy areas set out in the table already referred to on page 249 where the relationship between the tuberculosis death-rate and housing is clearly shown.

It is pleasing to be able to report progress with the new wards for women patients at Killingbeck Sanatorium. By the end of the current year the structural work should be nearing completion and early in the New Year the wards will, I hope, be ready for occupation. The new accommodation will be a great boon alike to staff and patients.

In his report on the Survey of the Health Services of Leeds undertaken during 1933 the Minister of Health directs attention to the need for accommodation for adult surgical tuberculosis. There is undoubtedly this gap in the Corporation's scheme of treatment which should be made good.

Turning to food I would particularly stress the importance of Mr. Dixon's remarks on private slaughterhouses which appear on page 172. A reform in the conditions under which animals intended for food are slaughtered in the city is overdue and in view of the imminent extension of the public markets should receive early consideration.

The Sanitary Circumstances of the city continue to improve. Apart from those in areas likely to be scheduled for clearance the obsolete and unhygienic trough water closet has practically disappeared and been replaced by the more modern type of sanitary

appliance. This is a great achievement of which the city has every reason to be proud. It has been a stupendous undertaking and the cost has been considerable but the improved health and comfort it has brought to the people has more than justified the time and money expended on it.

The outstanding feature of the year was undoubtedly the launching of the housing campaign unique both in size and conception. Leeds has been unfortunate in its choice of the style of house for its workers and is now having to undo the mistakes of a century ago. Its slum problem is greater than that of any other provincial city not because the majority of the houses are of inferior construction but because, as human habitations, they lack those essentials which decency and hygiene demand. In declaring its intention to clear away over thirty thousand houses in a period of six years Leeds has set itself a heavy task which will test both its courage and its endurance. One thing I am concerned about is that the new Leeds which is to emerge will as far as possible be smokeless. Do not let us destroy with one hand what we have built with the other by allowing the new estates to be blighted and begrimed with smoke.

In my last report I alluded to the possibility of the introduction at an early date of a scheme for the disinfestation of bug infested houses. Such a scheme has since been adumbrated. A special fumigation plant has been laid down at Stanley Road Disinfecting Station and all infested furniture from condemned houses is now subjected to hydrocyanic acid gas before being admitted to the new houses.

During the Summer and Autumn the Ministry of Health undertook an exhaustive survey of the Health Services of the city including the hospitals transferred from the Guardians to the Public Assistance Committee under the Local Government Act of 1929. As, however, the Minister's comments on the Survey were not received till May of the current year the matter does not properly fall within the ambit of this report.

In concluding this prefatory letter and while the subject is fresh in my mind I should like to pay a tribute to one who has been a member of the Staff of the Public Health Department for many years and who has served the Department and the city well—

I refer to Dr. H. de Carle Woodcock. He entered the service as Tuberculosis Officer in 1911 and for a period of twenty-three years devoted himself assiduously to the work of the Tuberculosis Dispensary and the development of the Corporation's Tuberculosis Scheme. He severed his connection with the Department in July on account of age and failing health. The record of devoted and honourable service he has left behind will live in the annals of the Department and be an inspiration to those who follow him and build on the foundations he has laid.

At the end of another year I proffer my thanks to all who have taken part with me in the work of the Department and in the compilation of this report, especially to my Deputy Dr. E. Ashworth Underwood and the Senior Medical Officers.

To the Chairman and Members of the Health Committee I desire to express my sincere gratitude for their kindness and courtesy at all times.

I am,

Ladies and Gentlemen,

Your obedient Servant,

J. JOHNSTONE JERVIS.

Public Health Department,
Leeds, 1.
August, 1934.

SUMMARY, 1933.

LATITUDE 53°48′ North. LONGITUDE 1°32′ West.

AVERAGE HEIGHT ABOVE SEA LEVEL 250 feet.

AREA OF CITY	38,105 Acres
POPULATION (Registrar-General's estimate)	485,000
ESTIMATED NUMBER OF HOUSES	135,066
RATEABLE VALUE	£3,200,061
SUM REPRESENTED BY A PENNY RATE	£12,292

	1933.	Average. 1923-32.
BIRTH RATE (births per 1,000 living)	13·70	16·39
MARRIAGE RATE (persons married per 1,000 living)	16·44	16·07
DEATH RATE (deaths per 1,000 living)	13·55	13·41
NATURAL INCREASE OF POPULATION (Excess of births over deaths in the year)	69	1,419
INFANT MORTALITY RATE (Deaths under 1 year per 1,000 births)	81	87
DEATH RATE from Pneumonia and Bronchitis	1·71	2·00
„ „ Cancer	1·46	1·41
„ „ Diarrhœa and Enteritis (under 2 years) per 1,000 births	15·66	12·85

	Cases.	Case-rate.	Deaths.	Death rate.
SCARLET FEVER	1,906	3·93	9	0·02
DIPHTHERIA	1,057	2·18	88	0·18
TYPHOID FEVER	10	0·02	1	0·00
MEASLES	4,092	8·44	22	0·05
PULMONARY TUBERCULOSIS	632	1·30	412	0·85
OTHER FORMS OF TUBERCULOSIS	151	0·31	87	0·18

Natural and Social Conditions.

NATURAL AND SOCIAL CONDITIONS.

Area.—The area of the city is 38,105 acres.

Population.—The Registrar General's estimate of the resident population at the mid-year of 1933 was 485,000 and the allocation to the 26 wards of the city is given on page 18.

The table on page 17 shows the population at each census together with the percentage increases between successive decades.

Dwelling Houses.—The total number of dwellings in the city at the 1931 census was 128,913 made up of 126,056 occupied, 1,816 vacant and 1,041 vacant but furnished. The number of occupied dwellings at the end of 1933 was 133,200, and the number unoccupied 1,866. This is an increase of 2,672 occupied and 281 unoccupied as compared with the previous year. The voids consist largely of houses of the larger type situated in what are, or were once, the best residential parts of the city and for which there is now no demand.

Rateable Value.—The rateable value of the city in 1933 was £3,200,061 and the estimated product of a penny rate £12,292. The corresponding figures for 1932 were £3,144,910 and £12,063.

Principal Industries.—The principal industries in the city remained as in previous years, namely, ready-made clothing, woollen, leather, boot and shoe, printing, dyeing, engineering, iron and steel. No new industries of any note were established during the year.

During the year unemployment began to show signs of improvement after the slump of 1931. The average number of persons registered as wholly or partially unemployed during 1933 was 31,362, a decrease of 5,555, as compared with 36,917 for 1932. In January 1933 the number was 38,941, in July 29,721 and in December 25,434. The fall in the unemployment figure is welcome as an index of returning prosperity and what one hopes is the beginning of the end of the depression which, like a blight, has hung over the trade of the city for so long. True the reduction is small and there is a long way to go before normal conditions prevail, but

the decrease inspires one with the hope of better times ahead. Unemployment and health are not compatible and signs are not wanting in the working-class areas of the city of physical deterioration resulting from the long continued distress.

LEEDS.

TABLE SHOWING THE ENUMERATED POPULATION AT EACH CENSUS FROM 1801–1931.

Date of Census.	Population.	Increase per cent. on previous Census.	Population of the area as constituted at the 1931 Census.	Percentage Increase.
1801	53,162	..		
1811	62,534	17·63		
1821	83,746	33·92		
1831	119,345	42·51		
1841	152,054	27·41		
1851	172,270	13·30		
1861	207,165	20·26		
1871	259,212	25·13		
1881	309,119	19·25		
1891	367,505	18·89		
1901	428,968	16·72		
1911	445,550	3·87	458,823	..
1921	458,232	2·85	463,122	0·94
1931	482,809	5·36	482,809	4·25

In 1912, Roundhay, Shadwell, Seacroft and Crossgates (1911 Census population of 7,398) were added to Leeds.

In 1920, Middleton (1911 Census population of 1,207) was added to Leeds.

In 1926, Adel (1921 Census population of 987) was added to Leeds.

In 1928, Alwoodley, Eccup, Templenewsam and portion of Austhorpe (1921 Census populations of 205, 234, 3,393, and 71 respectively—total of 3,903) were added to Leeds.

POPULATION IN WARDS.

MUNICIPAL WARD.	Census, April 26th, 1931	Estimated Population middle of 1933.
Mill Hill and South	15,672	15,791
Westfield	19,455	19,622
Blenheim	22,947	22,824
Central	20,985	21,068
Woodhouse	18,689	18,784
North	15,475	15,547
Far Headingley..	18,251	18,219
Hyde Park	16,548	16,452
Kirkstall	19,582	19,644
Burmantofts	22,974	23,176
Harehills	19,724	19,747
Potternewton	19,631	19,618
Roundhay	15,151	15,211
Cross Gates and Templenewsam	14,439	14,492
Richmond Hill	24,260	24,564
Osmondthorpe	21,570	21,830
East Hunslet	18,370	18,523
Hunslet Carr and Middleton	19,916	20,209
West Hunslet	18,044	18,078
Beeston	15,220	15,213
Holbeck (South)	14,324	14,323
Holbeck (North)	18,241	18,390
Armley and New Wortley ..	20,181	20,326
Upper Armley	16,953	17,015
Bramley	17,631	17,658
Farnley and Wortley	18,576	18,676
City	482,809	485,000

Meteorological Conditions.—The hours of bright sunshine registered during the year were 1,315·98 as compared with 992·92 for the previous year and an average of 1,152·10 for the previous five years. The sunniest month was June with a daily average of 6·94 hours of bright sunshine and the darkest December with a daily average of 0·45 hours. The daily average for the whole year was 3·61 hours as compared with 2·71 hours for the previous year.

The total rainfall was 25·61 inches as compared with 21·83 inches in 1932 and an average of 27·66 inches for the previous quinquennium. The driest month was December with a total of 0·49 inches and the wettest February with a total of 3·88 inches. Taking the four quarters of the year, the rainfall in the first quarter was 8·91 inches; in the second, 5·52; in the third, 4·77; and in the fourth, 6·41.

The month with the highest average temperature was July with 69·65 degrees and the lowest January with 39·54 degrees. The average temperature for the whole year was 54·08 degrees as compared with 52·51 for the previous year.

The year was one of the driest on record and with the exception of 1932 and 1929 one has to go back to 1921 to find a year with a rainfall so low. The average temperature for the year was one of the highest on record. There was a period in the late Summer and early Autumn when the water in the city reservoirs had dwindled to such an extent as to cause apprehension. At that time in many parts of the country there was acute water shortage and disaster appeared imminent. Fortunately the rain came in time to save the situation. The Leeds supply held out without resort to rationing, a tribute to the foresight of those who controlled the destinies of the city at an earlier age and secured for the citizens an ample supply of good water.

National Health Insurance Acts.—The total number of insured persons in the city under the National Health Insurance Acts on December 31st, 1933 was 216,691 as compared with 218,357 on January 1st. The number of doctors, including assistants, on the panel at the end of the year was 233 and the number of prescriptions dispensed was 1,168,452. The corresponding figures for the previous year were 237 and 1,094,314.

VITAL STATISTICS.

Marriages.—The number of marriages which took place in Leeds during the year was 3,987 corresponding to a marriage rate of 16·4 as compared with 3,851 and a rate of 15·9 for the previous year and an average of 3,904 and 16·2 for the previous five years (vide table on page ~~20~~ 20). The marriage rate of England and Wales for 1933 was 15·7 and for 1932 15·3.

MARRIAGE AND BIRTH-RATES 1911-1933.

Year.	No. of Marriages.	Marriage rate per 1,000 Population.	No. of Births.	Birth-rate per 1,000 Population.
1911	3,717	15·7	10,562	23·8
1912	3,801	16·0	10,309	23·1
1913	3,925	16·4	10,877	23·4
1914	4,008	16·6	10,652	23·3
1915	4,858	20·2	9,877	21·5
1916	3,701	15·5	9,432	21·1
1917	3,300	14·2	7,566	17·3
1918	3,710	15·5	7,392	17·3
1919	5,083	21·2	7,564	17·6
1920	5,620	23·5	11,229	25·0
1921	4,566	18·7	10,144	21·8
1922	4,183	17·2	9,253	19·8
1923	4,001	16·3	8,684	18·5
1924	4,023	16·3	8,558	18·1
1925	3,807	15·4	8,180	17·3
1926	3,644	14·8	8,065	17·0
1927	4,028	16·7	7,790	16·3
1928	3,927	16·5	7,665	16·1
1929	3,990	16·7	7,426	15·5
1930	3,948	16·5	7,568	15·8
1931	3,802	15·6	7,219	14·8
1932	3,851	15·9	7,004	14·4
1933	3,987	16·4	6,643	13·7

Births.—The births registered during the year numbered 7,070, comprising 3,603 males and 3,467 females. Of these 269 males and 263 females born to parents not belonging to Leeds were transferred out, whilst 57 males and 48 females born outside the city to Leeds parents were transferred in, making a nett total of 6,643 births comprising 3,391 males and 3,252 females. Compared with the previous year this represents a decrease of 209 males and 152 females or a total decrease of 361.

The birth-rate was 13·7 as compared with 14·4 for the previous year and an average of 15·3 for the previous five years. Once again, this is the lowest birth-rate ever recorded in the city. The table ~~on page~~ appended gives the marriage and birth-rates for the years 1911-1933 and it will be noticed that although there was an increase in the marriage rate there was no corresponding increase in the birth-rate ; on the contrary, there was a decline.

The chart opposite page 22 shows the marriage and birth-rates for the years 1904-1933.

An examination of the tables on pages 23 and 32 in which are set out the birth-rates and death-rates for the 26 wards of the city discloses the fact that in twelve of the wards, *e.g.* Blenheim, Central, Far Headingley, Hyde Park, Harehills, Potternewton, Cross Gates and Templenewsam, West Hunslet, Beeston, Holbeck (South), Bramley, and Farnley and Wortley, the death-rate exceeded the birth-rate. The estimated population of these twelve wards is 216,368, or 44·6 per cent. of the population of the city. Taking the twelve wards as a whole, the birth-rate was 11·5 and the death-rate 13·7 which means that nearly half the population of the city is failing to make good its death losses. Last year there were ten wards, namely, Blenheim, Far Headingley, Hyde Park, Kirkstall, Harehills, Potternewton, West Hunslet, Beeston, Holbeck (South), and Bramley in which the deaths exceeded the births. It should be noted that nine of these wards had the same distinction in 1933.

Compared with the other large towns in England and Wales Leeds had the lowest birth-rate with the exception of London and Bradford.

Births in Wards.—The distribution of the births in the various wards is shown in the table on page 23. In 14 of the wards, namely, Richmond Hill, Hunslet Carr and Middleton, Westfield, Burmantofts, Holbeck (North), East Hunslet, Central, Mill Hill and South, Armley and New Wortley, North, Osmondthorpe, West Hunslet, Woodhouse and Kirkstall, the birth-rate was higher than for the city as a whole, whilst in the remainder, Farnley and Wortley, Bramley, Holbeck (South), Upper Armley, Roundhay, Harehills, Blenheim, Beeston, Potternewton, Cross Gates and Templenewsam, Hyde Park, and Far Headingley, it was lower. The wards with the highest rates were in order Richmond Hill, Hunslet Carr and Middleton and Westfield, all of which were above 17 and averaged 18·4, whilst those with the lowest were Hyde Park and Far Headingley with a rate under 9 and averaging 8·5.

Birth-rate in Quarters.—The highest rate was in the second quarter, 14·6, and the lowest in the fourth, 11·7, whilst in the first and third it was 14·1 and 14·5.

Excess of Births over Deaths.—The excess of births over deaths or what is generally spoken of as the "natural increase of the population" was 69 as compared with 535 in 1932 and an average of 1,419 for the previous ten years. An increment so low is obviously not sufficient to maintain the population even at a stationary level, and therefore, it must be accepted as an indication that the population, apart from immigration and emigration, is declining.

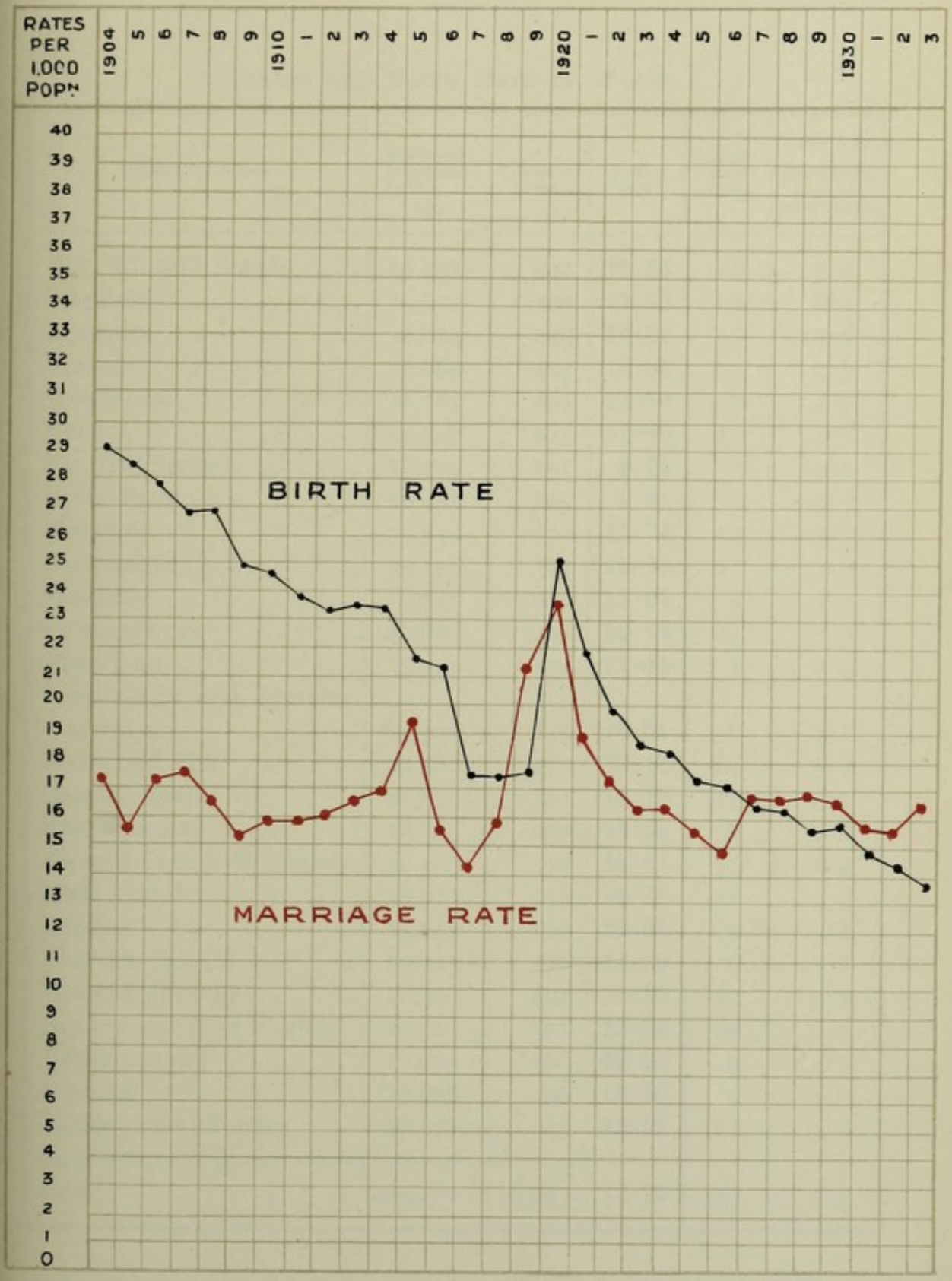
Birth Rate.

Year.	No. of births.	Birth rate, LEEDS.	England and Wales.
1890-1894	62,270	**33·2**	30·5
1895-1899	63,873	**31·5**	29·6
1900-1904	64,791	**30·1**	28·4
1905-1909	59,117	**26·9**	26·7
1910-1914	53,267	**23·6**	24·2
1915-1919	41,831	**19·0**	19·4
1920	11,229	**25·0**	25·5
1921	10,144	**21·8**	22·4
1922	9,253	**19·8**	20·4
1923	8,684	**18·5**	19·7
1924	8,558	**18·1**	18·8
1925	8,180	**17·3**	18·3
1926	8,065	**17·0**	17·8
1927	7,790	**16·3**	16·7
1928	7,665	**16·1**	16·7
1929	7,426	**15·5**	16·3
1930	7,568	**15·8**	16·3
1931	7,219	**14·8**	15·8
1932	7,004	**14·4**	15·3
1933	6,643	**13·7**	14·4

Birth Rate in Quarters.

	I.	II.	III.	IV.	Year.
1923	18·9	19·5	18·1	17·4	18·5
1924	18·7	18·4	18·7	16·8	18·1
1925	17·0	19·0	17·5	15·7	17·3
1926	17·0	18·5	17·2	15·5	17·0
1927	17·0	17·3	15·6	15·4	16·3
1928	16·0	17·6	16·1	14·9	16·1
1929	15·7	16·2	16·2	14·0	15·5
1930	16·0	16·6	16·1	14·6	15·8
1931	15·3	16·2	14·7	13·2	14·8
1932	14·2	16·0	14·5	13·2	14·4
1933	14·1	14·6	14·5	11·7	13·7

BIRTH RATE AND MARRIAGE RATE. 1904 - 1933.



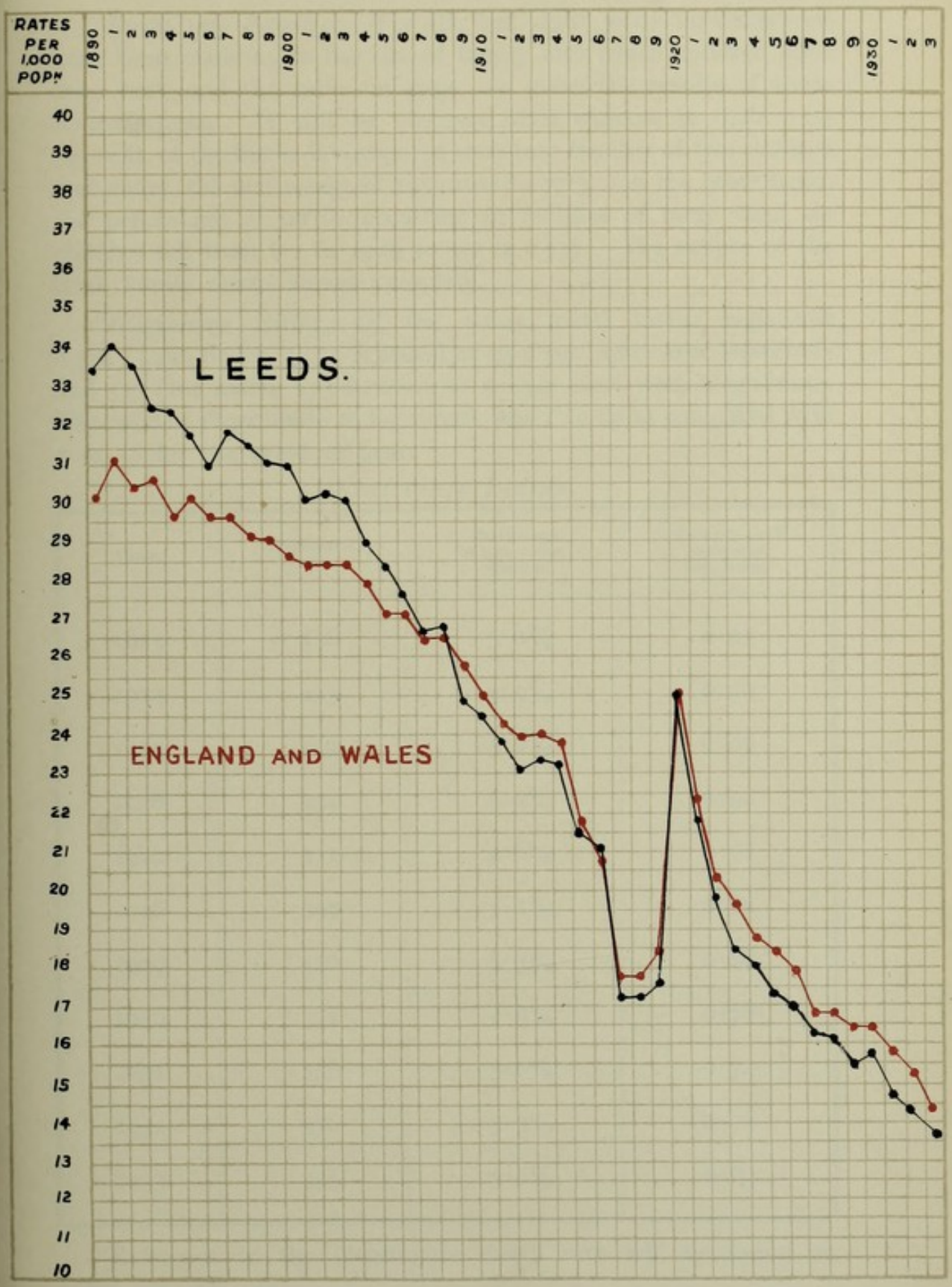
Births and Birth Rate in Wards.

Municipal Ward.	Estimated Population middle of 1933.	Nett births.	Birth-rate.	Illegitimate births.	Percentage of illegitimate births to total births.
Mill Hill and South ..	15,791	242	**15·33**	19	7·9
Westfield	19,622	344	**17·53**	22	6·4
Blenheim	22,824	249	**10·91**	35	14·1
Central	21,068	323	**15·33**	31	9·6
Woodhouse..	18,784	261	**13·89**	7	2·7
North	15,547	231	**14·86**	11	4·8
Far Headingley	18,219	151	**8·29**	6	4·0
Hyde Park..	16,452	145	**8·81**	8	5·5
Kirkstall	19,644	270	**13·74**	10	3·7
Burmantofts	23,176	367	**15·84**	11	3·0
Harehills	19,747	218	**11·04**	4	1·8
Potternewton	19,618	200	**10·19**	14	7·0
Roundhay	15,211	174	**11·44**	5	2·9
Cross Gates and Temple-newsam	14,492	145	**10·01**	6	4·1
Richmond Hill	24,564	470	**19·13**	24	5·1
Osmondthorpe	21,830	321	**14·70**	13	4·0
East Hunslet	18,523	287	**15·49**	8	2·8
Hunslet Carr & Middleton	20,209	372	**18·41**	9	2·4
West Hunslet	18,078	256	**14·16**	12	4·7
Beeston	15,213	162	**10·65**	5	3·1
Holbeck (South)	14,323	176	**12·29**	9	5·1
Holbeck (North)	18,390	291	**15·82**	12	4·1
Armley and New Wortley	20,326	311	**15·30**	22	7·1
Upper Armley	17,015	208	**12·22**	9	4·3
Bramley	17,658	226	**12·80**	9	4·0
Farnley and Wortley ..	18,676	243	**13·01**	14	5·8
City	485,000	6,643	**13·70**	335	5·0

Births occurring in Order of Size of Family.

	1926.		5 yrs. 1926—1930		1931.		1932.		1933.	
	Births.	Percentage.	Births.	Percentage.	Births.	Percentage.	Births.	Percentage.	Births.	Percentage.
No children	2,645	33·03	13,191	34·68	2,604	37·86	2,480	36·90	2,540	38·44
1 child	1,924	24·03	8,991	23·64	1,642	23·87	1,694	25·20	1,640	24·82
2 children	1,152	14·39	5,501	14·46	927	13·48	928	13·81	927	14·03
3 ,,	771	9·63	3,512	9·23	581	8·45	554	8·24	528	8·00
4 ,,	498	6·22	2,306	6·06	385	5·60	324	4·82	304	4·60
5 ,,	325	4·06	1,528	4·02	271	3·94	258	3·84	219	3·31
6 ,,	196	2·45	994	2·61	163	2·37	175	2·60	172	2·60
7 ,,	166	2·07	679	1·79	113	1·64	113	1·68	115	1·74
8 ,,	122	1·52	498	1·31	72	1·05	78	1·16	59	0·89
9 ,,	86	1·07	324	0·85	53	0·77	44	0·65	43	0·65
10 ,,	54	0·67	232	0·61	26	0·38	24	0·36	27	0·40
11 ,,	35	0·44	136	0·36	16	0·23	22	0·33	11	0·17
12 ,,	20	0·25	75	0·20	12	0·17	17	0·25	11	0·17
13 ,,	3	0·04	24	0·06	7	0·10	9	0·13	6	0·09
14 ,,	4	0·05	18	0·05	3	0·04	1	0·01	3	0·05
15 ,,	4	0·05	11	0·03	2	0·03	..	..	1	0·02
16 ,,	3	0·04	8	0·02	1	0·01	..	..	1	0·02
17 ,,	..	..	3	0·01	..	..	..	..	..	..
Total births investigated	8,008	100	38,031	100	6,878	100	6,721	100	6,607	100

BIRTH RATE, 1890 – 1933.



Births into Families.—For the last eight years investigations have been made as to the size of family into which children have been born and the table on page 24 gives the results of those investigations. It will be observed that whereas in 1926, 71·4 per cent. of the births investigated were into families of two children and under, the percentage in 1933 rose to 77·3; on the other hand, the percentage of births occurring in families of more than six children fell from 6·2 in 1926 to 4·2 in 1933. The eclipse of the large family seems almost complete.

Illegitimate Births.—Of the 6,643 (nett) births registered 6,308 (3,229 males, 3,079 females) or 95·0 per cent. were legitimate and 335 (162 males, 173 females) or 5·0 per cent. were illegitimate. The ratio of illegitimate to legitimate was 1 to 19 as compared with 1 to 18 for the previous year.

ILLEGITIMATE BIRTHS.

YEAR.	Illegitimate births.	Percentage of nett births registered.	Rate per 1,000 estimated population.
1923 ..	438	5·0%	0·93
1924 ..	423	4·9%	0·90
1925 ..	422	5·2%	0·89
1926 ..	434	5·4%	0·92
1927 ..	371	4·8%	0·78
1928 ..	390	5·1%	0·82
1929 ..	410	5·5%	0·86
1930 ..	374	4·9%	0·78
1931 ..	358	5·0%	0·74
1932 ..	370	5·3%	0·76
1933 ..	335	5·0%	0·69

Reference to the illegitimate death rate will be found on pages 131 and 134.

Stillbirths.—The number of stillbirths registered during the year was 395, comprising 214 males and 181 females. The inward transfers numbered three, namely, two males and one female, and the outward transfers 65, namely, 34 males and 31 females, which after adjustment leaves a nett total of 333, made up of 182 males and 151 females. The rate per thousand of the population was 0·69, the same as for the previous year. The rate for England and Wales was 0·62. Expressed as a percentage of the total births (nett) the rate was 4·8 as compared with 4·6 for the previous year. Of the 333 nett stillbirths, 318, or 95·5 per cent. were legitimate and 15, or 4·5 per cent., illegitimate. The ratio of registered "still" to registered "live" births was 1 to 20 as compared with 1 to 21 in 1932.

Details respecting the notification and visitation of births are given on pages 148 and 152.

Deaths.—The gross number of deaths registered during the year was 6,851 comprising 3,471 males and 3,380 females, giving a crude death-rate of 14·1 as compared with 14·0 for the previous year and an average of 14·4 for the previous five years. The inward transfers numbered 261, namely 135 males and 126 females, and the outward transfers 538, namely 286 males and 252 females, which after adjustment leaves a nett total of 6,574 deaths debitable to the city, made up of 3,320 males and 3,254 females. The corresponding death-rate (nett) was 13·6 as compared with 13·3 for the previous year and an average of 13·7 for the previous five years.

Amongst the thirteen large towns in England and Wales, Leeds had the highest death-rate with the exception of Liverpool (14·4) and Bradford (14·8).

The death-rate for England and Wales was 12·3 or 9·6 per cent. less than Leeds.

Death-rate in Quarters.—The death-rate for the first quarter was 19·0; for the second, 12·3; for the third, 10·0; and for the fourth, 13·0. This is the highest death-rate for the first quarter of the year recorded since 1929 and the second highest of the decade.

DEATH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1923	14·7	13·4	10·6	12·4	12·7
1924	22·4	12·9	9·9	12·2	14·3
1925	14·8	11·4	10·8	14·1	12·8
1926	15·7	12·7	9·9	13·1	12·8
1927	17·5	12·2	10·1	12·2	13·0
1928	14·6	13·0	10·2	13·9	12·9
1929	29·2	14·2	11·0	11·9	16·5
1930	14·1	11·8	10·5	13·2	12·4
1931	17·4	13·1	10·6	12·5	13·4
1932	15·8	13·3	10·6	13·6	13·3
1933	19·0	12·3	10·0	13·0	13·6

Death-rates in Wards.—The table on page 32 gives the deaths and death-rates of the 26 wards of the city. The wards with the highest death-rates were in order Blenheim (16·6), Central (16·2), and Westfield (15·8), whilst those with the lowest were Cross Gates and Templenewsam (10·8), Roundhay (11·2) and Far Headingley (11·5). The difference between the highest and the lowest, that is between Blenheim and Cross Gates and Templenewsam, amounted to 5·8 per thousand, or 53·7 per cent., whilst that between the highest and the city was 3·0 per thousand or 22·1 per cent.

Causes of Death.—The principal causes of death were in order of numerical importance, organic heart disease, cancer, pneumonia and arterio sclerosis which together accounted for 44·2 per cent. of the total deaths. Last year this group of diseases was responsible for 46·0 per cent. of the total deaths, and the order was the same.

Diseases of the respiratory system including pneumonia, bronchitis and influenza, but excluding pulmonary tuberculosis, accounted for 1,148 or 17·5 per cent. of the total deaths from all causes. Last year this group was responsible for 14·9 per cent. of the total deaths and the percentage for the previous five years was 17·7. The number of children under five years of age who died

from respiratory diseases in 1933 was 182 or 23·6 per cent. of the total deaths under five, as compared with 214, or 24·6 per cent. for the previous year and an average of 233 or 25·6 per cent. for the previous five years.

For notes on infantile diarrhoea, bronchitis, pneumonia and tuberculosis see pages 59, 62, 60 and 94.

Deaths from Street Accidents.—The number of street accidents having a fatal termination during the year was 65 of which 56, or 86·2 per cent., were due to motor vehicles. Last year the number was 78, of which 75, or 96·2 per cent., were due to this cause.

On examining the table appended it will be seen that 31, or 47·7 per cent., of the total deaths were amongst children under 15 years and adults over 65, whilst 34 or 52·3 per cent. were in the age groups between 15 and 65. These figures represent a decrease of 4 in the number of deaths of children and adults over 65 and 9 in the age groups between 15 and 65 or a total decrease of 13 as compared with the previous year.

The improvement in the figure of road fatalities is welcome and one hopes that it is an earnest of greater progress in this direction in the coming years.

Deaths in Age Groups.—The table on page 35 sets out the deaths according to age groups. The aggregate number of deaths of children in the age groups 0–1, 1–2, and 2–5 was 772, or 11·7 per cent. of the total deaths as compared with 870, or 13·4 per cent., for the previous year, and an average of 908, or 13·8 per cent., for the previous five years. The table also shows that the deaths of persons under 45 years numbered 1,943, or 29·6 per cent. of the total deaths as compared with 1,930, or 29·8 per cent., for the previous year. Of the remaining deaths 1,825, or 27·8 per cent., occurred in the age group 45–65, whilst 2,806, or 42·7 per cent., were in the age group 65+.

The chief feature of importance in this table is the growing preponderance of deaths in the oldest age groups and the corresponding fall in the mortality of young people. This is the very result we are out to achieve and though the public health service may not be justified in taking credit for the whole, it can certainly claim to have played a not unimportant part in the prolongation of life which the figures imply.

COMPARISON OF PERCENTAGES OF DEATHS IN THE VARIOUS AGE GROUPS OF 1933, AS COMPARED WITH THE PREVIOUS DECENNIUM.

Period.	-1	1-2	2-5	5-15	15-25	25-45	45-65	65+
1923—1932 ..	10·7	2·8	2·6	2·6	4·2	11·3	27·9	37·9
Year 1933 ..	8·2	1·6	2·0	2·8	4·3	10·7	27·8	42·7
Decrease -	-2·5	-1·2	-0·6	—	—	-0·6	-0·1	—
Increase +	—	—	—	+0·2	+0·1	—	—	+4·8

Infant Mortality.—The number of deaths of children under one year of age numbered 537, or 8·2 per cent. of the total deaths. The infant mortality rate corresponding was 81 per thousand births or 7 less than the previous year (88) and one less than the average for the previous five years (82).

This subject is dealt with in greater detail on page 126.

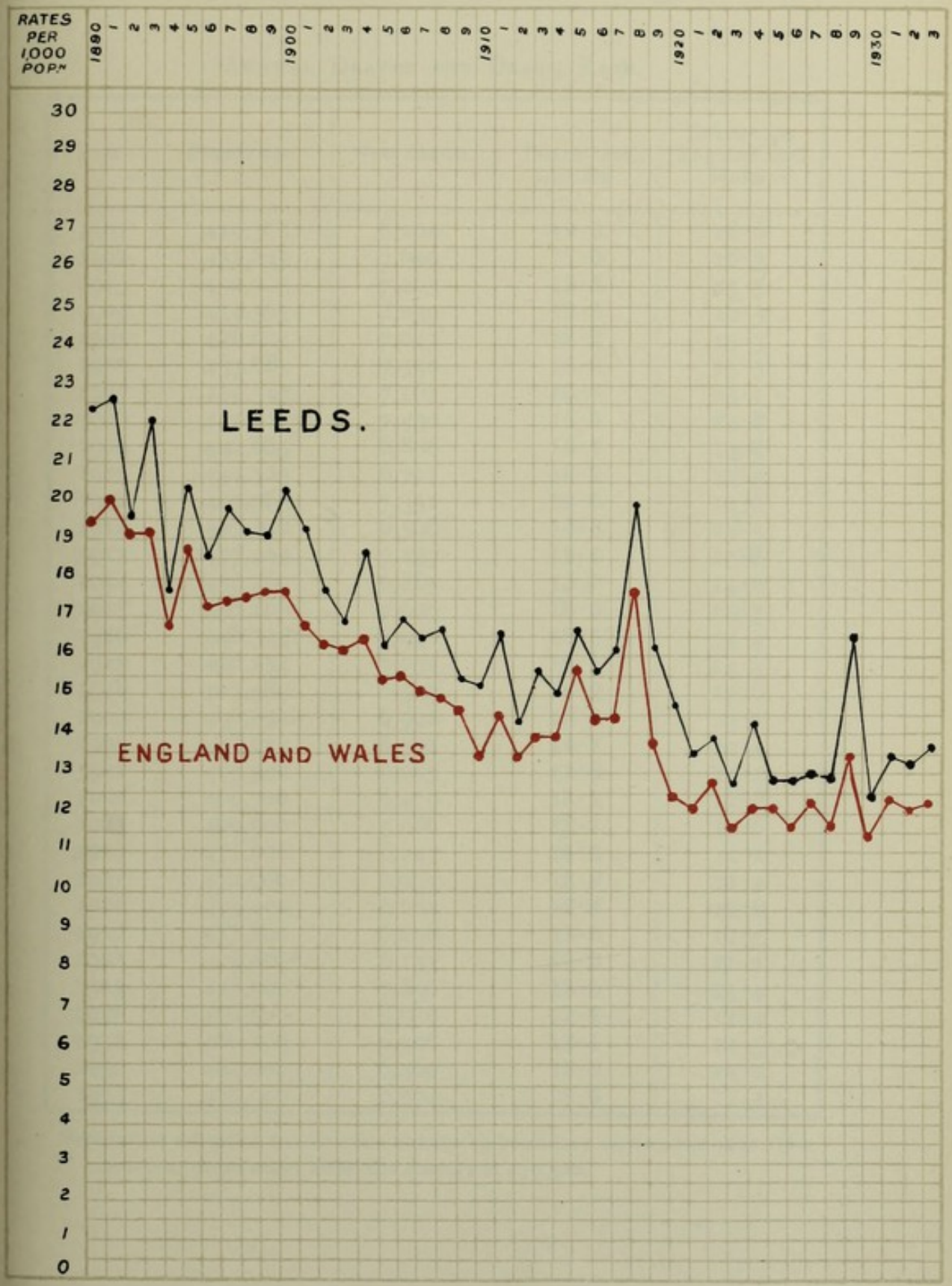
Comparative Statistics of the larger English Cities, 1933.

	Rate per 1,000 Population.					Death Rate per 1,000 Births.	
	Population.	Birth Rate.	Death Rate.	Phthisis. Death Rate.	Other Tuber-culosis. Rate.	Deaths under One Year.	Diarr-hœa and Enter-itis under 2.
London ..	4,298,600	13·2	12·5	0·82	0·11	60	11·7
Birmingham ..	1,023,500	14·7	11·0	0·85	0·11	66	7·8
Liverpool ..	866,013	19·5	14·4	1·16	0·17	98	19·1
Manchester ..	771,165	14·4	13·4	1·00	0·15	75	8·7
Sheffield ..	511,820	14·0	12·0	0·71	0·13	63	6·3
Leeds	**485,000**	**13·7**	**13·6**	**0·85**	**0·18**	**81**	**15·7**
Bristol	409,400	13·7	12·0	0·82	0·13	55	5·5
Hull	319,900	17·9	13·1	0·9	0·2	77	13·1
Bradford ..	295,100	13·2	14·8	0·76	0·13	81	7·95
West Ham ..	282,900	15·5	11·7	0·99	0·11	64	9·9
Newcastle ..	286,500	16·4	12·7	0·91	0·23	76	12·7
Stoke-on-Trent	275,100	16·2	12·9	0·88	0·15	89	12·6
Nottingham ..	280,000	15·8	13·4	0·88	0·16	85	13·1

DEATHS FROM VEHICULAR TRAFFIC OF LEEDS PEOPLE IN AGE GROUPS, 1911-1933.

Year.	-5	5-15	15-25	25-45	45-65	65+	Totals.
1911	4	6	2	2	1	2	17
1912	2	3	2	3	2	2	14
1913	1	5	2	6	9	5	28
1914	1	2	4	4	7	7	25
1915	1	11	2	5	8	7	34
1916	2	4	2	3	10	6	27
1917	4	8	3	7	8	7	37
1918	3	4	3	2	11	6	29
1919	1	8	—	1	13	7	30
1920	—	3	6	8	5	5	27
1921	3	9	3	3	1	7	26
1922	3	10	2	5	8	2	30
1923	2	6	7	7	12	6	40
1924	5	9	6	5	7	7	39
1925	5	7	6	5	6	5	34
1926	6	12	7	8	17	12	62
1927	4	20	9	6	13	5	57
1928	2	10	6	14	14	12	58
1929	2	11	13	10	9	10	55
1930	8	12	9	8	19	19	75
1931	4	10	12	14	19	12	71
1932	6	10	10	15	18	19	78
1933	5	9	8	12	14	17	65

DEATH RATE, 1890 - 1933.



Annual Deaths and Death Rate.

Year	Population.	Nett deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1901	429,383	8,204	19·2	16·9
1902	431,043	7,699	17·6	16·3
1903	432,703	7,263	16·8	15·5
1904	434,363	8,039	18·6	16·3
1905	436,023	7,047	16·2	15·3
1906	437,683	7,350	16·9	15·5
1907	439,343	7,167	16·4	15·1
1908	441,003	7,430	16·6	14·8
1909	442,663	6,806	15·4	14·6
1910	444,323	6,711	15·2	13·5
1911	445,983	7,331	16·5	14·6
1912	447,746	6,396	14·3	13·3
1913	457,295	7,237	15·6	13·8
1914	459,260	6,885	15·0	14·0
1915	459,260	7,609	16·6	15·7
1916	446,349	6,946	15·6	14·4
1917	438,254	7,052	16·1	14·4
1918	427,589	8,529	19·9	17·6
1919	430,834	6,992	16·2	13·7
1920	448,913	6,591	14·7	12·4
1921	465,500	6,285	13·5	12·1
1922	466,700	6,479	13·9	12·8
1923	469,900	5,986	12·7	11·6
1924	471,600	6,747	14·3	12·2
1925	472,900	6,037	12·8	12·2
1926	473,400	6,062	12·8	11·6
1927	477,600	6,198	13·0	12·3
1928	474,800*	6,133	12·9	11·7
1929	478,500	7,898	16·5	13·4
1930	478,500	5,930	12·4	11·4
1931	486,400	6,506	13·4	12·3
1932	484,900	6,469	13·3	12·0
1933	485,000	6,574	13·6	12·3

* Population adjusted to allow for change in boundary during the year. The mid-year population after the change is 476,500.

DEATHS AND DEATH RATE IN WARDS.

MUNICIPAL WARD.	Area in Acres.	Estimated population middle of 1933.	Nett deaths.	Death-rate.
Mill Hill and South.. ..	574	15,791	230	14·6
Westfield	234	19,622	311	15·8
Blenheim	443	22,824	379	16·6
Central	312	21,068	341	16·2
Woodhouse	436	18,784	249	13·3
North	5,038	15,547	214	13·8
Far Headingley	5,386	18,219	209	11·5
Hyde Park	468	16,452	216	13·1
Kirkstall	1,071	19,644	263	13·4
Burmantofts	274	23,176	318	13·7
Harehills	655	19,747	236	12·0
Potternewton	470	19,618	246	12·5
Roundhay	3,877	15,211	171	11·2
Cross Gates and Temple-newsam	5,593	14,492	156	10·8
Richmond Hill	260	24,564	357	14·5
Osmondthorpe	1,455	21,830	253	11·6
East Hunslet	366	18,523	241	13·0
Hunslet Carr and Middleton	2,657	20,209	266	13·2
West Hunslet	206	18,078	277	15·3
Beeston	1,166	15,213	193	12·7
Holbeck (South)	306	14,323	211	14·7
Holbeck (North)	383	18,390	272	14·8
Armley and New Wortley ..	565	20,326	259	12·7
Upper Armley	945	17,015	208	12·2
Bramley	2,114	17,658	253	14·3
Farnley and Wortley ..	2,851	18,676	245	13·1
City	38,105	485,000	6,574	13·6

Principal Causes of Death.

Death rate.	Diseases.	No. of deaths in 1933 (nett).	Increase or decrease compared with 1932.	Houses.	
				Through.	Back-to-back.
0·00	Enteric Fever .. .	1	+ 1	1	..
..	Small-pox	..	..	..	..
0·05	Measles	22	- 30	7	15
0·02	Scarlet Fever	9	+ 1	2	7
0·06	Whooping Cough	28	- 13	8	20
0·18	Diphtheria	88	+ 40	33	55
0·53	Influenza	258	+ 142	108	150
0·03	Erysipelas	15	- 7	6	9
0·85	Pulmonary Tuberculosis ..	412	+ 26	153	251
0·18	Other Tuberculous Diseases	87	- 20	33	53
1·46	Cancer, malignant disease	706	- 54	341	364
0·06	Rheumatic Fever	29	+ 5	11	18
0·03	Meningitis	14	- 13	6	8
0·79	Cerebral Hæmorrhage ..	385	- 8	176	209
2·56	Organic Heart Disease ..	1,241	+ 16	588	645
0·98	Arterio-sclerosis	476	- 16	234	238
0·71	Bronchitis	342	+ 43	131	210
1·00	Pneumonia (all forms) ..	485	- 12	176	305
0·13	Other diseases of respiratory organs	63	+ 9	29	34
0·26	Diarrhœa and Enteritis ..	124	+ 2	35	88
0·07	Appendicitis and Typhlitis	33	- 4	17	16
0·01	Cirrhosis of Liver	7	- 7	4	3
0·31	Nephritis and Bright's Disease	151	- 9	74	77
0·03	Puerperal Fever	15	+ 7	5	10
0·02	Other accidents and diseases of Pregnancy and Parturition	12	- 1	5	7
0·42	Congenital Debility and Malformation, including Premature Birth ..	203	+ 18	74	129
0·46	Violent Deaths, excluding Suicide	222	- 1	103	117
0·13	Suicide	65	- 12	37	28
2·22	Other Defined Diseases ..	1,079	+ 2	496	582
0·00	Diseases ill-defined or unknown	2	- +	..	2
13·55	Totals	6,574	+ 105	2,893	3,650

Of the 6,574 deaths, 31 had no home.

Causes of, and Ages at Death during the Calendar Year, 1933.

Causes of Death.	Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.									Total Deaths whether of "Residents" or "Non-Residents" in Institutions in the District
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1. Enteric Fever	1	..	..	..	..	1	..	..	..	1
2. Small-pox	..	..	..	..	..	..	..	..	..	..
3. Measles	22	4	5	9	4	..	..	..	..	7
4. Scarlet Fever	9	..	1	2	4	..	1	1	..	8
5. Whooping Cough	28	10	7	10	1	..	..	..	..	14
6. Diphtheria	88	2	4	17	64	1	..	..	..	82
7. Influenza	258	6	4	3	3	9	45	91	97	41
8. Erysipelas	15	5	..	..	..	1	1	3	5	18
9. Pulmonary Tuberculosis	412	3	3	4	6	107	156	117	16	186
10. Other Tuberculous Diseases	87	7	10	8	14	17	20	7	4	95
11. Cancer, malignant disease	706	..	..	..	..	3	46	348	309	337
12. Rheumatic Fever	29	..	..	..	6	2	10	6	5	13
13. Meningitis	14	4	3	2	1	..	2	2	..	16
14. Cerebral Hæmorrhage, &c.	385	..	..	1	..	2	17	128	237	146
15. Organic Heart Disease	1,241	1	..	2	4	27	67	333	807	282
16. Arterio-sclerosis	476	..	..	..	..	..	..	63	413	243
17. Bronchitis	342	15	5	2	3	3	16	97	201	112
18. Pneumonia (all forms)	485	75	38	31	15	13	72	135	106	244
19. Other diseases of respiratory organs	63	..	3	..	2	1	9	19	29	35
20. Diarrhœa and Enteritis	124	97	7	3	2	..	4	4	7	109
21. Appendicitis and Typhlitis	33	..	..	..	4	1	5	14	9	41
22. Cirrhosis of Liver	7	..	..	..	..	..	..	6	1	2
23. Nephritis and Bright's Disease	151	..	..	..	..	7	22	61	61	68
24. Puerperal Fever	15	..	..	..	..	6	9	..	..	23
25. Other accidents and diseases of Pregnancy and Parturition	12	..	..	..	..	2	9	1	..	15
26. Congenital Debility and Malformation, including Premature Birth	203	198	2	2	1	..	..	..	..	160
27. Violent Deaths, excluding Suicide	222	17	4	16	16	25	38	53	58	180
28. Suicide	65	..	..	..	..	9	17	24	15	11
29. Other Defined Diseases	1,079	93	9	18	34	48	140	312	425	654
30. Diseases ill-defined or unknown	2	..	..	..	..	..	1	..	1	1
Totals	6,574	537	105	130	184	285	702	1,825	2,806	3,144

Deaths in Age Groups (Nett), 1923-1933.

Together with the percentage of the total deaths, represented by each group (in italics).

Year.	Under 1	1–2	2–5	5–15	15–25	25–45	45–65	65+	Total.
1923	773	189	153	166	277	751	1,620	2,057	**5,986**
	12·9%	*3·2%*	*2·6%*	*2·8%*	*4·6%*	*12·5%*	*27·1%*	*34·4%*	
1924	921	270	202	173	275	786	1,804	2,316	**6,747**
	13·7%	*4·0%*	*3·0%*	*2·6%*	*4·1%*	*11·6%*	*26·7%*	*34·3%*	
1925	748	177	161	159	297	709	1,657	2,129	**6,037**
	12·4%	*2·9%*	*2·7%*	*2·6%*	*4·9%*	*11·7%*	*27·4%*	*35·3%*	
1926	748	206	190	158	251	676	1,658	2,175	**6,062**
	12·3%	*3·4%*	*3·1%*	*2·6%*	*4·1%*	*11·2%*	*27·4%*	*35·9%*	
1927	629	204	160	183	246	714	1,711	2,351	**6,198**
	10·1%	*3·3%*	*2·6%*	*3·0%*	*4·0%*	*11·5%*	*27·6%*	*37·9%*	
1928	606	122	113	155	230	725	1,792	2,390	**6,138**
	9·9%	*2·0%*	*1·8%*	*2·5%*	*3·8%*	*11·8%*	*29·2%*	*39·0%*	
1929	722	291	258	160	349	851	2,113	3,154	**7,898**
	9·1%	*3·7%*	*3·3%*	*2·0%*	*4·4%*	*10·8%*	*26·8%*	*39·9%*	
1930	512	84	117	156	253	667	1,813	2,328	**5,930**
	8·6%	*1·4%*	*2·0%*	*2·6%*	*4·3%*	*11·2%*	*30·6%*	*39·3%*	
1931	552	137	154	169	275	701	1,902	2,616	**6,506**
	8·5%	*2·1%*	*2·4%*	*2·6%*	*4·2%*	*10·8%*	*29·2%*	*40·2%*	
1932	617	109	144	155	246	659	1,791	2,748	**6,469**
	9·5%	*1·7%*	*2·2%*	*2·4%*	*3·8%*	*10·2%*	*27·7%*	*42·5%*	
1933	537	105	130	184	285	702	1,825	2,806	**6,574**
	8·2%	*1·6%*	*2·0%*	*2·8%*	*4·3%*	*10·7%*	*27·8%*	*42·7%*	

Cremations in Leeds, 1905-1933.

Year.	No. of Leeds people cremated.	Nett total deaths in City.	Percentage of cremations on nett deaths (Leeds people cremated).
1905	7	7,047	0·10
1906	10	7,350	0·14
1907	12	7,167	0·17
1908	16	7,430	0·22
1909	9	6,806	0·13
1910	5	6,711	0·07
1911	7	7,331	0·10
1912	14	6,396	0·22
1913	7	7,237	0·10
1914	18	6,885	0·26
1915	13	7,609	0·17
1916	9	6,946	0·13
1917	10	7,052	0·14
1918	23	8,529	0·27
1919	18	6,992	0·26
1920	13	6,591	0·20
1921	9	6,285	0·14
1922	17	6,479	0·26
1923	11	5,986	0·18
1924	24	6,747	0·36
1925	26	6,037	0·43
1926	14	6,062	0·23
1927	32	6,198	0·52
1928	31	6,133	0·51
1929	36	7,898	0·46
1930	26	5,930	0·44
1931	54	6,506	0·83
1932	55	6,469	0·85
1933	66	6,574	1·00
Total	592	197,383	0·30

Cremation.—Out of a total of 6,574 deaths which occurred in the city during 1933, the number of bodies disposed of by cremation was 66, or 1·00 per cent., as compared with 55 or 0·85 per cent., for the previous year.

The table on page 36 shows the number of cremations which have taken place year by year since 1905.

The year under review was one of the busiest in the history of the Leeds Crematorium. Never before were there so many cremations in a single year. Unfortunately from a purely parochial point of view the greater number of these came from outside the city, and I am still far from satisfied with the rate of progress made by the city itself in this very important matter of the hygienic disposal of the dead. With the built-up portion of the city extending on every side the need for suitable building land becomes more and more pressing. At the same time the main burial grounds which were once on the outskirts are rapidly being enclosed by new housing estates. At no distant date those grounds will become insufficient to meet the demand and new grounds will have to be provided. Where these will be I cannot say but obviously they must be close up to the periphery, it may be on land suitable for house building purposes, and once more, as has been the case in the past, we shall see a clash of the two interests that of the living and that of the dead. Whilst not desiring to minimize the importance of the latter I hope I shall give offence to no one when I say that I think the former the more important. Holding that point of view strongly as I do, both as an individual and as a Medical Officer of Health, I make no apology for once more pressing the claims of cremation as at once the most suitable and most hygienic method of disposing of the dead.

Infectious and Other Diseases.

INFECTIOUS AND OTHER DISEASES

BY

E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H.,
Deputy Medical Officer of Health.

In the introduction to the report for 1932 it was pointed out that there had been few peaks on the curves of the epidemic diseases, with the notable exception of influenza. During 1933 conditions were almost completely reversed. The curve for influenza remained low after the initial outbreak ; but measles, diphtheria, and scarlet fever were prevalent to such an extent as to tax the accommodation at the city hospital to the utmost.

The number of cases of scarlet fever notified was 1,906 as compared with 931 in 1932. The disease continued to be of a comparatively mild type.

Diphtheria continued to increase and during 1933, 1,057 cases were notified as compared with 889 in the previous year. Unfortunately the mortality also rose from 48 in 1932 to 88 in 1933. The disease was of the severe type which has been prevalent in the city during the last few years.

Although there have been several epidemics of measles during the last two or three years, the disease again assumed epidemic proportions about the beginning of November. The epidemic was the largest but one experienced in the city since the disease became notifiable. As was to be expected German measles also showed an increase.

Cases of puerperal fever increased from 28 in 1932 to 39 in 1933 ; a disquieting feature was the comparatively high mortality compared with previous years. The number of cases of puerperal pyrexia increased from 43 in 1932 to 115 in 1933.

Influenza became epidemic in the city early in December, 1932 and the epidemic continued until March, 1933. This outbreak was discussed in last year's report and there was no further increase in the incidence during 1933. The deaths numbered 258 as against 116 in 1932.

Cerebro spinal fever showed a slight increase.

A noteworthy feature was the decrease in the deaths from cancer from 760 in 1932 to 706 in 1933.

A complete summary of all cases of notifiable infectious diseases notified to the Department during 1933 will be found in the Appendix (Table II.).

Smallpox.—No case of this disease was reported in the city during 1933. This makes the second consecutive year in which the city has been entirely free from the disease. Information has been received on several occasions from port medical officers regarding the occurrence of variola major on ships returning from foreign countries. Contacts landing from these ships and coming into the city were followed up, but in no case did the disease develop.

Cases referred for Second Opinion.—During the year 11 cases were referred to the Department as " doubtful smallpox " by general medical practitioners, as compared with 16 for the preceding year. The cases included chickenpox 3; dermatitis 3; erythema 2; other conditions 3. None of these cases was admitted to Seacroft Hospital.

Observation of Contacts.—During the year 11 Leeds persons who had been in contact with cases of smallpox whilst visiting other towns or returning to this country from abroad, were kept under observation until the end of the quarantine period of 21 days.

VACCINATION.

Year.	Number of children born.	Number of successful primary vaccinations during year.	Number granted exemption certificates during year.
1925	8,576	5,919	2,477
1926	8,515	6,045	2,348
1927	8,129	6,590	2,016
1928	7,978	5,828	2,387
1929	7,727	4,127	2,423
1930	7,902	4,275	2,558
1931	7,555	3,963	2,511
1932	*7,369	3,692	2,635

*Quite an appreciable number of these children may be vaccinated in 1933.

Vaccination.—During 1932, the last year for which statistics are available, 7,369 births were registered of which 3,692, or 50 per cent., were successfully vaccinated; 46 cases were found to be insusceptible to vaccination and 2,635 statutory exemptions were issued on account of conscientious objections by parents or guardians.

The appended table illustrates the number of children vaccinated from year to year. The year 1927 was exceptional owing to the increased prevalence of smallpox in the city which gave vaccination a temporary fillip.

Chickenpox.—The notification of this disease was discontinued in the city on 31st December, 1931. No official figures for the year under review are therefore available.

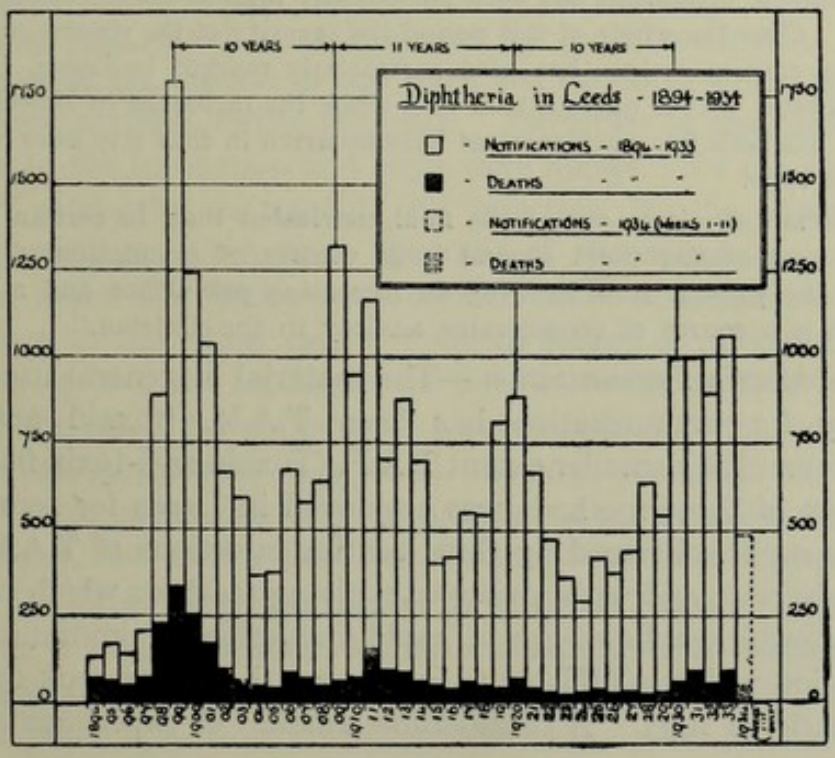
Diphtheria.—The number of cases notified during the year was 1,057 and the death-rate 0·18 which was three times that for England and Wales as a whole. The incidence was particularly marked towards the end of the year 1933, and cases continued to occur during the first half of 1934 in such numbers as to constitute the largest epidemic experienced in the city for twenty-two years. When one reflects that the majority of these cases were of the grave type the city is perhaps to be congratulated that the number of deaths was no greater than it was.

The significance of the problem of diphtheria in Leeds was discussed by the writer in a recent address, and the following extract dealing with the epidemiological position is re-printed by the courtesy of the "Medical Officer":—

> "The first suggestion that all was not well was given by Finkelstein, Deicher, and Agulnick, who in 1927 reported that in Berlin there was a significant increase in the number of cases of diphtheria, and especially of cases of a severe type. These observers also noted that laryngeal diphtheria was less common and that the deaths took place usually from rapid toxaemia following a severe throat infection. In 1931 von Bokay showed that in Budapest there had been a marked increase in diphtheria in the years 1927 to 1929, and that in these years there had been an increasing incidence of severe cases of faucial diphtheria. About this time reports from many countries indicated that in certain areas there was not only an increase in the number of cases of diphtheria, but an unprecedented change in the type of the disease which was accompanied by an increased mortality. These features were very marked in Leeds, and the pioneer work of Anderson, McLeod and their colleagues indicated that: (1) The B. diphtheriae might be any one of three hitherto undescribed types which they

named the gravis, mitis and intermediate strains ; and (2) that the clinical features of the cases could be correlated with the particular types of organism which were present. It was shown that the mitis type of organism produced a disease which was generally mild, which was liable to be followed by laryngeal complications, but not by paralysis and death from toxaemia, and which responded readily to antitoxin. On the other hand the gravis type of organism is liable to give rise to a severe form of the disease, which is characterised by profuse membrane in the throat, much glandular enlargement—often of the bull-neck type—and which is accompanied by severe toxaemia and a tendency to paralysis in the later stages of the disease ; the disease caused by the gravis type of organism does not usually show laryngeal features, and it is very resistent to antitoxin. As a consequence of the prevalence of the gravis type of organism in Leeds and other places, the dosage of antitoxin has had to be increased to an extent which ten years ago would have been considered unthinkable and totally unnecessary. The findings of the Leeds workers were not universally accepted when they were first published ; but during the last two years a steadily increasing body of evidence has accumulated which shows that these strains of the organism and diphtheria of a severe and toxin-resisting type are not confined to Leeds. In Hull, for example, the death-rate from diphtheria increased from 0·108 in 1927 to 0·420 in 1932, and it has been shown that the gravis type of the organism is very prevalent in that city. In Manchester a severe type of diphtheria also exists, and recent results show that the gravis strain of the organism has now appeared in London.

In view of the importance of the diphtheria problem in Leeds and other cities of Yorkshire some further comments on the prevalence of the disease in this area may not be without interest.



The figure shows the number of cases of diphtheria which have been notified in Leeds year by year since the introduction of compulsory notification in 1894 ; the number of deaths in each year is also shown. It is seen that, broadly speaking, epidemics tend to recur at intervals of about 10 or 11 years. Up to about the year 1928 there might have been some justification for assuming, in a superficial fashion, that not only the number of deaths but also the number of cases were showing a distinct decrease ; it is evident from the chart that the peak of 1909 is much below the peak of 1899, and again that the peak of 1920 is considerably below the peak of 1909. Such an assumption is shattered, however, by the fact that in 1930, which was presumably the peak year, the total number of cases rose by 109 above the peak number for 1920. A further disquieting feature is that, whereas in 1931 the incidence should have diminished, it did not do so. In 1931 995 cases were notified as against 994 in 1930 ; and after a slight reduction to 889 in 1932, the incidence increased to 1,057 in 1933. In the first eleven weeks of 1934, 486 cases have been notified ; that is, over half as many cases as were notified during the whole of the apparent peak year 1930. The features connected with the mortality are even more disquieting. In 1933 there were 88 deaths, which is more than in any year since 1912. In the first eleven weeks of 1934, 47 deaths occurred. It is evident that in Leeds at least the problem of diphtheria is not only present, but acute.

In Hull a similar condition of affairs prevails. In that city the incidence rose from 674 cases in 1928 to 1,707 in 1932, and in the latter year 133 deaths occurred. The table on page 47 shows the incidence of diphtheria per 1,000 population in various cities for 1933 and for the first ten weeks of 1934 respectively : the death-rates are also given for these periods.

It is evident from this table that during the last fifteen months the incidence of diphtheria has been particularly high in Leeds, Liverpool and Hull. Over the whole of this period the severity of the disease, as judged by the case mortality, has been particularly marked in Leeds, Hull and Manchester. It is obvious also that while the incidence in Newcastle-on-Tyne has been low, such cases as have occurred in that city have been of a severe type.

It is difficult to escape the final conclusion that, in certain areas at least, and among them several large centres of population, diphtheria is at the present time showing an increasing prevalence and a severity which is a source of considerable anxiety to the clinician."

Diphtheria Immunization.—The material in general use in this country for immunization has been T.A.M. (toxoid anti-toxin mixture) and to a smaller extent T.A.F. (Toxoid anti-toxin floccules). The first of these methods was employed in Leeds for some years but the results obtained by three routine injections of T.A.M. were unsatisfactory, and with a view to evolving methods which could be satisfactorily employed for a rapid induction of immunity in a population which is difficult to immunize, the writer took over this work early in 1933. A considerable amount of experimental work

with potent formol toxoids of high values has been carried out and the results have been entirely successful. Whereas, with T.A.M. three injections were necessary and even then immunity had not developed in a very large proportion of the cases even after six months ; with the more powerful formol toxoid it has been found possible to produce immunity consistently in successive batches of children within one month from the date of the second injection. The preliminary results of this work have already been published (*Lancet* 1934, Vol. I. March 31st, page 678). Up to the end of 1933 1,027 children had either been immunized by this method or had been found to be naturally immune.

Diphtheria prophylactics continued to be distributed, on request, to general medical practitioners and sufficient material to immunize 345 children was issued in 1933.

Diphtheria Outbreaks.—During the year 123 cases of diphtheria were notified from four institutions in the city. Of these cases, 18 were nurses in these institutions and the remaining 105 were patients. The bulk of these cases (101) occurred in two large institutions in the city, and it is noteworthy that the cases did not occur in groups but were notified singly or in small numbers during practically every month throughout the year. In view of the marked and continued prevalence of diphtheria in the city, this feature is not surprising. Some idea of the difficulty experienced in dealing with these cases is shown by the investigation of the prevalence of the disease in one large institution in which 60 cases in all were notified during the year. Fifty-two of the cases were patients in the institution and eight were nurses. Of the 52 cases, 45 had evidently contracted the infection in the institution. From particulars obtained at the time of the occurrence of each case, the source of infection could be ascertained in certain instances. It appears to the writer that a common source of infection is the introduction into the institution of new cases which have positive nasal swabs, and it cannot be too strongly emphasised that wherever there is any suggestion of a nasal discharge the child should be isolated as far as possible until bacteriological examination, repeated if necessary, has shown that the diphtheria bacillus is absent.

In the other large institution in which 41 cases of diphtheria occurred, 32 were patients and 9 were members of the nursing staff. Here again the cases occurred in ones or twos continuously throughout the year.

DIPHTHERIA AND MEMBRANOUS CROUP.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1922	470	1·01	28	**0·06**	0·11
1923	368	0·78	20	**0·04**	0·07
1924	289	0·61	27	**0·06**	0·06
1925	422	0·89	39	**0·08**	0·07
1926	374	0·79	26	**0·05**	0·08
1927	439	0·92	28	**0·06**	0·07
1928	634	1·34	21	**0·04**	0·08
1929	536	1·12	26	**0·05**	0·09
1930	994	2·08	54	**0·11**	0·09
1931	995	2·05	86	**0·18**	0·07
1932	889	1·83	48	**0·10**	0·06
1933	1,057	2·18	88	**0·18**	0·06

Diphtheria Carriers.—A number of carrier cases were met with during the year. Most of them were of the convalescent type and the B. diphtheriae rapidly disappeared from the throat and nose. Two, however, were persistent carriers. One case, a boy of seven years was admitted to hospital on July 18th and was discharged on September 27th, after an operation for the removal of tonsils and adenoids had failed to cure the carrier condition. The child was kept under observation and by November successive negative swabs had been obtained. The other case, a boy of five years, was admitted to hospital suffering from diphtheria on January 21st. He recovered but developed a carrier state which did not clear up even after the removal of tonsils and adenoids in April. The organism was virulent. This boy was kept under observation at home and instructions were given to his parents regarding suitable precautions. It was not until November however that successive negative swabs could be obtained. When the number of cases of diphtheria which were notified in the city during 1933 is taken into account, it may be said that little difficulty has been experienced owing to the persistence of carrier conditions.

Comparative Diphtheria Statistics of Nine large English Cities.

	Population (middle 1932).	1933.				1934 (weeks 1–10).				Case Mortality.	
		Cases.		Deaths.		Cases.		Deaths.			
		Total cases.	Case-rate per 1,000 population.	Total deaths.	Death-rate per 1,000 population.	Total cases.	Case-rate per 1,000 population.	Total deaths.	Death-rate per 1,000 population.	1933.	1934 (weeks 1–10).
Leeds	484,900	1,050	2·17	86	0·18	422	4·54	40	0·43	8·2	9·5
Birmingham	1,009,300	835	0·83	34	0·03	299	1·55	19	0·10	4·1	6·4
Liverpool	859,500	2,917	3·39	170	0·20	615	3·73	42	0·25	5·8	6·8
Manchester	762,930	1,019	1·34	84	0·11	292	1·99	17	0·12	8·3	5·8
Sheffield	513,000	966	1·88	18	0·04	257	2·61	5	0·05	1·9	2·0
Bristol	409,200	641	1·57	22	0·05	160	2·03	4	0·06	3·4	2·5
Hull	318,200	1,514	4·76	89	0·28	386	6·31	30	0·49	5·9	7·8
Bradford	296,300	380	1·28	16	0·05	161	2·83	3	0·06	4·2	1·9
Newcastle-on-Tyne ..	285,100	94	0·33	9	0·03	32	0·58	4	0·07	9·6	10·2

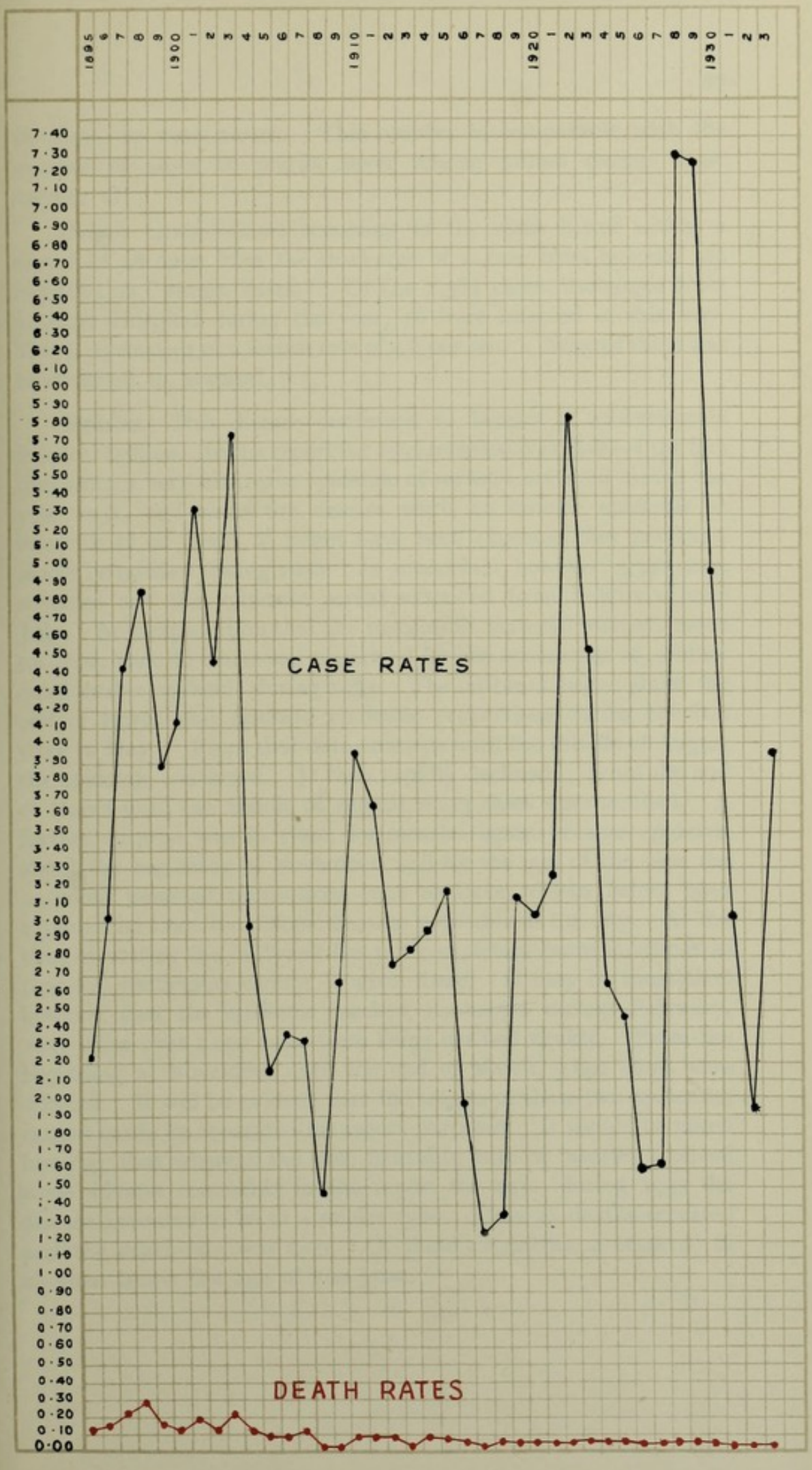
Scarlet Fever.—This disease was also epidemic in the city during the year and, as the table shows, 1,906 cases were notified. Of these cases 1,742, or 91·4 per cent., were removed to hospital. The disease continued to be of a mild type. In epidemic years, as will be seen from the table ~~on page~~ appended, the death-rate tends to be higher than in inter-epidemic years. In 1933, however, despite the large number of cases notified, only nine deaths took place and the death-rate remained at 0·02, which was identical with the figure for England and Wales as a whole.

SCARLET FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1923	2,134	4·54	31	**0·07**	0·03
1924	1,256	2·66	20	**0·04**	0·02
1925	1,166	2·47	15	**0·03**	0·03
1926	756	1·60	5	**0·01**	0·02
1927	773	1·62	6	**0·01**	0·01
1928	3,515	7·40	18	**0·04**	0·01
1929	3,473	7·26	29	**0·06**	0·02
1930	2,383	4·98	23	**0·05**	0·02
1931	1,467	3·02	12	**0·02**	0·01
1932	931	1·92	8	**0·02**	0·01
1933	1,906	3·93	9	**0·02**	0·02

Outbreaks in Institutions.—It is satisfactory to note that despite the fact that scarlet fever was epidemic in the city, only 28 cases were notified from institutions. All these occurred in large institutions. In one of them 19 cases occurred, 15 of whom were patients and 4 members of the nursing staff. In another institution 9 cases occurred, 3 being patients and 6 nurses. Hence, out of

SCARLET FEVER CASE AND DEATH RATES 1895 - 1933.



28 cases, 10 were nurses. This number is comparable with the number of cases of scarlet fever among nurses during 1932, namely 11.

Return Cases.—Cases occurring in the same house within a period of 28 days from the discharge of a case from hospital are regarded as "return cases." Of the 1,584 cases discharged from Seacroft Hospital during the year, 76 were infected in this way. This is equivalent to a return rate of 4·8 per cent. None of them was re-admitted to hospital.

Measles.—This disease continued to behave in an extremely atypical fashion. In the report for 1932 mention was made of the fact that since a very extensive epidemic of measles occurred during the year 1931, and since the disease tends to become epidemic at intervals of 92 weeks, it might have been expected that few cases would be notified during 1932. In actual fact, however, 3,540 cases occurred and the epidemic period extended from February until July. Any expectation that the susceptible material was exhausted for some time to come was negatived by the occurrence of another considerable epidemic during 1933. The outbreak began about the end of March and assumed epidemic proportions during the last week in May. From that date onwards until the middle of August the epidemic continued. It then rapidly declined. From the end of March until the middle of August 2,113 cases were notified. A further surprise was in store, for measles again became epidemic about the beginning of November, and by the end of the year the outbreak assumed proportions such as have seldom before been experienced since the disease became notifiable in the city. At the time of writing the outbreak has not completely burnt itself out so that full particulars cannot be given here. It may be mentioned however that the epidemic reached its height during February, 1934 when over 1,000 cases were being notified weekly. From the beginning of November until the end of March, 9,692 cases were notified. It will be evident that the results of these two epidemics cannot easily be separated for report purposes. It should be noted however that whereas the case mortality rate of measles received some adverse comments in the report for 1932, during 1933 the disease appeared to be of a milder type. Only 22 deaths occurred and the death-rate was 0·05. Of these 22 deaths, 4 occurred in children below the age of one year.

German Measles.—This disease presented no very unusual features. The bulk of the 119 notifications were received during the last three months of the year when both scarlet fever and measles were prevalent in the city. The disease continued to be mild and no deaths occurred.

MEASLES (EXCLUDING GERMAN MEASLES).

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1921	209	0·45	5	0·01	0·06
1922	9,932	21·28	152	0·33	0·15
1923	4,683	9·97	50	0·11	0·14
1924	6,654	14·11	46	0·10	0·12
1925	5,100	10·78	39	0·08	0·14
1926	7,076	14·95	19	0·04	0·09
1927	8,569	17·94	117	0·24	0·09
1928	3,638	7·66	21	0·04	0·11
1929	9,486	19·82	102	0·21	0·09
1930	913	1·91	2	0·00	0·11
1931	10,955	22·52	56	0·12	0·08
1932	3,540	7·30	52	0·11	0·08
1933	3,973	8·19	22	0·05	0·05

GERMAN MEASLES.

Year.	Cases notified.	Case-rate.	Deaths LEEDS.	Deaths in England and Wales.
1921 ..	31	0·07	..	15
1922 ..	146	0·31	..	15
1923 ..	541	1·15	..	17
1924 ..	383	0·81	..	12
1925 ..	201	0·43	..	42
1926 ..	626	1·32	1	35
1927 ..	95	0·20	..	20
1928 ..	41	0·09	..	12
1929 ..	1,256	2·62	..	31
1930 ..	343	0·72	..	27
1931 ..	101	0·21	..	16
1932 ..	86	0·18	..	7
1933 ..	119	0·25	..	

Whooping Cough.—As this disease is not notifiable in Leeds, the actual number of cases cannot be ascertained. The number of deaths (28) was the lowest ever recorded in the city. The death-rate was 0·06. This compares favourably with the death-rate of 0·05 for England and Wales as a whole. A satisfactory feature was the reduction in the percentage of deaths occurring in children under two years of age from 76 in 1932, to 61 in 1933.

WHOOPING COUGH.

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1923	32	**0·07**	0·11
1924	87	**0·18**	0·10
1925	47	**0·10**	0·16
1926	119	**0·25**	0·11
1927	44	**0·09**	0·09
1928	36	**0·08**	0·08
1929	107	**0·22**	0·16
1930	32	**0·07**	0·05
1931	43	**0·09**	0·06
1932	41	**0·08**	0·07
1933	28	**0·06**	0·05

AGES AT DEATH FROM WHOOPING COUGH.

1933	*0–1*	*1–2*	*2–3*	*3–4*	*4–5*	*5–10*	*10–15*	Total.
No. of deaths	10	7	5	4	1	1	..	28

Erysipelas.—While there was an increase of notified cases of this disease from 289 in 1932, to 353 in 1933 it is pleasing to note that the deaths dropped from 22 in 1932 to 15 in 1933. This gives a death-rate of 0·03 which is very satisfactory. Of the 353 cases notified, 175 were removed to hospital.

ERYSIPELAS.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate Leeds.	Death-rate England and Wales.
1923	205	0·44	17	0·04	0·02
1924	237	0·50	10	0·02	0·02
1925	321	0·68	13	0·03	0·02
1926	327	0·69	12	0·03	0·02
1927	320	0·67	18	0·04	0·02
1928	361	0·76	19	0·04	0·02
1929	349	0·73	19	0·04	0·03
1930	423	0·88	23	0·05	0·03
1931	317	0·65	22	0·05	0·03
1932	289	0·60	22	0·05	0·02
1933	353	0·73	15	0·03	

Encephalitis Lethargica.—Two cases of this disease were notified during the year. The deaths numbered 10, which is equivalent to a death-rate of 0·02. Of these 10 deaths, 7 occurred in institutions and 3 at home. Three of the deaths were reported as due to post-encephalitic conditions.

Malaria and Dysentery.—No case of either of these diseases was reported during the year. There was one death from malaria.

Acute Anterior Poliomyelitis.—Only three cases of this disease were reported during the year and there were no deaths.

Cerebro Spinal Meningitis.—There was again a slight increase in the number of cases of this disease notified, 38 as compared with 21 reported in 1932. Thirteen of the cases were removed to hospital.

Of the 38 cases, 25 proved fatal which is equivalent to a death-rate of 0·05 and a case mortality rate of 65·8 per cent. For a city of the size of Leeds this number of cases is not excessive and calls for no further comment. The disease continued to appear sporadically in different areas of the West Riding of Yorkshire.

PUERPERAL FEVER.

Year.	Cases.	Case-rate per 1,000 population.	Deaths.	Death-rate per 1,000 live births.	Death-rate per 1,000 population.
1900	21	0·05	13	0·99	0·03
1901	26	0·06	16	1·24	0·04
1902	21	0·05	12	0·91	0·03
1903	26	0·06	10	0·77	0·02
1904	26	0·06	11	0·88	0·03
1905	28	0·06	9	0·73	0·02
1906	30	0·07	14	1·16	0·03
1907	30	0·07	15	1·28	0·03
1908	24	0·05	13	1·08	0·03
1909	32	0·07	19	1·73	0·04
1910	29	0·07	14	1·29	0·03
1911	23	0·05	13	1·23	0·03
1912	31	0·07	9	0·87	0·02
1913	32	0·07	13	1·20	0·03
1914	46	0·10	27	2·53	0·06
1915	23	0·05	12	1·21	0·03
1916	28	0·06	12	1·27	0·03
1917	22	0·05	5	0·66	0·01
1918	17	0·04	6	0·81	0·01
1919	26	0·06	6	0·79	0·01
1920	56	0·12	29	2·58	0·06
1921	31	0·07	8	0·79	0·02
1922	35	0·07	14	1·51	0·03
1923	51	0·11	10	1·15	0·02
1924	53	0·11	9	1·05	0·02
1925	52	0·11	24	2·93	0·05
1926	46	0·10	14	1·74	0·03
1927	37	0·08	14	1·80	0·03
1928	47	0·10	14	1·83	0·03
1929	31	0·06	10	1·35	0·02
1930	51	0·11	10	1·32	0·02
1931	65	0·13	17	2·35	0·03
1932	28	0·06	8	1·14	0·02
1933	39	0·08	15	2·26	0·03

Puerperal Fever and Puerperal Pyrexia.—The figures for the year are given below, viz.:—

Disease.	Cases notified.		Case-rate per 1,000 population		Deaths.		Death-rate per 1,000. population	
	1932	1933	1932	1933	1932	1933	1932	1933
Puerperal Fever ..	28	39	0·06	0·08	8	15	0·02	0·03
Puerperal Pyrexia ..	43	115	0·09	0·24	..	..	..	..

Of the 39 cases of puerperal fever, 20 (51·3 per cent.) occurred in institutions, 9 (23·1 per cent.) in doctors' practices, and 10 (25·6 per cent.) in the practice of midwives. Ten (25·6 per cent.) were removed to Seacroft Hospital.

The cases of puerperal pyrexia were distributed as follows:—86 (74·8 per cent.) in institutions, 9 (7·8 per cent.) in doctors' practices and 20 (17·4 per cent.) in midwives' practices. As compared with 1932, an increase of 11 cases of puerperal fever and an increase of 72 cases of puerperal pyrexia is recorded.

This subject is further dealt with in the section on Maternity and Child Welfare on page 140.

Ophthalmia Neonatorum.—Forty-four cases of this disease were reported during the year, a decrease of two cases as compared with the previous year.

DAY OF ONSET FROM BIRTH.

1933.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	-	-	4	3	1	1	1	2	3	8	13	4	4

The results of treatment were as follows:—

Recovery apparently perfect	41
Recovery not perfect	1
Died (from enteritis)	1
Still under treatment	1

This subject is further dealt with in the section on Maternity and Child Welfare on page 140.

ENTERIC FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1923	9	0·02	1	**0·00**	0·01
1924	25	0·05	6	**0·01**	0·01
1925	9	0·02	3	**0·01**	0·01
1926	9	0·02	1	**0·00**	0·01
1927	14	0·03	2	**0·00**	0·01
1928	6	0·01	1	**0·00**	0·01
1929	14	0·03	3	**0·01**	0·01
1930	4	0·01	2	**0·00**	0·01
1931	10	0·02	2	**0·00**	0·01
1932	9	0·02	..	..	0·01
1933	10	0·02	1	**0·00**	0·01

CASES OF ENTERIC FEVER MONTH BY MONTH.

Jan.	Feb	March	April	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.
1	–	–	–	2	1	2	1	3	–	–	–

The Enteric Group.—During the year 10 cases of enteric fever were notified of which 3 were due to B. Typhosus, 6 to B. paratyphosus B, and one to B. paratyphosus C. The ages of the patients ranged from 4 to 53 years, one being 53 and the remaining 9 all below 27 years. Of the ten cases, four were apparently infected outside the city.

At the end of April the writer was called in consultation regarding a man of 25 years who exhibited chest symptoms suspicious of tuberculosis. Further examination revealed infection by B. paratyphosus B and the patient was removed to hospital.

As the patient was a lorry driver it was difficult to obtain full particulars regarding the articles of diet which he had eaten. Bacteriological examination of material from the contacts showed B. paratyphosus B in the faeces of a sister aged 11 years. This girl had not shown any clinical signs of the infection and after removal to hospital the condition cleared up rapidly. The final conclusion was that she had been the primary source of the infection which she had contracted in a very mild form.

During July a case of B. paratyphosus B occurred, the investigation of which proved rather difficult. The patient, a female aged 22 years, had recently returned from a camp in North Yorkshire. The patient admitted that while at camp the members of the party had not made adequate arrangements regarding drinking water. She herself had frequently used water from a stream near the camp in which the members of the party bathed and which, owing to the drought was low at the time. Further up and adjacent to the stream were several farms. Examination of as many of the other members of the party as were available failed to yield evidence of infection, and the investigation of the watercourse by the local authority concerned was similarly negative. No further case amongst the other members of the party occurred.

Typhoid Carriers.—In the report for the year 1931 and 1932, mention was made of a girl of 15 years who had become a chronic carrier. During 1933 nine examinations of her fæces were carried out and seven were positive. Unfortunately at the time of writing the carrier condition still exists. This girl and her mother have been repeatedly advised regarding measures to prevent the spread of the infection.

Reference was also made in the report for 1932 to a man of 70 years of age who had evidently infected a boy in the same household. During 1933 he was kept under observation. His fæces and urine were examined on eight occasions with positive results in five. Adequate precautions were taken to prevent the further spread of the infection.

Influenza.—A severe outbreak of influenza began early in December, 1932 which persisted until March, 1933. During the year 1933, 258 deaths occurred which, with the exception of 1929, was the highest recorded since 1924. This outbreak was fully dealt with in the report for 1932 and further reference to it need not be made here. Apart from this epidemic influenza was not prevalent in the city during the rest of the year. The total deaths from influenza in the four quarters of the year are given in the accompanying table.

INFLUENZA DEATHS.

1933.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
No. of Deaths ..	223	13	7	15	258

It will be seen that in the second, third and fourth quarters only 35 deaths occurred. So far as could be ascertained the cases presented no unusual features.

INFLUENZA.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1923	122	**0·26**	**0·22**
1924	404	**0·86**	0·49
1925	159	**0·34**	0·33
1926	100	**0·21**	0·23
1927	173	**0·36**	0·57
1928	100	**0·21**	0·20
1929	568	**1·19**	0·74
1930	59	**0·12**	0·13
1931	125	**0·26**	0·36
1932	116	**0·24**	0·33
1933	258	**0·53**	0·57

AGES AT DEATH FROM INFLUENZA.

1933	*0–1*	*1–2*	*2–5*	*5–15*	*15–25*	*25–45*	*45–65*	*65+*	Total.
No. of Deaths	6	4	3	3	9	45	91	97	258

Deaths from Primary Enteritis under Two Years and Meteorological Conditions in each Month of the Year.

1933.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths	1	2	3	4	4	4	2	17	16	16	5	5	79
Barom. (inches)	30·01	29·81	29·77	29·98	29·90	29·80	29·92	29·91	29·97	29·79	29·83	30·24	29·91
Attached Ther.°F... ..	49·94	52·67	55·83	56·27	60·08	62·81	66·15	65·98	63·23	58·56	54·32	50·10	58·07
Dry Bulb	39·54	43·35	48·15	52·75	58·38	65·47	69·65	67·51	62·37	54·21	46·25	40·31	54·08
Wet Bulb	37·46	41·07	44·58	48·80	53·85	59·56	63·27	62·20	58·08	51·08	43·82	38·06	50·23
Humidity	81·88	82·19	76·55	75·22	74·02	69·10	68·65	73·25	79·96	80·19	82·46	82·06	76·86
Mn. of highest reading ..	43·64	48·46	53·91	58·79	65·46	72·29	76·75	74·86	69·68	58·54	49·74	44·32	59·80
,, lowest ,, ..	31·50	34·54	37·49	39·21	46·37	52·64	56·54	55·51	51·79	45·68	37·77	33·04	43·57
,, daily range ..	12·14	13·93	16·43	19·57	19·09	19·64	10·11	19·34	17·89	12·86	11·97	11·29	16·23
Total rainfall (inches) ..	1·84	3·88	3·19	1·14	3·25	1·13	2·46	0·68	1·63	3·31	2·61	0·49	25·61
Sunshine (hours)	25·58	57·17	123·08	112·75	126·42	208·23	188·08	202·25	154·75	69·83	33·75	14·08	1,315·98

The meteorological data are compiled from returns sent us by Mr. Ricketts, the Curator of the Museum They are uncorrected readings, made at 10 a.m. and 4 p.m.

DIARRHŒA AND ENTERITIS DEATHS UNDER TWO YEARS WITH RATES PER 1,000 BIRTHS.

Year.	Deaths.	Rate per 1,000 Births.	
		Leeds.	England and Wales.
1923	118	**13·6**	8·1
1924	103	**12·0**	7·6
1925	149	**18·2**	8·8
1926	147	**18·2**	9·2
1927	88	**11·3**	6·7
1928	105	**13·7**	7·2
1929	86	**11·6**	8·3
1930	34	**4·5**	6·2
1931	68	**9·4**	5·9
1932	106	**15·1**	6·6
1933	104	**15·7**	7·1

Epidemic (Summer) Diarrhoea and Enteritis.—During the year 104 deaths of epidemic diarrhœa and enteritis were reported. This gives a death-rate of 15·7 per 1,000 births which is more than double that for England and Wales as a whole. In the report for last year it was pointed out that the Registrar General's classification of these diarrhœal diseases in children under two years of age included a variety of conditions which might occur at any time during the year and which were not true epidemic diarrhœa. An analysis of the deaths for the years 1928-1932 was given in last year's report and showed that from 33 to 52 per cent. of the deaths included in this category in any one year were deaths of enteritis occurring as a terminal complication of some other condition.

Of the 104 deaths which occurred in 1933, 79 or 76 per cent., were due to primary enteritis. The percentage of deaths, viz. 24, due to other conditions is lower than that for any other year since 1928.

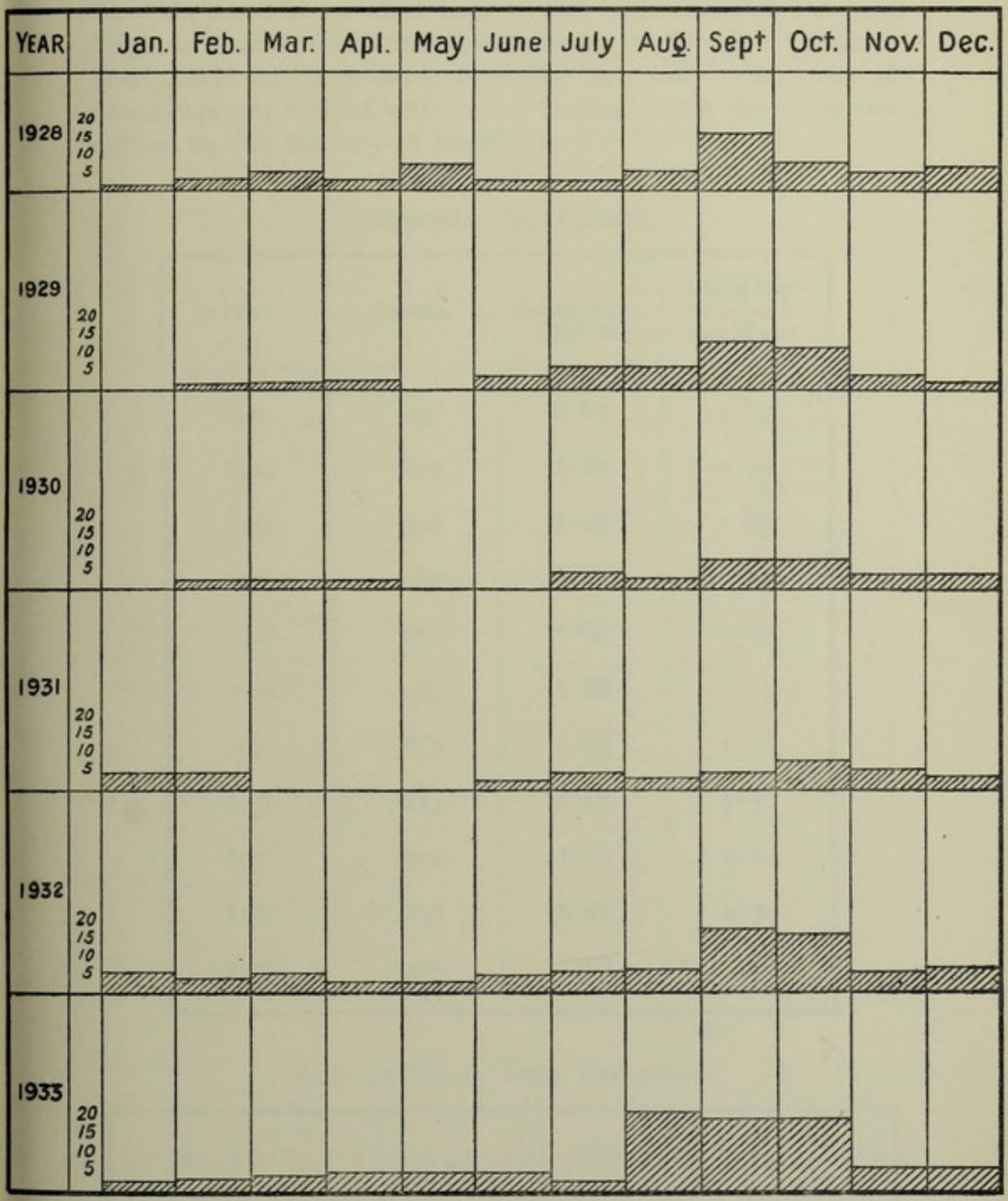
DEATHS FROM DIARRHŒA AND ENTERITIS.

	1928	1929	1930	1931	1932	1933	Total.
Enteritis	61	42	23	33	61	79	299
Broncho-pneumonia and Enteritis	5	6	..	5	10	6	32
Bronchitis and Enteritis ..	2	4	1	3	2	2	14
Marasmus and Enteritis ..	15	10	2	5	8	2	42
Convulsions and Enteritis ..	12	12	6	8	11	6	55
Enteritis, Prematurity or debility from birth	3	2	2	6	6	..	19
Skin Conditions and Enteritis	3	2	..	4	3	7	19
Rickets and Enteritis ..	..	..	..	..	1	..	1
Pyelitis and Enteritis ..	1	6	..	2	2	..	11
Other Conditions and Enteritis	3	2	..	2	2	2	11
TOTAL	105	86	34	68	106	104	503
Percentage of total cases which were true Enteritis ..	58·1	48·8	67·6	48·5	57·5	76·0	

Of the 79 deaths from true enteritis 54, or 68 per cent., took place in the four months August, September, October and November. This is the greatest number of deaths of primary enteritis in these four months which has been noted since 1928. The occurrence was probably associated with the hot dry summer. Many of the deaths took place in hospital, a fact which rather tends to the conclusion that hospitalisation is not the best line of treatment for these cases.

Pneumonia.—The Ministry of Health Regulations of 1919 made two forms of pneumonia subject to notification, viz., acute primary pneumonia and acute influenzal pneumonia. In many areas, however, the incidence of pneumonia is so high that it would seem

DEATHS FROM PRIMARY ENTERITIS DURING THE SIX YEARS 1928—1933.



that practitioners are notifying certain cases of pneumonia which are really secondary to other diseases, such as measles and whooping cough in childhood and malignant disease in old age. In Leeds every effort has been made to ensure that only those cases of pneumonia are notified which come strictly within the categories defined by the Ministry of Health.

PNEUMONIA (ALL FORMS).

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1923	440	**0·94**	0·87
1924	619	**1·31**	1·00
1925	503	**1·06**	0·95
1926	484	**1·02**	0·83
1927	477	**1·00**	0·95
1928	485	**1·02**	0·79
1929	825	**1·72**	1·11
1930	413	**0·86**	0·70
1931	500	**1·03**	0·84
1932	497	**1·02**	0·74
1933	485	**1·00**	

AGES AT DEATH FROM PNEUMONIA.

1933	*0–1*	*1–2*	*2–5*	*5–15*	*15–25*	*25–45*	*45–65*	*65+*	Total.
No. of Deaths	75	38	31	15	13	72	135	106	485

During the year under review 1,011 notifications of pneumonia were received, of which 824 were primary and 187 influenzal. The attack rate for the two varieties of pneumonia, based on the notifications received was 1·70 and 0·39 respectively, as compared with 1·54 and 0·22 for the previous year, and 1·90 and 0·38 the average for the previous five years.

The subjoined table gives the incidence of these two types of pneumonia in each quarter of the year.

PNEUMONIA CASES NOTIFIED.

1933.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Acute Primary Pneumonia ..	376	157	56	235	824
Acute Influenzal Pneumonia ..	147	10	2	28	187

It will be seen that only 52 per cent. of the cases occurred in the first quarter of the year. This is rather surprising in view of the fact that influenza was so prevalent at this time and that the epidemic had waned by the end of March.

The number of deaths which occurred from all forms of pneumonia during the year was 485. This represents a death-rate of 1·00 which is the lowest recorded in the city since 1930.

Bronchitis.—The number of deaths from bronchitis registered in 1933 was 342. This number was not unduly large when it is considered that influenza was so prevalent in the city. The death-rate was 0·71. The age group 65 years and over was responsible for 201 deaths.

Cancer.—For the first time since 1929 it is possible to record a substantial drop in the number of deaths registered as due to cancer; 706 deaths occurred from cancer during the year as compared with 760 in 1932. Of these deaths 353 were males and 353 females. So far as males are concerned reduction was most marked in the age groups 25 to 45 and 65+. On the other hand there was an increase of five deaths in the age group 45 to 65.

BRONCHITIS.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1923	518	**1·10**	0·85
1924	643	**1·36**	0·97
1925	513	**1·08**	0·91
1926	439	**0·93**	0·77
1927	351	**0·73**	0·84
1928	343	**0·72**	0·59
1929	559	**1·17**	0·84
1930	278	**0·58**	0·49
1931	355	**0·73**	0·63
1932	299	**0·62**	0·51
1933	342	**0·71**	

AGES AT DEATH FROM BRONCHITIS.

1933	*0–1*	*1–2*	*2–5*	*5–15*	*15–25*	*25–45*	*45–65*	*65+*	Total.
No. of Deaths	15	5	2	3	3	16	97	201	342

The figures for females are especially interesting in that the deaths in the 25 to 45 age group fell from 44 to 25—a 43 per cent. reduction. There was also a considerable reduction in the age group 65+.

During the year there has been co-operation between the Yorkshire Branch of the British Empire Cancer Campaign and the Health Department, and literature has been distributed from the Health Offices regarding the early treatment of cancer.

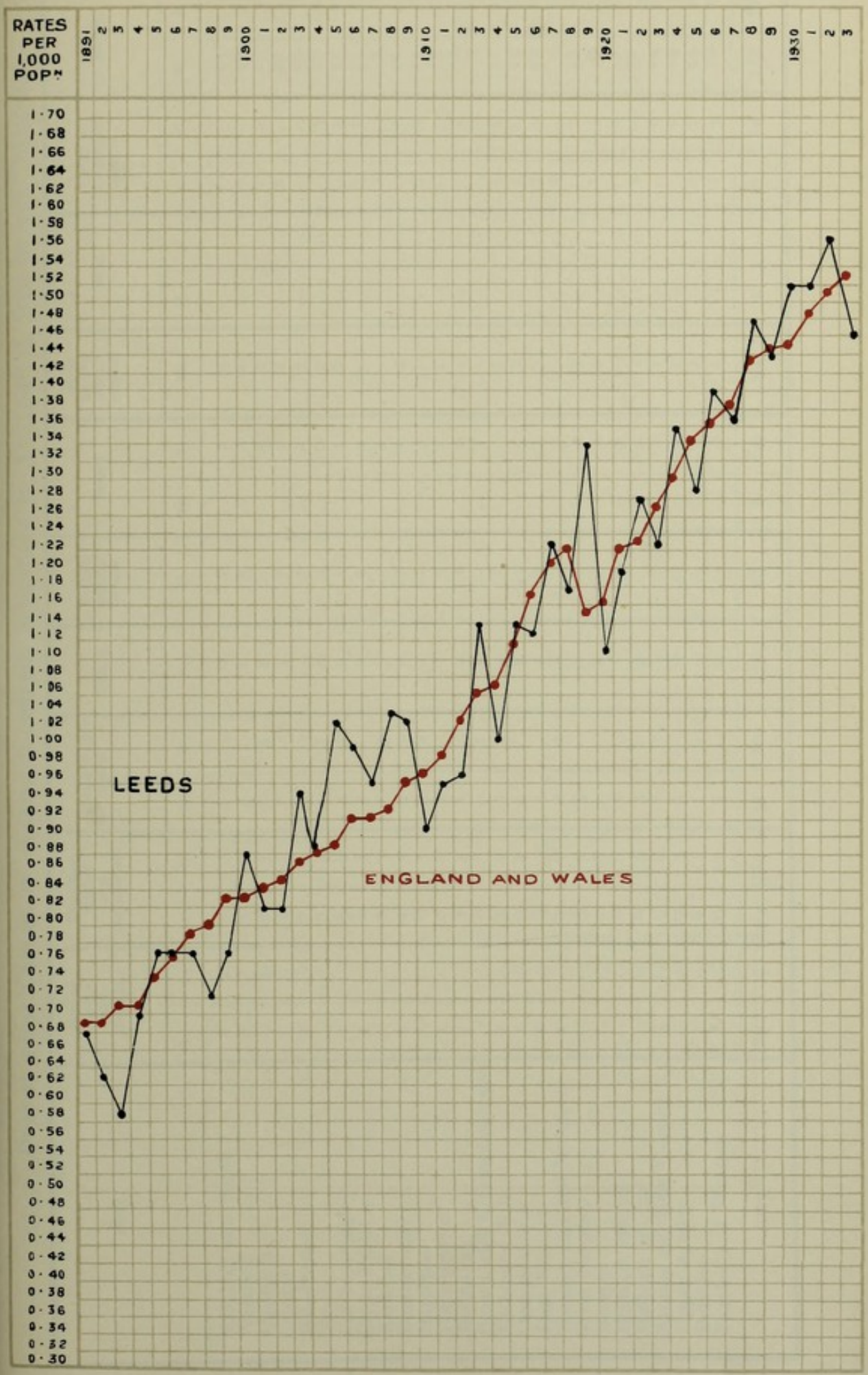
Cancer.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1923	574	**1·22**	1·27
1924	639	**1·35**	1·30
1925	606	**1·28**	1·34
1926	657	**1·39**	1·36
1927	649	**1·36**	1·38
1928	698	**1·47**	1·43
1929	684	**1·43**	1·44
1930	728	**1·52**	1·45
1931	740	**1·52**	1·48
1932	760	**1·57**	1·51
1933	706	**1·46**	1·53

Ages at Death from Cancer.

1933.	*0–1*	*1–2*	*2–5*	*5–15*	*15–25*	*25–45*	*45–65*	*65+*	Total.
Males	..	..	..	..	2	21	165	165	353
Females	..	..	..	..	1	25	183	144	353
Total	..	..	..	..	3	46	348	309	706

CANCER DEATH RATE.— 1891 - 1933.



1933.—Deaths from Cancer in Wards classified according to Anatomical Site of the Disease.

Ward.	Buccal cavity and pharynx.		Digestive organs and peritoneum.		Respiratory organs.		Uterus.	Female genital organs.	Breast.		Male genito-urinary organs.	Skin.		Other or unspecified organs.		Totals.	
	M.	F.	M.	F.	M.	F.	F.	F.	M.	F.	M.	M.	F.	M.	F.	M.	F.
Mill Hill and South	5	1	5	2	2	..	2	2	..	2	2	..	..	..	..	14	9
Westfield	2	..	7	7	4	..	1	3	..	2	2	..	..	1	..	16	13
Blenheim	..	1	19	13	1	3	7	..	..	5	2	..	..	1	2	23	31
Central	1	..	15	11	3	..	1	1	..	2	1	..	..	2	..	22	15
Woodhouse	3	..	7	4	4	..	..	1	..	2	3	..	..	..	..	17	7
North	..	..	8	10	1	1	2	2	..	6	1	..	..	..	3	10	24
Far Headingley	1	..	5	9	3	3	1	1	..	1	2	..	..	..	3	11	18
Hyde Park	2	..	2	5	5	..	2	1	..	4	..	..	..	2	1	11	13
Kirkstall	..	..	6	7	1	3	3	..	..	1	..	..	..	1	..	8	14
Burmantofts	1	..	2	5	3	1	2	1	..	1	4	..	..	..	1	10	11
Harehills	..	..	8	5	3	2	..	..	..	3	..	1	..	3	2	15	12
Potternewton	1	..	10	6	1	..	..	1	..	4	1	..	..	..	..	13	11
Roundhay	2	..	5	4	1	..	2	1	..	4	..	..	..	..	2	8	13
Cross Gates & Templenewsam	..	..	6	5	..	1	..	..	..	1	..	..	..	..	..	6	7
Richmond Hill	2	..	15	9	2	1	2	1	..	..	1	..	..	1	1	21	14
Osmondthorpe	1	..	9	2	2	..	5	..	..	3	2	..	..	1	..	15	10
East Hunslet	2	..	9	3	4	..	5	1	..	1	3	..	..	2	1	20	11
Hunslet Carr and Middleton	1	..	4	6	2	2	2	..	..	3	..	..	..	2	..	9	13
West Hunslet	..	..	13	7	3	..	1	..	..	1	2	..	..	..	1	18	10
Beeston	..	..	7	7	..	..	2	..	..	3	1	..	..	1	1	9	13
Holbeck (South)	..	..	6	6	1	..	1	1	..	5	..	..	..	..	2	7	15
Holbeck (North)	..	..	6	5	3	..	3	..	..	1	1	..	..	2	..	12	9
Armley and New Wortley	3	..	7	4	2	2	1	1	1	2	1	..	..	..	2	14	12
Upper Armley	..	..	10	3	2	..	2	..	..	2	2	..	..	..	1	14	8
Bramley	1	..	8	11	1	1	2	..	..	1	2	..	..	2	2	14	17
Farnley and Wortley	1	..	10	11	3	..	4	..	..	4	1	..	..	1	4	16	23
City	29	2	209	167	57	20	53	18	1	64	34	1	..	22	29	353	353

CANCER DEATH-RATES, ELEVEN LARGE TOWNS, ALSO ENGLAND AND WALES.

	Year 1922.	Year 1923.	Year 1924.	Year 1925.	Year 1926.	Year 1927.	Year 1928.	Year 1929.	Year 1930.	Year 1931.	Year 1932.
London ..	1·33	1·39	1·42	1·44	1·46	1·49	1·52	1·55	1·57	1·64	1·61
Birmingham..	1·16	1·18	1·31	1·29	1·31	1·39	1·37	1·37	1·42	1·45	1·47
Liverpool ..	1·06	1·13	1·13	1·21	1·18	1·16	1·33	1·34	1·27	1·34	1·40
Manchester ..	1·29	1·41	1·40	1·40	1·49	1·45	1·49	1·56	1·52	1·63	1·69
Sheffield ..	1·18	1·19	1·26	1·33	1·19	1·39	1·37	1·42	1·45	1·44	1·33
Leeds .. .	**1·29**	**1·24**	**1·37**	**1·28**	**1·41**	**1·37**	**1·46**	**1·44**	**1·52**	**1·53**	**1·58**
Bristol ..	1·21	1·32	1·28	1·32	1·26	1·43	1·45	1·39	1·50	1·49	1·54
Hull	1·21	1·04	1·29	1·20	1·46	1·45	1·47	1·40	1·36	1·28	1·45
Bradford ..	1·49	1·33	1·56	1·42	1·63	1·59	1·55	1·58	1·61	1·68	1·71
Newcastle ..	1·08	1·16	1·24	1·32	1·19	1·20	1·54	1·38	1·39	1·30	1·45
Nottingham ..	1·23	1·46	1·40	1·25	1·38	1·49	1·44	1·52	1·43	1·51	1·44
England and Wales ..	1·23	1·27	1·30	1·34	1·36	1·38	1·42	1·44	1·45	1·48	1·51

The rates are calculated from figures given in the Registrar General's Annual Reports.

Food Poisoning.—During the year there were four outbreaks of suspected food poisoning. These will be recorded briefly in chronological order.

(1) At the onset of May, 1933 a practitioner notified the department that during the week-end about forty persons in a college hostel for males had been seized with acute and persistent diarrhœa. The writer visited on receipt of the notification and investigated the affected persons including members of the staff, and collected samples of fæces, urine, and food stuffs. The total number of persons in the establishment was 170 and of these 140 were boarders. The onset of the illnesses was about 2 a.m. on a Saturday morning. Most of the patients developed symptoms about the same time. The symptoms were mainly sudden diffuse epigastric pain followed by acute diarrhœa which persisted

throughout the night, and in some cases until the next day. No history of vomiting or nausea was obtained and nervous symptoms do not appear to have been present. Samples of fæces and urine from the infected persons gave completely negative results on bacteriological examination. The same applied to bacteriological examination of food stuffs and the chemical examination of these were also negative. An investigation into the methods of the preparation of food stuffs revealed nothing which was of any value in elucidating the cause of the illness. No further cases occurred after the initial outbreak.

(2) The second case was notified on June 17th, 1933. The patient was a man of 78 years of age and showed collapse, with vomiting and abdominal pain, some time after having partaken of a portion of a tin of salmon. The patient was removed to hospital and on examination his fæces and urine were negative. The salmon tin was recovered but it did not contain sufficient of the food stuff for examination. Another tin was obtained from the same source but chemical and bacteriological examination proved negative.

(3) Towards the end of July, 1933 a notification was received concerning an outbreak of food poisoning in a house in a very poor district of the city. The occupants consisted of father, mother, and eight children whose ages varied from 3 to 20 years. The history was that the father was awakened at 4.50 a.m. on the morning of the notification and had severe cramp like pain in the abdomen, retching and tenesmus ; diarrhœa commenced almost immediately and was severe and persistent. Vomiting occurred later and also persisted. Frontal headache and slight giddiness were prominent features. The fourth boy aged 14 years was quite well on going to bed, but in the morning he complained of sickness, diarrhœa, headache and dizziness. The fifth boy aged 12 years awakened about 6 a.m. and complained of vomiting, diarrhœa, pain in the abdomen and dizziness. The father stated that he had noticed a squint that morning but this was not present at my examination. The sixth child, a girl of 10 years, complained of sickness, vomiting, slight diarrhœa and abdominal pain on getting up. The baby aged 3 years was out of sorts in the morning. She had slight vomiting and diarrhœa. Clinical examination of the affected persons showed in some cases definite tenderness in the epigastric

region. The pupils were in most of the cases wide and sluggish. Apart from these features the examination was negative. To sum up, out of this family of ten persons, five were affected by this sudden illness. A complete survey of the food which had been eaten was made, and wherever possible specimens of the actual food were obtained and bacteriological and chemical examinations were made. Blood was removed from four of the five persons for agglutination reactions. Specimens of fæces, urine, and vomited matter were also sent for examination and samples of house flies which were caught in the household were also investigated for evidence of pathogenic organisms of the typhoid group. It appeared on *prima facie* evidence that a meat pie had been responsible for the outbreak. Examination of all the samples gave negative results. Ten days after the onset samples of blood were again taken from four of the five persons affected. The blood from one of these, a boy aged 14 years agglutinated B. Aertrycke to 1 in 50 or 1 in 100 —which was evidence of infection by this organism. No further evidence of a positive kind was obtained from this outbreak.

(4) Early in August, 1933 notification was received from a practitioner that a male of 37 years of age living in a very poor quarter of the city was suffering from food poisoning. The patient was affected with chronic pulmonary tuberculosis. The acute illness commenced at 9 p.m. on the day before notification when he had slight epigastric pain and diarrhœa. He awakened at 2 a.m. with acute pain in the epigastrium with severe diarrhœa and vomiting; giddiness was marked. There was frontal headache and he stated that he felt as if he had lost the power of his legs. The family consisted of eight persons. None of the others was affected. Investigation provisionally incriminated a pork pie. In view of the fact that the patient had been a regular soldier and that he had had suspected typhoid fever in India in 1913, he was removed to Seacroft Hospital where his present illness was diagnosed as gastro-enteritis. Bacteriological and chemical examination of specimens from the patient, other members of the family, and food stuffs were all negative.

It will be evident from the above cases that incrimination of any particular article of food in connection with an outbreak of food poisoning is extremely difficult. Further it is only rarely

that by bacteriological examination the nature of the infection can be obtained. Emphasis should again be placed on the fact that both food poisoning and dysentery are notifiable in Leeds, and consequently if it were the case that bacillery dysentery, especially of the Sonne type, were prevalent, definite evidence of the fact would be forthcoming.

Epidemic Catarrhal Jaundice.—No case of this disease was reported during the year.

It is of interest to note that a case of spirochætosis icterohæmorrhagiæ (Infectious jaundice) occurred in the city during the early autumn of 1933.

This disease is extremely rare in this country and if found at all it is usually in connection with certain types of miners. In this case the patient was a professional man and the provisional diagnosis of infectious jaundice was not made until a post mortem examination was performed. I am indebted to Professor McLeod for the information that he isolated the organism from blood taken from the patient on the fourth to the fifth day of the disease. The investigation was carried in series through a number of guinea pigs and was later recovered in artificial culture from these animals. No source of infection was discovered.

Handling of Food, etc., by Infected Persons.—It was not found necessary to exercise the powers conferred by Section 42 of the Leeds Corporation Act, 1930 during 1933.

AMBULANCE WORK AND DISINFECTION.

Ambulance Work.—During the year under review 3,964 cases were removed by the ambulances to Seacroft Hospital, Killingbeck Sanatorium and other hospitals or lying-in institutions. In addition three puerperal cases on behalf of the West Riding County Council, were conveyed to the City Hospital. Over and above these, 512 other journeys were made for the transference of patients from one institution to another or for returning patients home on discharge from hospital.

The following are details of the cases removed to hospital by the ambulances, viz. :—

Smallpox	—
Scarlet Fever	1,817
Diphtheria	1,196
Typhoid	12
Measles	62
Tuberculosis	236
Other Diseases	249
Maternity	392
TOTAL	3,964

(As compared with 3,188 in 1932).

The total mileage run by the ambulances was 43,149, compared with 36,215 during 1932.

There are now three ambulances for infectious diseases, one for maternity cases and three bedding vans.

Disinfection.—The following work was done by the disinfecting staff, viz. :—

Houses disinfected	3,745
Rooms	7,594
Beds and Mattresses	4,950
Articles of bed linen	32,991
Articles of clothing	40,584
Other articles	5,741

Disinfectant baths were provided and disinfection of clothing carried out in respect of 514 infectious disease contacts.

The total mileage run by the disinfection and bedding vans was 24,195.

Verminous Persons.—The number of verminous persons dealt with at the cleansing station was 842, while 393 rooms, 38 houses, and 14,159 articles of clothing and bedding were disinfested.

BACTERIOLOGICAL WORK.

The following is a complete summary of the work done for the Health Department by the Department of Pathology and Bacteriology in the Leeds University Medical School, under the supervision of Professor James W. McLeod, the City Bacteriologist.

GENERAL.

Nature of pathological or bacteriological investigation.	Number of specimens.
Diphtheria—	
Swabs for Kleb Loeffler bacillus	3,637
Virulence Tests	7
Scarlet—	
Swabs for haemolytic streptococci	43
Tuberculosis—	
Sputum for tubercle bacillus	1,639
Sputum for tubercle bacillus (concentration tests)	4
Typhoid—	
Faeces and urine for typhoid group of organisms	45
Agglutination (Widal) Test for typhoid group	38
Other—	
Sputum for organisms	1
Chest fluid for organisms	13
Pus for organisms	10
Urine for organisms, cells, and T.B.	64
Blood for organisms	11
Guinea Pig Inoculations—	
Pathological Fluids	7
Milk for guinea pig inoculation	149
Food Investigations—	
Milk for bacterial count	6
Foodstuffs for bacteriological examination	26
Water Investigations—	
Water bacteriological examinations	111
Miscellaneous Examinations—	
Throat swabs for organisms	20
Faeces for organisms	9
Cerebro-spinal fluid	2
Other examinations	8
Total	5,850

LEEDS CITY HOSPITAL

(Seacroft).

REPORT FOR THE YEAR ENDING

31st DECEMBER, 1933

BY

J. S. ANDERSON, M.A., M.D., Ch.B., D.P.H.,

Medical Superintendent.

Admissions.—Patients admitted during the year numbered 3,372, an increase of 1,025 on the figure of the previous year.

Direct admissions from outside the city boundaries numbered 12, consisting entirely of patients suffering from puerperal fever. During the year 151 patients were admitted from the Leeds General Infirmary, and 96 from other medical institutions in Leeds.

The daily average number of patients in Seacroft Hospital was 289·1 compared with 220·6 during the previous year. The greatest daily number of patients was 534 and the lowest 166.

The average length of stay in hospital for 3,000 patients whose treatment was completed, was 34·5 days, as compared with 35·9 days in 1932.

Smallpox Hospital.—No patients were admitted during the year.

Quarantine Cottages.—There were no admissions during the year.

Death-rates.—The case-mortality for all cases was 4·2 per cent. as against 3·9 per cent. in 1932. Diphtheria was the chief contributor.

Meteorological Records.—These continue to be kept at Seacroft Hospital.

Diphtheria.—During the year 1,042 patients were admitted as compared with 878 in 1932. The number of patients discharged on completion of treatment was 868, in respect of whom the average stay in hospital was 45·5 days.

Death-rate.—During the year 83 deaths were attributed to diphtheria, giving a death-rate of 8·7 per cent., as compared with 5·5 per cent. in 1932 and 8·4 per cent. in 1931. Of the deaths four followed tracheotomy.

Type of the Disease.—In the two previous annual reports, it was noted that there was a distinct tendency for the disease to assume a more severe type. This has continued and has been even more pronounced. As this aspect has been dealt with at length in publications in medical journals, further reference need not be made to it here.

Forms of the Disease.—The patients who completed treatment were classified as follows :—

Site of Disease.	Number of Cases.	Percentage of Total Cases.	Deaths.
Fauces and naso-pharynx ..	835	87·8	71
Fauces and larynx ..	15	1·6	3
Larynx	5	0·5	1
Nose	50	5·3	6
Miscellaneous, bacteriological	46	4·8	2
Total	951	100·0	83

Treatment.—The administration of glucose and insulin to the severe cases was continued throughout the year ; 64 patients were thus treated. In 42 cases, the disease was definitely malignant in type, while the remainder were border-line cases. The intravenous administration of antitoxin was a routine procedure in these cases, the average amount being just over 98,000 units. In a considerable proportion of cases, the entire dose of antitoxin was given at one injection. The serum dosage varied from 40,000 units to 180,000 units. Details are as follows :—

	Number of Patients.	Deaths.	Mortality per cent.	Recovered Cases.	
				Number of paralysis cases.	Percentage of paralysis cases.
Malignant ..	42	31	73·8	10	90.9
Non-malignant ..	22	..	..	18	81.8

Diphtheria Carriers.—Apart from ordinary lines of treatment, removal of tonsils and adenoids was carried out in 55 cases during the year. The operation was attended by success in all but five cases. The shortest interval between operation and the discharge of the patient was 8 days, and the longest interval 106 days. The average interval was 21·8 days.

COMPLICATIONS.

	Number of patients.	Percentage of total patients.
All complications	159	16·7
Paralysis :		
All types	130	13·7
Eye	75	7·9
Palate	97	10·2
Pharynx	16	1·7
Other types	20	2·1

Laryngeal Diphtheria.—One of the characteristics of the severe type of diphtheria prevalent in Leeds is the low incidence of laryngeal disease. Operation was required in only seven cases. A suction apparatus was purchased during the year, but the dearth of cases has not been conducive to the acquirement of experience in this line of treatment. Details of patients treated by tracheotomy are as follows :—

Type of Disease.	Number of patients.	Deaths.	Mortality per cent.
Laryngeal	3	1	33·3
Faucial and laryngeal ..	4	3	75·0
All types	7	4	57·1

Return Cases.—These numbered eight during the year, the rate accordingly being 0·9 per cent.

Cross Infection.—There were 15 cases of cross infection in the diphtheria wards during the year. This figure includes 5 in whom the secondary disease was in the stage of incubation on admission. Most of the cases were the result of one outbreak of chickenpox. Of patients who completed treatment, 1·6 per cent. developed an additional infection, or 1·0 per cent., if the number in the stage of incubation on admission is excluded.

Amended Diagnosis.—In 160 cases, it was found necessary to change the diagnosis of diphtheria after admission. This is equivalent to 13·3 per cent. of all notified cases of diphtheria admitted to hospital. The details of the final diagnosis are as follows :—

Bronchitis	1
Cervical adenitis	1
Cellulitis of neck	1
Laryngitis	5
Otitis media	1
Pneumonia	5
Quinsy	3
Retro-Pharyngeal abscess ..	2
Scarlet Fever	13
Tonsillitis	122
Ulcerative stomatitis	1
Whooping Cough	1
No apparent disease	4
Total	160

Scarlet Fever.—During the year 1,743 patients were admitted as compared with 881 in 1932, and 1,584 patients were discharged. The average stay in hospital was 33·6 days, as compared with 38·2 in the previous year. In September, the disease suddenly assumed epidemic proportions, resulting in a considerable strain on the bed accommodation. In order to cope with the large number of cases for which admission was required it was found necessary to reduce the period of isolation to four weeks in uncomplicated cases. The epidemic was still in progress at the end of the year.

Return Cases.—These numbered 76 or 4·8 per cent. of patients discharged, as compared with 3·4 per cent. in the previous annual period.

Case Mortality.—Eight deaths were recorded during the year, the mortality rate being 0·5 per cent. as compared with 0·97 per cent. in 1932.

Types of the Disease.—Details of the types of disease are as follows :—

Type.	Cases.	Deaths.
Septic	23	2
Toxic	1	1
Surgical	17	1

Complications.—Septic complications showed a distinct decrease in 1933.

SCARLET FEVER.

PERCENTAGE INCIDENCE OF PRINCIPAL COMPLICATIONS.

Principal complications.	Total number of cases.	Percentage incidence.
Adenitis (suppurative in 10 cases) ..	110	6·9
Albuminuria and nephritis	42	2·6
Otorrhœa	115	7·2
Rheumatism	33	2·0
Rhinitis in convalescence	85	5·3

Scarlatinal Antitoxin.—Owing to the mildness of the disease, the use of antitoxin was more restricted than in former years. A total of 86 patients received this treatment, this number including no fatal cases. Almost all of the acute cases received antitoxin. In the older patients, recourse was had occasionally to the intravenous route, while in very young children, the serum was given intramuscularly. Apart from occasional rigors, no disagreeable or untoward results followed the employment of intravenous antitoxin. The details are as follows :—

SERUM TREATED CASES.

	Total cases.	No. complicated.
Intravenous ..	6	1
Intramuscular ..	80	21

Treatment of Ear Conditions.—During the year there were 115 cases of otitis media. Mastoid antrotomy was performed on 7 patients, a bilateral operation being necessary in one. For various reasons, 11 patients were discharged with persistent otorrhœa, but in 8 of these the otorrhœa was chronic and non-scarlatinal in origin.

The services of Mr. W. Maxwell Munby, F.R.C.S., continued to be available for dealing with ear, nose and throat conditions.

Cross Infection.—There were 21 cases of cross infection, including 5 in whom the disease was in process of incubation on admission. Cross infection was mainly due to measles. Of the patients who completed treatment, 1·3 per cent. developed an additional infection.

Amended Diagnosis.—In 94 cases, it was found necessary to change the diagnosis of scarlet fever after admission. This is equivalent to 5·1 per cent. of all notified cases of scarlet fever

admitted to hospital. Details of the final diagnosis were as follows :—

Acidosis	1
Cerebro-spinal fever	1
Chickenpox	4
Diphtheria	4
Erythema medicamentosa ..	1
Erythema multiforme	2
Measles	4
Nephritis, acute	1
Otitis media	3
Pityriasis rosea	2
Pneumonia	2
Rubella	1
Tonsillitis	14
Urticaria	2
Urticaria papulosa	1
Detained for observation ..	51
Total	94

Double Infections.—Another infection was found to be present on admission, in 15 cases. The accompanying diseases were chickenpox (10 cases), diphtheria (3 cases), whooping cough and mumps (one case each).

Relapses.—The mildness of the disease is reflected in the relapses which during the year numbered 70, or 4·3 per cent. of those who completed treatment. It would appear that a mild attack is frequently insufficient to stimulate the production of immunity. Accordingly in the last two months of the year, the policy was adopted of treating patients who were Dick positive reactors at the end of the first week of the disease, with a series of graduated doses of scarlatinal toxin, beginning as soon as the initial febrile period had subsided. This policy met with immediate success, and no disagreeable effects resulted in the patients.

Measles.—During the year, admissions of this disease numbered 64. Five deaths occurred. Of these, four were attributable to broncho-pneumonia and one to encephalitis.

Enteric Infections.—During the year, two cases of typhoid fever and six cases of paratyphoid B were admitted. All eight cases originated in the city. In addition, 20 patients, mainly associated with the Malton outbreak reported on in my last annual report remained in hospital at the end of 1932. Of the cases of typhoid fever one died, and one was eventually discharged as a chronic carrier.

Amended Diagnosis—In five additional cases the diagnosis was not confirmed, the amended diagnoses being:—

Acute constipation	1
Gastro-enteritis..	2
Lateral sinus thrombosis ..	1
Otitis media	1

Cerebro-spinal Fever.—Thirteen patients were admitted with 8 deaths giving a mortality rate of 61·5 per cent. The average dose of antimeningococcal serum was 57 cubic centimetres, administered intrathecally and intravenously. The ages of the recovered cases were 5, 13, 13, 16 and 22 years, while those of the fatal cases were 6 months, 2, 3, 8, 12, 18, 26, and 31 years. In one of the recovered cases, lumbar puncture was performed 29 times, and 2,350 c.cms. of cerebro-spinal fluid was withdrawn. This patient received 162 c.cms. of serum. Recovery was apparently complete.

Puerperal Fever.—During the year, 28 patients were admitted as compared with 21 in 1932. There were 6 deaths. Of the fatal cases, four had general peritonitis, one had septicæmia and the remaining one a pseudo-myxomatous ovarian cyst. Of those who recovered, twelve were found to be suffering from local uterine sepsis, three from pelvic cellulitis and the others from cystitis, phlegmasia, breast abscess and septic abortion.

Laparatomy was performed in two cases.

The services of Mr. Carlton Oldfield continued to be available.

Smallpox.—No cases of smallpox were admitted during the year.

Miscellaneous Cases.

Disease.	Total number of cases.	Deaths.
Infectious Diseases :—		
Erysipelas	167	6
Chickenpox	11	..
Rubella	5	..
Whooping Cough	14	..
Pulmonary Diseases :—		
Bronchitis	2	..
Diseases of the Nose and Throat :—		
Laryngitis	2	..
Quinsy	3	..
Retro-pharyngeal abscess	2	1
Perichondritis of nose	1	..
Tonsillitis	138	3
Diseases of the Skin :—		
Acne Vulgaris	1	..
Dermatitis	2	..
Erythema multiforme	3	..
Erythema medicamentosa	1	..
Herpes zoster	2	..
Impetigo	1	..
Pityriasis rosea	2	..
Urticaria	3	..
Other Diseases :—		
Abscess of leg	1	..
Acidosis	1	..
Adenitis	1	..
Albuminuria	1	..
Alveolar abscess	1	..
Appendicitis	1	..
Cellulitis and septicaemia	2	2
Constipation	1	..
Colitis	2	1
Gastro Enteritis	1	..
Indigestion	1	..
Meningitis, tuberculous	1	1
Otitis media	5	..
Prematurity	1	1
Prepatellar bursitis	2	..
Renal dropsy	1	..
Rheumatism	2	..
Septicaemia	1	1
Ulcerative stomatitis	1	..
Observation for diphtheria	5	..
Observation for whooping cough	2	..
Observation for scarlet fever	53	..
Observation for erysipelas	1	..
Observation for rubella	1	..
Admitted with mother	3	..
Total	452	16

Sickness of Staff.—The health of the staff remained good throughout the year, the number "warded" being smaller than usual.

The details of staff illnesses are as follows :—

Nature of Illness.	Staff.			Days in Hospital.		
	Nursing.	Domestic.	Male.	Nursing.	Domestic.	Male.
Scarlet Fever..	5	2	..	181	73	..
Diphtheria (including carriers)	3	..	1	129	..	50
Measles	..	..	1	..	..	11
Erysipelas	1	..	..	14	..	..
Tonsillitis	1	..	..	9	..	..
Prepatellar bursitis	..	1	..	..	45	..
Indigestion	..	1	..	..	5	..
Appendicitis	..	1	..	..	18	..
Sub-acute rheumatism ..	..	2	..	..	22	..
Observation	..	..	1	..	..	5
Total ..	10	7	3	333	163	66

Immunisation of the Nursing Staff.—Routine immunisation of the nursing staff against diphtheria and scarlet fever is carried out. As regards typhoid fever, only members of the staff engaged in nursing this disease receive prophylactic injections of vaccine. It has not been considered necessary to immunise the domestic staff as the incidence of infectious disease has been so low that it is doubtful if immunisation would give an adequate return.

Diphtheria —Statistics are given below showing Schick test results and the number immunised During the whole period, toxoid-antitoxin floccules were employed. This material has given remarkably mild reactions, and in all probability results in the more rapid development of immunity.

Result of Schick Test.		Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+	15	22 (26·5%)	..	13	19
Ps+	2		..	2	
±	2		..	1	
Ps±	3		..	3	
–	55	..	61 (73·5%)	..	..
Ps –	6	..		..	..

± =weakly positive reaction.
+ =positive reaction. – =negative reaction.

One resident medical officer and one probationer nurse contracted diphtheria in the course of the year. The details were as follows :—

Dr. G.P.H.—Schick test positive, October, 1932. Received three inoculations of T.A.F. Schick negative, February, 1933. Moderately severe faucial diphtheria, May, 1933. "Gravis" type of bacillus. 70,000 units diphtheria antitoxin. No complications.

B.M.—Schick positive, September, 1932. Received three inoculations of T.A.F. Mild faucial diphtheria, February, 1933. "Gravis" type of organism. Schick negative on day before administration of antitoxin, *i.e.*, first day of disease.

In addition, two nurses developed a carrier condition during the year.

Scarlet Fever.—The statistics given below show the Dick test results and the number immunised. The practice of giving 500, 2,000, 5,000 and 20,000 skin doses of scarlatinal toxin has been continued.

The statistics regarding immunisation are as follows :—

Result of Dick Test.		Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+	11 ..	22 (26·5%)	..	8	14
Ps+	3 ..		..	3	
±	7 ..		..	2	
Ps±	1 ..		..	1	
–	55 ..	..	61 (73·5%)	..	..
Ps–	6 ..	..		..	..

± =weakly positive reaction.

+ =positive reaction. – =negative reaction.

Five nurses contracted scarlet fever during the year. Symptoms appeared in four of these within a week of joining the staff. The remaining nurse received immunising injections on joining the staff, but developed a mild attack of the disease five months later. No desquamation occurred.

Laboratory.—For diagnostic and discharging purposes, 8,496 throat, nose, ear and skin swabs were examined for diphtheria bacilli.

The following additional examinations were made :—

Cerebro-spinal fluid	20
Faeces (for enterica organisms)	50
Urine (for enterica organisms)	56
Urine (Chemical and Bacteriological examinations)	18
Sputum	2
Other pathological discharges	2
Miscellaneous	2

Number of ADMISSIONS during each of the Last Twenty Years.

Year.	Seacroft Hospital.		Small Pox Hospital.	Admitted to all Hospitals.	Cottages for Contacts.	Total No. Admissions.
	Infectious Diseases.	Tuberculosis.				
1914–15	2,233	*597	5	2,835	38	2,873
1915–16	1,999	*399	1	2,399	29	2,428
1916–17	1,440	*482	..	1,922	11	1,933
1917–18	1,366	*545	..	1,911	6	1,917
1918–19	1,349	*421	..	1,770	8	1,778
1919–20	2,668	*378	..	3,046	33	3,079
1920–21	2,148	..	..	2,148	4	2,152
1921–22	2,430	..	..	2,430	6	2,436
1922–23	3,265	..	1	3,266	18	3,284
1923–24	2,185	..	..	2,185	16	2,201
1924–25	2,033	..	8	2,041	73	2,327
1925–26	1,944	..	4	1,948	8	1,956
1926–27	1,632	..	3	1,635	9	1,644
1927–28	1,793	..	81	1,874	186	2,060
**1928–29	4,059	*51	46	4,156	39	4,195
†1929	4,171	..	24	4,195	9	4,204
1930	3,554	..	42	3,596	29	3,625
1931	2,874	..	5	2,879	4	2,883
1932	2,347	..	..	2,347	..	2,347
1933	3,372	..	..	3,372	..	3,372

*Beds set apart for cases of tuberculosis in Seacroft hospital.
**Ward taken over at Holbeck Infirmary for scarlet fever patients for three months.
†Year ending December 31st instead of March 31st.

LEEDS CITY HOSPITALS, SEACROFT, LEEDS.

YEAR 1933.

ABSTRACT FROM REGISTERS.

	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Pneumonia.	Infantile Diarrhœa.	Other Diseases.	For Quarrantine Cottages.	TOTAL,
Patients remaining in Hospitals and Isolation Cottages, on Thursday, December 31st, 1932 ..	..	..	106	109	20	..	..	18	..	253
Admitted from January 1st, 1933 to December 31st, 1933	..	64	1,743	1,042	8	12	..	503	..	3,372
Total treated	..	64	1,849	1,151	28	12	..	521	..	3,625
Discharged	..	51	1,584	868	27	7	..	463	..	3,000
Died	..	5	8	83	1	4	..	30	..	131
Mortality per cent. ..	..	8·9	0·5	8·7	3·6	36·4	..	6·1	..	4·2
Patients remaining in Hospitals and Isolation Cottages, on Saturday, December 31st, 1933 ..	..	8	257	200	..	1	..	28	..	494
Average stay in Hospital for recovered patients ..	..	17·7	33·6	45·5	63·3	31·6	..	17·4	..	34·5

METEOROLOGICAL RECORD.

1933.	SUN-SHINE. Total, hr. min.	SUNSHINE. Max. in 24 hrs. hr. min.	Date.	No. of days no Sunshine.	*WIND—FORCE. Daily Average, miles per hour.	Max. in 24 hrs. miles per hour.	EARTH TEMPERATURE. (4' 0" below surface). Max.	Date.	Min.	Date
January ..	53·30	6·00	9	10	..	..	44·0	1–5	38·5	29
February ..	96·00	8·40	13	6	..	..	40·5	13–16	38·0	1–28
March	177·30	11·00	24	3	..	..	40·5	21–31	37·0	1–5
April	147·20	12·00	13	2	..	..	45·0	30	40·0	1–3
May	155·00	11·10	22	4	..	..	50·0	28–29	44·5	1–3
June	242·30	15·10	5	..	..	..	54·0	27–30	49·5	1–2
July	230·00	14·50	3	1	..	..	58·5	31	54·0	1–2
August ..	242·20	12·40	9	..	..	..	60·0	11–13	58·0	2–7
September ..	199·30	11·40	2	5	..	..	59·0	1–11	56·5	28–30
October ..	97·30	7·40	20	3	..	..	56·5	1–4	51·5	30–31
November ..	48·00	8·20	2	14	..	..	51·5	1	46·0	29–30
December ..	25·40	5·10	4	19	..	..	46·0	1–4	41·0	25–31
Year ..	1714·50	15·10	June 5	67	..	..	60·0	Aug. 11–13	37·0	Mar. 1–5

* Anemometer out of order

METEOROLOGICAL RECORD.

(Observations made at 9.30 a.m.).

HEIGHT FROM GROUND:—Barometer, 2 ft.; Thermometers, 4 ft.; Rain Gauge, 1 ft. (235 ft. above sea-level).

1933.	*BARO-METER, 9-30 a.m.	TEMPERATURE.					RAINFALL.				WIND—No. of Observations.															
		Mean.	Shade—Minimum and Maximum.																							
			Min.	Date.	Max.	Date.	Total Inches.	Max. in 24 hrs.	Date.	No. of days on which "01" or more fell	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.
January	30·127	33·8	14	22–23	55	2	2·01	0·75	15	14	–	–	7	3	–	2	1	3	–	2	6	2	–	–	4	1
February	29·947	37·8	21	19	55	4–9	4·03	1·25	25	14	–	5	1	2	–	2	2	–	–	–	3	5	–	1	4	3
March ..	29·971	44·5	29	25	62	28	2·44	0·59	17	11	–	1	1	2	–	1	4	2	–	–	9	4	–	3	1	3
April ..	30·093	47·6	32	19–22	64	10	1·55	0·43	29	7	–	5	2	–	–	1	1	2	–	2	2	8	–	4	2	1
May ..	29·986	52·8	39	1–14	75	22	2·80	0·79	6	14	–	6	3	3	–	2	2	3	–	1	3	2	–	1	–	5
June ..	29·887	59·6	42	11	86	6	1·13	0·28	24	9	1	5	8	2	–	2	3	1	–	–	–	2	–	2	4	–
July ..	30·033	64·0	49	29	89	3	1·70	0·41	8	12	–	2	1	4	–	–	1	–	–	1	5	10	–	6	–	1
August ..	30·034	64·3	47	22	88	28	0·50	0·15	20	7	–	–	–	1	–	–	2	2	1	3	5	6	–	3	5	3
September	30·116	58·7	37	15	80	4	1·90	1·23	24	9	–	5	9	3	–	1	–	2	–	–	–	2	–	3	4	1
October..	29·902	49·1	32	27	66	4	3·70	1·04	7	14	–	3	7	4	–	–	1	–	–	1	5	3	–	6	–	1
November	29·978	42·0	27	12	54	7	2·04	0·70	15	14	–	3	3	5	–	2	2	–	–	–	1	1	2	8	1	2
December	30·211	35·7	25	19	44	10–22	0·54	0·09	8–30	11	2	6	3	2	1	4	–	2	1	2	3	2	–	1	1	1
Year ..	30·023	49·1	14	Jan. 22 –23	89	July 3	24·34	1·25	Feb. 25	136	3	41	45	31	1	17	19	17	2	12	42	47	2	38	26	22

E = 47·5%. W = 52·5%.

* Corrected to temperature and mean sea level at Liverpool.

VENEREAL DISEASES.

The number of deaths certified as due to syphilis during the year was 24, which is equal to a death-rate of 0·05 per thousand of the population. Of these, five were children under one year of age—three males and two females; one male between one and two; two females between 25 and 45; eight males and four females between 45 and 65; and three males and one female over 65. The number of deaths in 1933 shows an increase of seven as compared with the previous year, whilst the death-rate rose from 0·04 in 1932 to 0·05 in 1933.

Work of the Treatment Centre.—The total number of new cases registered at the Centre at the Leeds General Infirmary from Leeds and the other contributory areas was 2,071. Increases were recorded in gonorrhoea, male 117, female 28; and decreases in syphilis, male 56, female 41, and other diseases not venereal, male 7, female 4. There was, therefore, a nett total increase of all types of 37 as compared with the figure for the previous year. (*Vide* table on page 90).

Turning to Leeds cases the total number of new cases registered was 1,624, comprising 199 males and 106 females suffering from syphilis, 666 males and 133 females suffering from gonorrhoea, and 401 males and 119 females suffering from other diseases not venereal. As compared with the previous year these figures represent in the case of syphilis a decrease of 39 males and 33 females, in gonorrhoea an increase of 76 males and 21 females, and in other diseases not venereal a decrease of 12 males and an increase of one female. Taking the cases of all types there was an increase of 14 as compared with the figure for the previous year. (*Vide* table on page 90).

The total attendances of all Leeds cases was 68,508, a decrease of 2,931 on the figure for the previous year. Some difficulty exists in Leeds as in other large centres of securing the attendance of female cases of gonorrhoea, and to a less extent syphilis as well, until cure is complete.

The number of cases ceasing to attend before completion of treatment or final tests of cure was 445 as compared with 455 for the previous year.

The number of in-patients treated at the Leeds General Infirmary was 7 as compared with 14 for the previous year, and the corresponding number of in-patient days was 121 and 148 respectively.

Institutions.—*Maternity Hospital.*—The number of new cases admitted as in-patients to the Leeds Maternity Hospital decreased from 22 in 1932 to 18 in 1933, namely 4 syphilis and 14 gonorrhoea. The corresponding number of in-patient days decreased from 381 to 295.

Hope Hospital.—The number of cases treated was 50 as against 43 for the previous year, whilst the number of new admissions was 34 as compared with 30 for 1932. The number of in-patient days was 5,939 as against 5,956 for the previous year. It should be pointed out, however, that these figures do not include babies admitted with their mothers or born whilst their mothers were in residence.

This hospital continues to serve a very useful purpose in providing accommodation for a type of case which might otherwise go untreated and become a menace to the community. It is a pity that more use cannot be made of it, but it is not always easy to discover suitable cases, and when discovered to persuade them to submit to in-patient treatment in the hospital.

On behalf of the Health Committee I should like once again to place on record our indebtedness to the Hospital Committee, which is purely voluntary, for the good services rendered during the year.

Further particulars of the cases admitted to and treated in the Maternity and Hope Hospitals are given in the table on page 91.

For particulars of the work of the special clinic for mothers and babies suffering from venereal diseases held in connection with Maternity and Child Welfare, see page 162.

Supply of Salvarsan Substitutes.—The number of medical practitioners in the area qualified to receive free supplies of salvarsan substitutes up to the end of the year was 49. The amount of salvarsan substitutes distributed to practitioners was 1,113 doses as compared with 816 in 1932.

Leeds General Infirmary (Local Treatment Centre).

Cases on the register on January 1st, 1933 ..	2,345
Old cases re-admitted	33
New cases admitted (including 78 known to have received treatment at other centres)	2,071
Cases ceased to attend	445
Transferred to other centres	147
Discharged on completion of treatment	1,438
Cases on the register on January 1st, 1934 ..	2,419

Work done in the Department of Pathology and Bacteriology of the University of Leeds in connection with the V.D. Regulations.

Nature of Test.	Number of Tests.
For detection of spirochetes—	
for treatment centre	45
for practitioners	..
for institutions..	..
For detection of gonococci—	
for treatment centre	1,879
for practitioners	246
for institutions	278
For Wassermann reaction—	
for treatment centre	2,799
for practitioners	286
for institutions	2,876
Other examinations—	
for treatment centre	1,558
for practitioners	56
for institutions	261
Total	10,284

Persons Treated at the General Infirmary, Leeds.
(Local Treatment Centre).

	Year 1932.		Year 1933.		Increase or decrease.	
	M.	F.	M.	F.	M.	F.
Syphilis .. first cases ..	331	197	275	156	− 56	− 41
Soft chancre „ ..	..	..	..	..	..	..
Gonorrhœa „ ..	707	143	824	171	+117	+ 28
Other diseases not Venereal „ ..	497	159	490	155	− 7	− 4
Total	1,535	499	1,589	482	+ 54	− 17
Total attendances of all cases	83,949		81,480		− 2,469	
Aggregate No. of In-patient days	148		121		− 27	
No. of doses of Salvarsan substitutes	18,626		16,735		− 1,891	
Pathological specimens examined :—						
Spirochetes	49		47		− 2	
Gonococci	3,824		4,150		+ 326	
Other organisms	..		..		..	
Blood—Wassermann reaction	3,697		3,536		− 161	

Leeds Patients.

	Year 1932.		Year 1933		Increase or decrease.	
	M.	F.	M.	F.	M.	F.
Syphilis .. .. first cases	238	139	199	106	− 39	− 33
Soft chancre .. „	..	..	..	..	..	..
Gonorrhœa .. „	590	112	666	113	+ 76	+ 21
Other diseases, not Venereal .. „	413	118	401	119	− 12	+ 1
Total	1,241	369	1,266	358	+ 25	− 11
Total attendances of all cases	71,439		68,508		− 2,931	
Aggregate No. of In-patient days	69		85		+ 16	
No. of doses of Salvarsan substitutes	14,354		12,784		− 1,570	
Pathological specimens examined :—						
Spirochetes	43		45		+ 2	
Gonococci	3,154		3,437		+ 283	
Other organisms	..		..		..	
Blood—Wassermann reaction	3,001		2,799		− 202	

Maternity Hospital, 42, Hyde Terrace.

	Cases in residence on Jan. 1st, 1933.	Cases admitted.	Cases discharged.	Cases in residence on Dec. 31st, 1933.
Syphilis	1	4	5	..
Gonorrhœa ..	..	14	14	..
Syphilis and Gonorrhœa ..	..	..	..	..
Other disease ..	..	..	..	..
Total ..	1	18	19	..

Total days in residence 295
No. of doses of Salvarsan substitute .. 30

Pathological specimens examined :—

Spirochetes 1
Gonococci 76
Other organisms 62
Blood—Wassermann reaction.. .. 136

Hope Hospital, 126, Chapeltown Road.

	Cases in residence on Jan. 1st, 1933.	Cases admitted.	Cases discharged.	Cases in residence on Dec. 31st, 1933.
Syphilis	4(+1)	9(+1)	9(+1)	4(+1)
Gonorrhœa ..	11(+2)	20(+9)	22(+8)	9(+3)
Syphilis and Gonorrhœa ..	..	2	..	2
Other disease ..	1	3	3	1
Total ..	16(+3)	34(+10)	34(+9)	16(+4)

Total days in residence .. .. .. 5,939(+1,644)
No. of doses of Salvarsan substitute .. 149(+24)

Pathological specimens examined :—

Spirochetes .. ..
Gonococci.. 4
Other organisms 126
Blood—Wassermann reaction.. .. 44(+3)

Of the 34 women admitted, 10 had babies, shown in the above table in brackets.

Tuberculosis.

TUBERCULOSIS.

The total number of names on the register on December 31st, 1933, was 3,294, as compared with 3,495 at the corresponding period of last year, a decrease of 201.

There were added to the register during the year on account of fresh notifications and inward transfers 783 names, and removed from the register on account of cancellations owing to death, removal from the city and cure or change in diagnosis, 984 names. The register is kept fully up-to-date and it should be noted that the number of cases entered therein, namely 3,294, is lower than in any year since 1925.

Statistics.—*Notifications.*—During the year 632 cases of pulmonary and 151 of non-pulmonary tuberculosis were notified, making a total of 783 cases of which 446 were males and 337 females. Compared with the previous year this is an increase of 58 in the number of notifications of pulmonary and a decrease of 11 in non-pulmonary tuberculosis and compared with the average of the previous five years a decrease of 46 pulmonary and 30 non-pulmonary. Of the total cases notified 614 were by medical practitioners and 169 came from institutions. The corresponding figures for the previous year were 616 and 120 respectively.

Of the total cases of pulmonary tuberculosis notified during the year 11·7 per cent. were children under 15 years and 88·3 per cent. persons over 15 years, the corresponding figures for the previous year being 12·9 per cent. and 87·1 per cent. respectively. The age group which provided the largest number of notifications was 15–25. Only two cases of children under one year were notified, whilst between 1 and 5 the cases numbered 8.

As regards the non-pulmonary type of case 53·6 per cent. were children under 15 years and 46·4 per cent. persons over 15. The corresponding figures for the previous year were 56·2 per cent. and 43·8 per cent. respectively. As a comparison with the pulmonary groups it might be noted that there was one case notified in children under one and 30 between 1 and 5.

The number of cases of pulmonary tuberculosis not heard of until the time of death was 29 and the number of non-pulmonary 42. In addition there was one posthumous notification of pulmonary tuberculosis. There was, therefore, a total of 72 cases of all forms not heard of until after death, a decrease of two on the figure for the previous year.

Notifications of tuberculosis received during the year.

Pulmonary.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	2	3	36	72	80	67	66	36	14	376
Females	..	5	28	96	65	31	20	6	5	256
Totals..	2	8	64	168	145	98	86	42	19	632

Non-Pulmonary.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	1	15	23	15	8	6	..	1	1	70
Females	..	15	27	14	12	7	4	..	2	81
Totals ..	1	30	50	29	20	13	4	1	3	151

Tuberculosis.

Year.	DEATHS.						NOTIFICATIONS.					
	Pulmonary tuberculosis.		Non-pulmonary tuberculosis.		All forms tuberculosis.		Pulmonary tuberculosis.		Non-pulmonary tuberculosis.		All forms tuberculosis.	
	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Cases.	Case-rate.	Cases.	Case-rate.	Cases.	Case-rate.
1923	515	1·10	122	0·26	637	1·36	1,002	2·13	197	0·42	1,199	2.55
1924	513	1·09	144	0·31	657	1·40	1,191	2·53	180	0·38	1,371	2·91
1925	511	1·08	88	0·19	599	1·27	1,720	3·64	149	0·32	1,869	3·96
1926	477	1·01	108	0·23	585	1·24	1,299	2·74	161	0·34	1,460	3·08
1927	457	0·96	101	0·21	558	1·17	811	1·70	155	0·32	966	2·02
1928	453	0·95	89	0·19	542	1·14	766	1·61	158	0·33	924	1·95
1929	508	1·06	113	0·24	621	1·30	743	1·55	156	0·33	899	1·88
1930	432	0·90	101	0·21	533	1·11	642	1·34	251	0·52	893	1·87
1931	439	0·90	88	0·18	527	1·08	666	1·37	176	0·36	842	1·73
1932	386	0·80	107	0·22	493	1·02	574	1·18	162	0·33	736	1·52
1933	412	0·85	87	0·18	499	1·03	632	1·30	151	0·31	783	1·61

Pulmonary Tuberculosis.

Ages at Death.

1933.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	7	..	..	16	20	90	91	10	234
Females	3	1	5	27	44	66	26	6	178
Totals	10	1	5	43	64	156	117	16	412
Average 10 years 1923-1932	12	5	7	45	56	187	139	18	469

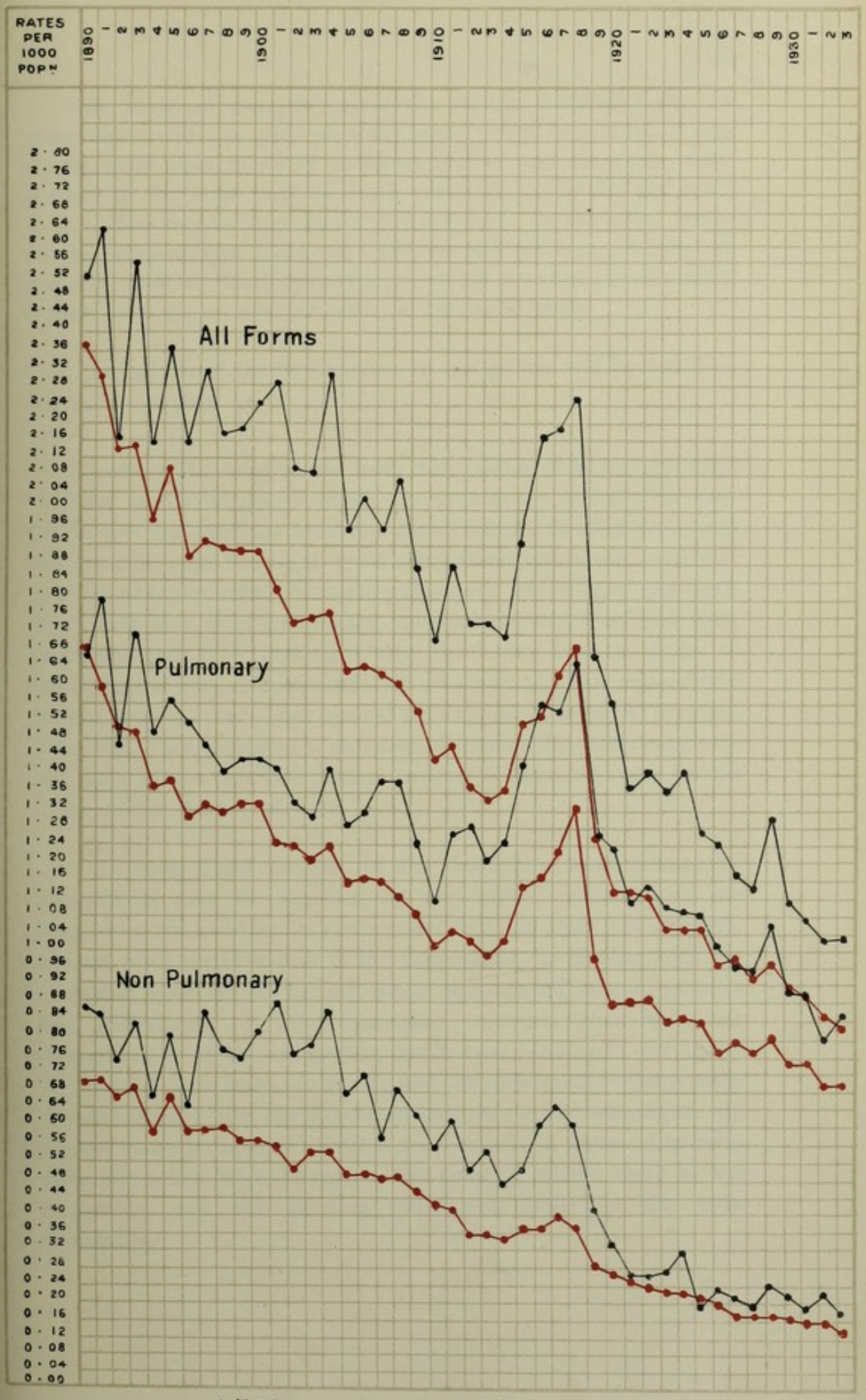
Non-Pulmonary Tuberculosis. Deaths.

1933.	Tubercular meningitis.	Abdominal.	Bones and Joints.	Other tuberculosis.	Total.
Males ..	21	4	5	18	48
Females ..	19	9	1	10	39
Totals ..	40	13	6	28	87

Ages at Death.

1933	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	12	4	5	5	5	11	4	2	48
Females	13	2	3	3	4	9	3	2	39
Totals ..	25	6	8	8	9	20	7	4	87
Average 10 years 1923-1932	44	12	6	10	7	13	11	3	106

TUBERCULOSIS DEATH RATE. - 1890 - 1933.



LEEDS ——— BLACK.
ENGLAND & WALES - RED.

The table on page 103 gives the deaths from all forms of tuberculosis with the year of notification. Out of a total of 499 deaths from tuberculosis of all forms 170, or 34·1 per cent., were notified in the same year as death occurred, 31, or 6·2 per cent. in the same month, and 44, or 8·8 per cent., in the same week. In the previous year there were 180, or 36·5 per cent., notified in the same year as death occurred, 36, or 7·3 per cent., in the same month, and 52, or 10·5 per cent., in the same week.

An analysis of the notifications in age groups will be found in the table on page 95.

Deaths.—The total deaths from tuberculosis of all types during the year numbered 499 of which 282 were males and 217 females. In the previous year the total was 493 of which 292 were males and 201 females. Of the total, pulmonary tuberculosis accounted for 412, or 82·6 per cent., and non-pulmonary 87, or 17·4 per cent. The death-rate from pulmonary tuberculosis was 0·85 and from non-pulmonary 0·18, making a total death-rate from all forms of the disease of 1·03, as compared with 0·80, 0·22 and 1·02 respectively for the previous year. Set against the average rates of the previous five years, they represent a decrease of 0·07 in the pulmonary rate and 0·03 in the non-pulmonary, making a total decrease for all forms of the disease of 0·10.

The very slight increase in the death-rate from pulmonary tuberculosis may be regarded as neglibible. Fluctuations are bound to occur and there is just a possibility that from now onwards, at least until the proposals of the Corporation for dealing with the congested areas are further advanced, the rate will remain more or less stationary. I fully anticipate however, that with the disappearance of the congestion which now obtains in certain of the working-class areas of the city and the re-housing of the population on healthier sites, the downward trend of the mortality figure will become more pronounced until it reaches a level more comparable with the other large towns of the country where there is less congestion and the housing conditions generally are more favourable.

TUBERCULOSIS—DEATHS AND RATES IN WARDS.

MUNICIPAL WARD.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		All Forms Tuberculosis.	
	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.
Mill Hill and South..	13	0·82	6	0·38	19	1·20
Westfield	19	0·97	7	0·36	26	1·33
Blenheim	16	0·70	3	0·13	19	0·83
Central	29	1·38	7	0·33	36	1·71
Woodhouse	15	0·80	5	0·27	20	1·06
North	5	0·32	..	..	5	0·32
Far Headingley ..	9	0·49	2	0·11	11	0·60
Hyde Park	8	0·49	1	0·06	9	0·55
Kirkstall	15	0·76	6	0·31	21	1·07
Burmantofts ..	31	1·34	4	0·17	35	1·51
Harehills	12	0·61	1	0·05	13	0·66
Potternewton ..	12	0·61	3	0·15	15	0·76
Roundhay	9	0·59	1	0·07	10	0·66
Cross Gates and Templenewsam ..	7	0·48	3	0·21	10	0·69
Richmond Hill ..	31	1·26	2	0·08	33	1·34
Osmondthorpe ..	26	1·19	6	0·27	32	1·47
East Hunslet ..	27	1·46	2	0·11	29	1·57
Hunslet Carr and Middleton ..	26	1·29	4	0·20	30	1·48
West Hunslet ..	21	1·16	4	0·22	25	1·38
Beeston	8	0·53	1	0·07	9	0·59
Holbeck (South) ..	14	0·98	4	0·28	18	1·26
Holbeck (North) ..	15	0·82	4	0·22	19	1·03
Armley and New Wortley	12	0·59	3	0·15	15	0·74
Upper Armley ..	14	0·82	3	0·18	17	1·00
Bramley	13	0·74	2	0·11	15	0·85
Farnley and Wortley	5	0·27	3	0·16	8	0·43
City	412	0·85	87	0·18	499	1·03

The continued decrease in the rate, both of incidence and death, of non-pulmonary tuberculosis is most gratifying and may be regarded as proof of the improvement which has undoubtedly taken place in recent years in the purity of the milk supply which formerly was responsible for many cases of this type. In the same connection, that is the relationship between milk and tuberculosis, I might again call attention to the fact that every case of death in a child under five years where the certified cause is tuberculosis of any form, investigations are made into the milk supply. This subject is alluded to in greater detail in the report of Dr. Norman Tattersall, Chief Clinical Tuberculosis Officer, on page 110.

Comparative rates, England and Wales, and other towns.—The provisional death-rates for England and Wales for the year were from pulmonary tuberculosis 0·69, from non-pulmonary 0·13, making a total death-rate from all forms of 0·82. Comparing these rates with Leeds, it will be noted that the Leeds rates were higher by 23·2 per cent. in the case of pulmonary tuberculosis, by 38·5 per cent. in non-pulmonary, and 25·6 per cent. in all forms of the disease.

With reference to the death-rate from pulmonary tuberculosis it will be noted on referring to the table on page 29 that among the large towns of England and Wales, Leeds occupied sixth place, the towns with lower rates being Sheffield, Bradford, Bristol, London and Birmingham, and with higher, Liverpool, Manchester, West Ham, Newcastle, Hull, Stoke-on-Trent and Nottingham.

Death-rates in Wards.—The wards with the highest death-rates from pulmonary tuberculosis were East Hunslet (1·46), Central (1·38), Burmantofts (1·34), Hunslet Carr and Middleton (1·29) and Richmond Hill (1·26), whilst those with the lowest were Farnley and Wortley (0·27), North (0·32), Cross Gates and Templenewsam (0·48), Hyde Park (0·49) and Far Headingley (0·49). With the exception of Hunslet Carr and Middleton, which is peculiar in that in recent years a large number of active cases of pulmonary tuberculosis have been deliberately transferred from unhealthy areas in the centre of the city to the new housing estate in this ward, all the wards with the highest rates are congested and possess areas which have been scheduled as unhealthy and will be dealt with in the Corporation's programme of slum clearance.

The tables on pages 98 and 96 give the analysis of the deaths in the various wards and age groups.

Occupational Incidence and Mortality.—For the occupation of persons notified during the year as suffering from tuberculosis of all forms and those dying from the disease see page 104.

Institutional Accommodation for Tuberculosis.— Cases of pulmonary tuberculosis requiring institutional treatment are sent to one or other of the two sanatoria provided by the city, Killingbeck or Gateforth. The former has 220 beds, of which an average of 202 were occupied by pulmonary cases during the year, whilst the latter has 54 beds devoted to the treatment of adult pulmonary and non-pulmonary cases as they arise, of which an average of 50 was occupied during the year.

In September the Ministry of Health gave provisional approval to plans submitted for the erection of a new block for females at Killingbeck Sanatorium. This block will provide accommodation for 100 cases and is intended to replace the three old wood and iron pavilions at Old Killingbeck which have been in commission since 1903 and are now obsolete and in such a state of repair as to be no longer usable. It is hoped that the new block will be completed and in occupation at the end of the current year or at the beginning of 1935. A more detailed description of the building will be included in my next annual report.

Even when this block is completed there will still be need for further accommodation for adult non-pulmonary tuberculosis. At present such cases have to be housed with the pulmonary cases at Killingbeck or Gateforth as circumstances permit. This is not a desirable practice and steps should be taken at an early date to separate completely the two types of cases by constructing a small block of say 20 beds or thereby on the Killingbeck estate in such a position as to be distinct from the pulmonary wards and yet readily accessible to the main building for servicing and administrative purposes.

Early tuberculosis in children is treated in the children's sanatorium at "The Hollies" which possesses 40 beds of which an average of 38 were occupied during the year.

Surgical cases of tuberculosis are treated at the Marguerite Home, Thorp Arch, and the Lord Mayor Treloar's Hospital, Alton, Hampshire. The number of beds reserved for these cases in the former is 35 and in the latter a varying number averaging twelve during the year 1933. In case of need the Corporation has also a call on a certain number of beds at the Shropshire Orthopædic Hospital, Oswestry, and Liverpool Open-Air Hospital for Children Leasowe. Owing to the continued fall in the incidence of non-pulmonary tuberculosis it has not been necessary to send any cases to either of the two last mentioned hospitals; indeed there have been times when it has been difficult to keep the beds at Thorp Arch fully occupied.

For further details with respect to institutional treatment see pages 117, 120 and 124.

Public Health Act, 1925, Section 62.—No action was necessary under this section during the year.

The housing conditions of 751 of the 783 cases of tuberculosis (all forms) notified, are shown in the table subtended :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total cases.
1 room	3	1·0	2	0·4	0·7
2 rooms	8	2·7	80	17·4	11·7
3 rooms	36	12·3	211	46·0	32·9
4 rooms	77	26·4	125	27·2	26·9
5 rooms	84	28·8	26	5·7	14·6
6 rooms	53	18·2	11	2·4	8·5
7 or more rooms	31	10·6	4	0·9	4·7
Total ..	292	100·0	459	100·0	100·0

In addition to the 292 through houses and 459 back-to-back houses, there were 32 cases notified from common lodging houses, etc., making a total of 783 cases of all forms of tuberculosis notified during the year.

The sub-joined table indicates the type of house occupied by 170 persons who were notified during 1933 as suffering from tuberculosis of all forms and who died during the year :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total deaths.
1 room	1	1·9	1	0·9	1·3
2 rooms	3	5·8	18	16·7	13·1
3 rooms	7	13·5	49	45·4	35·0
4 rooms	14	26·9	31	28·7	28·1
5 rooms	13	25·0	7	6·5	12·5
6 rooms	8	15·4	2	1·9	6·3
7 or more rooms	6	11·5	..	..	3·8
Total ..	52	100·0	108	100·0	100·0

In addition to 52 through houses and 108 back-to back houses, there were 10 deaths in which the home address was given as common lodging houses, etc.

Deaths from all forms of Tuberculosis in 1933 with year of Notification.

Year of Notification.	No. dying in 1933.	Percentage of total deaths.
1913	2	0·4
1914	2	0·4
1915	2	0·4
1916	1	0·2
1917	2	0·4
1918	3	0·6
1919	2	0·4
1920	2	0·4
1921	1	0·2
1922	5	1·0
1923	5	1·0
1924	4	0·8
1925	5	1·0
1926	14	2·8
1927	7	1·4
1928	11	2·2
1929	23	4·6
1930	32	6·4
1931	45	9·0
1932	83	16·6
1933	170	34·1
Not notified ..	69	13·8
Died outside City	9	1·8
Total ..	499	100·0

NOTIFICATIONS AND DEATHS FROM ALL FORMS OF TUBERCULOSIS OCCURRING IN 1933 CLASSIFIED ACCORDING TO OCCUPATION.

Occupation.	Notifications.		Deaths.	
	Number.	Percentage of total Notifications.	Number.	Percentage of total deaths.
Textile Workers ..	126	16·1	84	16·8
Leather ,, ..	11	1·4	15	3·0
Metal ,, ..	51	6·5	40	8·0
Coal ,, ..	15	1·9	14	2·8
Stone ,, ..	9	1·1	6	1·2
Wood ,, ..	6	0·8	7	1·4
Other dusty Trades ..	26	3·3	25	5·0
Printers	12	1·5	6	1·2
Clerks, Typists, etc. ..	52	6·6	24	4·8
House Workers ..	105	13·4	94	18·8
Nurses	8	1·0	3	0·6
Food Trades, etc. ..	35	4·5	20	4·0
Labourers	52	6.6	34	6·8
Out-door Worker ..	66	8·4	31	6·2
Various	25	3·2	28	5·6
School Age	116	14·8	18	3·6
Infants	35	4·5	34	6·8
No Occupation ..	33	4·2	16	3·2
No Trace	..	..	..	..
Total ..	783	100·0	499	100·0

REPORT ON THE WORK OF THE TUBERCULOSIS DISPENSARY AND SANATORIA.

BY

NORMAN TATTERSALL, M.D., B.S., *Chief Clinical Tuberculosis Officer.*

General.—The Annual Report of twelve months ago called attention to a striking reduction in the tuberculosis death-rate. The year now under review has not produced any further fall but it is satisfactory to find last year's record low level practically maintained, the deaths from all forms of tuberculosis being 499, as compared with 493 in 1932.

Actually there was a small increase in deaths from pulmonary tuberculosis, but a reduction in the non-pulmonary deaths enabled the total to remain just below the 500 mark which was passed for the first time a year ago.

It is interesting to speculate as to the effect which returning commercial prosperity and increased employment may have on tuberculosis mortality. Superficially it might be thought that the effect could only be beneficial, and that increased opportunities of work would automatically lead to better feeding, better housing, better health. Actually there must be many partially unfit persons who have been able to carry on at work largely because of slack time, working " weeks about " and so on. Again a great number of young people have been growing up who have never been in regular employment and have not had to bear the strain of constant, and it may be, heavy work. Others too who were never very fit have kept out of employment the more readily because of the difficulty of obtaining it. The advent of more prosperous times will undoubtedly sweep into industry many who are ill adapted for it, and will certainly bring to light many cases whose disease up to the present has remained latent.

During the war there was a tremendous rise in the tuberculosis death-rate due largely to the effects of physical stress on men, and especially on women, unaccustomed to it and who otherwise, had they not been so exposed, might have escaped.

Much then as we desire to see the spectre of unemployment banished, it would not be surprising to find its disappearance associated with a temporary increase in tuberculosis mortality.

The work of the tuberculosis department has followed the lines of recent years without any striking development. Every effort is made to diminish the spread of infection by making the family, and not merely the infectious case, the unit on which attention is centred. The special provisions foreshadowed in the new housing and slum clearance proposals for the building of " sunshine " houses will, no doubt, bear fruit in affording much needed amenities for cases needing such accommodation. At the same time by reducing the overcrowding the infection will be diluted and that will further assist the work of the department in preventing the dissemination of the disease.

The long looked for improvement in the accommodation for women patients at Killingbeck is at last within sight. Plans and estimates for two new wards have been adopted and it is hoped that the end of 1934 will see building operations well advanced.

Central Tuberculosis Dispensary.—Statistical details of the work at the Dispensary for 1933 appear on pages 107 and 108.

There was a considerable increase in the number of new cases, excluding contacts, referred for an opinion during the year, the total of 1,387 being an increase of 198 on the previous year.

A definite diagnosis of tuberculosis was made in 591 cases (42·6 per cent. of the total) of whom 481 showed pulmonary disease and 110 various forms of non-pulmonary tuberculosis. There remained 78 cases under observation with the diagnosis not yet completed at the end of the year.

Further revision of old cases on the register was undertaken during the year, which resulted in the writing off of 434 cases as " recovered " and 40 others in whom the original diagnosis could not be confirmed. The type of case which is marked off as " recovered " is the one who has been diagnosed originally on very slight evidence and who in succeeding years has shown no further evidence of activity. In one or two cases the diagnosis has been based on a positive sputum finding which could never subsequently be confirmed, and it seems quite clear that such cases may arise from time to time through contamination or confusion of sputum specimens. In one case it has been found that the patient whose sputum was reported positive on a number of consecutive examinations has indeed got " acid-fast " bacilli in the sputum, but they are not tubercle bacilli although indistinguishable from them on ordinary examination. Such cases though rare constitute one of the possible sources of error in diagnosis.

EXTRACTS FROM THE MINISTRY OF HEALTH ANNUAL RETURN. FORM T/145. (Table A.) FOR THE YEAR ENDED 31st DECEMBER, 1933. SHOWING, UNDER HEADINGS A. AND B., THE STATE OF DIAGNOSIS AT THE END OF THE YEAR.*

	PULMONARY.				NON-PULMONARY.				TOTAL.			
A. New Cases examined during the year (excluding contacts).	Adults.		Children.		Adults.		Children.		Adults.		Children.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Definitely Tuberculous	277	178	12	14	24	23	31	32	301	201	43	46
Doubtfully Tuberculous	..	..	..	..	..	..	..	..	33	27	9	9
Non-Tuberculous	..	..	..	..	..	..	..	..	289	264	86	79
TOTALS	277	178	12	14	24	23	31	32	623	492	138	134
B. New Contacts examined during the year:—												
Definitely Tuberculous	9	11	19	18	..	..	..	1	9	11	19	19
Doubtfully Tuberculous	..	..	..	..	..	..	..	..	3	6	23	28
Non-Tuberculous	..	..	..	..	..	..	..	..	87	156	126	122
TOTALS	9	11	19	18	..	..	..	1	99	173	168	169
C. Cases written off Dispensary Register :– Cured	176	124	30	22	22	28	17	15	198	152	47	37
Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error)									399	458	241	221
TOTALS									597	610	288	258

Number of Persons on Dispensary Register:—

Diagnosis completed	2,864
Diagnosis not completed	139
TOTAL	3,003

* Returns prior to 1931 have shown the diagnosis as at one month from date of first attendance.

PATIENTS (EXCLUDING CONTACTS) FIRST EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY FROM JANUARY 1st, 1933 TO DECEMBER 31st, 1933.

PULMONARY TUBERCULOSIS.

	New patients.				Number bacteriologically positive.				Number clinically positive. but not T.B. +.				Number found to be Non-tubercular, lost sight of, etc.				Still under observation.				Number admitted to Sanatoria for treatment or observation.			
	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.
Insured	503	324	..	..	147	85	..	..	72	38	..	..	257	195	..	..	27	6	..	..	156	89	..	..
Non-Insured	96	145	107	102	39	41	..	3	19	14	12	11	32	69	86	79	6	21	9	9	29	29	18	17

OTHER FORMS OF TUBERCULOSIS.

	New patients.				Bones and Joints.				Abdominal				Other Organs.				Glands.				Number admitted to Sanatoria.			
	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.
Insured	21	13	..	..	8	1	..	..	4	8	..	..	5	1	..	..	4	3	..	..	8	1	..	..
Non-Insured	3	10	31	32	1	1	11	11	1	2	6	5	..	2	2	..	1	5	12	16	2	..	11	7

Total attendances at Central Tuberculosis Dispensary for—

(*a*) Light treatment	4,665
(*b*) Other special treatments ..	2,281
(*c*) Ordinary clinics:	7,308
(*d*) X-ray	1,529
	15,783

Total Number of Clinical Examinations (included in attendances) 6,581

Number of cases making the clinical attendances (excluding Light and Special treatments) 3,581

The number of new cases of non-pulmonary tuberculosis seen at the Dispensary remains practically at a constant figure each year, in the last six years never having exceeded 110 and never fallen below 101. There was an increase in the number of cases of bone and joint disease, and a slight fall in the remaining groups, but the figures still confirm an observation made two years ago, that on the whole there is a decline in the number of cases of bone and joint diseases, with an increase in the number of glandular disease.

Contacts.—The number of new contacts examined during the year was 609 of whom 58 (9·5 per cent.) were definite cases, 60 others remained under observation at the end of the year, and 491 were considered negative.

The percentage definitely diagnosed is rather higher than last year. Quite a number of these are children presenting very slight evidence of disease but who, in most cases, are still exposed to home infection, and whose continued supervision is made easier by retaining their names on the books.

Detailed findings are set out in the appended table.

"CONTACTS" FIRST EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY FROM JANUARY 1st, 1933, to DECEMBER 31st, 1933.

	New Contacts Examined.	Found Sputum T.B+	Clinically definite, but sputum negative.	Diagnosed Non-Pulmonary Tubercle.	Found to be Non-Tubercular, lost sight of, etc.	Remaining under observation.	Number admitted to Sanatoria for observation or treatment.
Males	99	3	6	..	87	3	8
Females	173	6	5	..	156	6	3
Boys	168	..	19	..	126	23	29
Girls	169	..	18	1	122	28	34
Total	609	9	48	1	491	60	74

29 cases remaining under observation on December 31st, 1932, were re-examined, with the following results:—

Definitely diagnosed as tubercular	4
Marked off as non-tubercular, died, lost sight of, etc.	24
Remaining under observation	1

Total examinations made = 1010 (640 cases).

The question is often raised as to whether contact examination is worth while owing to the low percentage of positive findings and the considerable labour involved. It is quite true that the number of definite cases discovered by this means is small, but such as are discovered are frequently early cases and therefore more amenable to treatment. The table also shows that 9 previously unknown sputum positive cases were brought to light each of which was a potential source of further infection. Even if the positive findings were only half of those now recorded, contact examination would still be worth while, particularly because it has a direct educational value. The fact that we are prepared to make careful clinical and X-Ray examination of many people who superficially appear quite well but who live in infected homes, demonstrates more clearly than anything else to the families concerned the dangers of infection and the importance we attach to early diagnosis. It teaches patients that the family and not the individual is our unit, and when parents have once brought their children for examination, even if nothing is found, they will the more readily bring them again. It is the slight symptoms found at these examinations and so often overlooked, which are of the greatest importance in detecting the earliest signs of trouble. Besides which one sputum positive case detected and brought under supervision may save many others from falling victims to the disease.

Tuberculous Meningitis.—Home or Milk Infection?—In the last two Annual Reports reference has been made to the intensive follow up which has been carried out in these cases to ascertain the source of infection.

Such enquiry is an application of the principal of contact work, and has had interesting results. These patients are rarely seen at tuberculosis dispensaries—most of them are young children; the illness is acute and rapidly fatal, and the majority are admitted to general hospitals frequently only a very short time before death. The nature of the illness in a number of cases is only proved on post-mortem examination.

Their interest lies in the fact that the infection has been acquired from some source, often unknown, and if this can be traced to a particular individual or to an infected milk supply it may be possible to prevent further tragedies arising from the same source, by bringing the hitherto unsuspected patient under treatment or destroying the affected cow.

Each year some 40 to 50 such deaths occur in Leeds, and details are now given of the result of the enquiries made during the past three years into a total of 117 deaths from acute childhood tuberculosis.

It is obviously impossible to trace all the contacts which a child has made with the world outside its home especially after school life begins, and investigation has had to be limited to the immediate relatives or others who have had close contact with the child. The visiting nurse fills up a form giving full particulars about the health of the contacts; all are invited to attend for examination and any with suspicious symptoms are pressed to do so. If this draws a blank the details of feeding are investigated and in those cases where milk has been given unboiled or of anything below "Certified" grade the assistance of the City Veterinary department is enlisted to trace the milk supply to its source. In general one would expect the original infection to have come from :—

1. An already known case of tuberculosis in the home or in close relation to it.
2. A previously unsuspected case of tuberculosis in the home or in close relation to it.
3. A tuberculous milk supply.

The ages of the 117 children were :—

Age	Under 1 year	1	2	3	4	5	Total
Cases.. ..	29	26	26	17	9	10	117

It is seen that almost 70 per cent. of the deaths occurred before the third birthday.

The summarised findings as to the source of infection are :—

1. An already known source of infection in the home or in close contact 26
2. A previously unknown source of infection discovered in the home or in close contact 10
3. Milk supply investigated—*
   - Traced to tuberculous cows 4
   - Doubtful 1
   - Negative 15
   - — .. 20
4. No source of infection discovered 66

* In three cases the milk supply was investigated although other positive findings were made, and in two instances additional cases were found where a known case already existed.

It will be noted that in almost one quarter of the cases there was an already known and notified patient in the home or in close daily contact. In a few cases the original patient had died some time before the case of meningitis arose, but only those are included which were almost certainly the source of the later case.

The relationship in these 26 known cases was: mother 11, father 6, grandparent 2, other relative in home 5, lodger 1, next door neighbour 1.

In the second group, the previously unsuspected source of infection, the cases brought to light were the mother in four cases, father in one, aunts in two, brothers in two and lodger in one.

In one of these families not only was the mother an infectious case but examination of the rest of the family disclosed 5 other children in the house all heavily infected—the mother has since died and the children are all under treatment.

In all, these 10 previously unsuspected homes yielded 18 patients for treatment.

The four cases where the milk supply was definitely considered to be the infecting agent led to the destruction of the cow in one case, while in three cases the peccant cow had been discovered and destroyed shortly before the fatal case arose.

The enquiry has shown that in 41 cases out of 117 the infecting agent can be indicated with reasonable accuracy, and once more yields the strongest evidence of the grave danger of home association between young children and infectious cases of tuberculosis.

Home Visiting by the Medical Staff.—The medical staff paid 890 visits to patients at their homes, an increase of 32 over last year. Of these 83 were for artificial pneumothorax inductions or refills, 82 were consultations with the patient's doctor, and 39 for injections of gold preparations.

Treatment.—Artificial pneumothorax continues to be the main form of treatment carried out at the Dispensary. Patients who attend are those in whom treatment has been commenced in Sanatorium or at home. The results are so beneficial that attendances for continuing the treatment are maintained with the utmost regularity. During the past year the collapsed lung has been allowed to re-expand in several cases after treatment over a period of three or four years, and no relapses have occurred in these cases.

The total of 779 pneumothorax refills done at the Dispensary and 83 at home, is an increase of some 30 per cent. on the previous year. The work is carefully controlled by X-Ray screening or taking of films, and calls for considerable care and judgment. The labour involved is coming to occupy a very considerable amount of time, but is fully justified by the excellent results obtained.

Treatment by injection of various gold salts has been continued as in recent years and in certain cases the results are distinctly beneficial.

The arrangements by which the operation of phrenic evulsion can be carried out at St. James's Hospital for cases in which it is required have been completely satisfactory. As will be seen from Dr. Gilmour's report a large number of patients from Killingbeck Sanatorium have had this form of treatment carried out, and in 8 cases patients attending the Dispensary have been referred to St. James's Hospital for the operation, which only entails their staying in the institution for two or three days.

The Mantoux tuberculin test has been carried out on a large number of children, especially those from contact homes, and a paper on the use of this test in Dispensary practice was recently read before the North Western Tuberculosis Society by the writer.

Tuberculin is used in a few cases of glandular and genito-urinary disease ; several cases in the former group having responded admirably.

Many other minor surgical measures, such as application of plaster, splints, aspiration of abscesses, etc., are carried out at the Dispensary, the total number of attendances for these measures amounting to 688.

Artificial Sunlight.—Including a few cases from Killingbeck Sanatorium 128 patients made a total of 4,665 attendances. During the year 61 new cases commenced sunlight treatment in the department, 80 completed courses and 48 were still under treatment at the end of the year.

The supervision of the sunlight department as well as the treatment of cases of surgical tuberculosis is allocated to Dr. Jackson whose skill and care in this work is worthy of high praise.

Dental Department.—Mr. W. L. Fleming, L.D.S., holds regular sessions at the Dispensary, Killingbeck Sanatorium, and The

Hollies Open Air School. Unfortunately, owing to sickness, he was absent for some months during the year and the work was carried on by a substitute.

The work of this department shows a considerable increase over that of the preceding year. Details are given in the following table :—

	Extractions.	Fillings and Scalings.	Dentures.	Total Attendances.
Dispensary	497	29	62	483
Killingbeck	485	50	21	745
" The Hollies " ..	58	4	..	103

X-Ray Department.—Radiology continues to play a very large part in diagnosis and control of treatment. During the last 6½ years, since the X-Ray plant was installed, over 10,000 films have been taken, and the initial cost has been repaid many times over in the accuracy of diagnosis and saving of time and money which other forms of observation would require. Certain improvements are required to modernise the apparatus and will be carried out early in the New Year. Over 2,000 films were taken during 1933, representing a small increase on the previous year.

Dr. Thompson has done the bulk of the X-Ray work and the high standard of former years has been fully maintained.

Health Visitors.—There has been no alteration on the staff of health visitors who made a total of 17,342 home visits. Of these 785 were for completion of environmental reports, 16,300 to cases on the Dispensary register, and 257 to other notified cases.

Clerical.—Thanks are again due to the Panel Doctors who have completed and returned practically all the Health Insurance forms sent to them in accordance with the Ministry of Health Regulations.

It is sometimes suggested that members of the profession are lax in completing such forms, which, it should be observed, require detailed information about their cases. It is very gratifying to note that 99 per cent. of the forms issued are returned and the information supplied by them is of the greatest assistance.

The Divisional Medical Officers of the Ministry of Health have made full use of our knowledge of cases coming to their notice, and invariably consult us about patients known to have been seen at the Dispensary before coming to their final decision. Reports have been supplied during the year on 45 such cases.

Co-operation has continued with other health services in the city, especially the School Medical Department to which 1,489 reports were sent on children of school age.

The passage of time is naturally reducing the number of war pensioners, but 162 reports and forms were sent to the Ministry of Pensions in connection with war claims and pensions.

In every case referred to the Dispensary a report is sent to the doctor concerned of the clinical and other findings. These reports numbered 2,328, and a further 2,071 reports were sent to doctors concerning the progress of patients on domiciliary treatment or supervision.

Other correspondence, appointments card, etc., involved over 13,000 communications.

Care Work.—When tuberculosis invades a home it almost inevitably brings with it domestic and economic problems, especially when the victim is one of the parents. Home helps are often needed when the mother has to go away, boarding out of children may be required, help in obtaining a better house, supply of beds and bedding, financial grants to tide over a temporary difficulty, or a supply of clothing. These are some of the matters most commonly referred to the Care Committee. In some cases the problems to be solved are much more intricate and involve careful enquiry and tactful handling.

Leeds is particularly fortunate in having a very live voluntary Care Committee which meets weekly to consider the cases investigated by the full-time Care Secretary. It is again a pleasure to express appreciation of the valuable services rendered by this body without whose help much of the money spent in treatment would be wasted.

During the year 1,551 patients have been assisted in various ways. In 498 of these cases help was given through the nourishment grant which is administered by the Care Committee. In a further 969 cases domestic and financial problems of many kinds were dealt with, and also convalescent treatment was arranged through appropriate organisations for 84 patients.

An analysis of the help given to these 969 patients is given below :—

Home helps supplied	27
Clothing granted	168
Dental treatment assessments	26
Surgical appliance assessments	65
Beds and/or bedding supplied	40
Sick room requisites	24
Financial assistance or food grants	92
Helped in various other ways	527

By means of a local charity for ex-service men 35 have been granted financial aid or supplied with domestic assistance.

At Christmas 300 parcels of Christmas cheer were distributed to the homes of the most needy patients at a cost of £45 which was specially collected by the Committee for that purpose.

It is impossible to mention the work of the Care Committee without referring to the loss, sustained by it through the death of Mrs. Friend, one of its original and most devoted helpers. Her long experience, wise council, and disinterested service will not easily be forgotten.

A full report dealing with the work of the Care Committee is published each year and a copy can be obtained by anyone interested on application to the Secretary, 74, New Briggate, Leeds, 1.

The Factory-in-the-Field.—Work has been continued on the same lines as in former years with the firewood department continuing to employ the largest number of men. This is essential as the work can be readily learnt by an unskilled worker, its main drawback being the seasonal nature of the trade. The brush department has enjoyed increasing prosperity and the printers have been kept fairly well supplied with orders.

At the end of the year there were 43 employees as compared with 42 at the end of 1932, their departmental distribution is set out below :—

Department.	Tuberculous.	Non-Tuberculous.
Firewood	19 ..	3
Brushmaking	5 ..	2
Printing	5 ..	1
Firelighter	1 ..	..
Other Employees	1 ..	6

Tuberculous Employees.—During the year 42 tuberculous patients were employed for various periods, and 31 remained on the staff at the year end. Of the 11 who ceased work 3 became fit for the open labour market, 1 proved unreliable, 2 died, 4 failed in health, and 1 was suspended owing to shortage of work. All were replaced by other tuberculous patients.

During the slack summer season 12 of those in the firewood and firelighter departments were temporarily suspended, but were re-instated as work became available.

Loss of Time due to Tuberculous disability.—Of the 31 tuberculous employees remaining at the end of the year 13 were off work at various times by reason of ill-health, as shown in the following table :—

	No. Employed.	Worked. Full Time.	Absent owing to sickness.
Firewood Department—			
(All males)			
Bundlers, etc. ..	11 ..	5 ..	6 lost 254 days.
Labourers	3 ..	2 ..	1 lost 4 days.
Travellers	4 ..	3 ..	1 lost 24 days.
Brush Department :—			
Males	4 ..	3 ..	1 lost 11 days.
Females	1 ..	— ..	1 lost 5 days.
Printing Department :—			
Males	2 ..	1 ..	1 lost 21 days.
Females	3 ..	2 ..	1 lost 12 days.
Firelighter Department :—			
Females	1 ..	1 ..	
Other Employees :—			
Male	2 ..	1 ..	1 lost 6 days.

The average time lost per head amongst the above 31 tuberculous workers was 10·87 days. The figures for the separate sections were :—Firewood 15·7, Brushmaking 3·2, Printing 6·6, Firelighting Nil, Others 3.

" The Hollies " Children's Sanatorium and Open Air School.—The fine summer and low rainfall of 1933 enabled the fullest possible

use to be made of the open-air facilities at this institution, and, as remarkable freedom from outbreaks of infectious disease was experienced, the year appears to have been unusually satisfactory.

The impossibility of obtaining adequate control figures renders it difficult to assess the ultimate results of treatment in an institution dealing with the earlier manifestations of tuberculosis in childhood. Many of the children treated here some years ago are young adults to-day, and during the last two years several have developed the acute disease of adolescence. In the intervening years there was no evidence that the childhood infection had not been overcome; then with emergence into industrial life with its inevitable stress the old weakness reappeared or a fresh infection broke down the barrier of resistance.

Such cases are a small proportion of the whole but no proof can be brought to show that those who remain well do so by virtue of their earlier treatment. There is no doubt, however, as to the wisdom of separating young children from contact with gross infection at home and, as this is the case in almost every child admitted, there can be no doubt as to the utility of the institution.

School Report.—There have been no staff changes during the year, and the successful routine arrangements of former years have been maintained. The popularity and attractive nature of the school is shown by the frequency with which local press photographers find in it happy subjects for their art, during both summer and winter.

The figures of attendance given by the Head Teacher are:—

Number of children admitted to the school register 67, (Boys 28 and girls 39).

Number of school sessions, morning 253, afternoon 253, Total 506.

Total number of attendances 15,852, average attendance per session 31.

Average number on the school register 39·29.

The Nursing and Teaching staff are devoted to their work, and to their efforts is due the high reputation which "The Hollies" continues to enjoy.

"The Hollies" Sanatorium School.

PERIOD ENDED 31st DECEMBER, 1933.

(Ministry of Health Form T.145 (D)—modified).

			Remaining Jan. 1st, 1933.	Admitted.	Discharged.	Remaining Dec. 31st, 1933.
Pulmonary	Boys	Under 5	..	..	..	..
		Over 5	10	14	19	5
	Girls	Under 5	1	4	3	2
		Over 5	14	15	22	7
Non-Pulmonary	Boys	Under 5	..	2	..	2
		Over 5	5	5	5	5
	Girls	Under 5	1	..	..	1
		Over 5	1	4	3	2
Observation Cases	Boys	Under 5	..	3	2	1
		Over 5	2	18	16	4
	Girls	Under 5	2	5	7	..
		Over 5	..	23	13	10
	Totals		36	93	90	39

ANALYSIS OF CASES DISCHARGED.

DURATION OF RESIDENTIAL TREATMENT.

(Ministry of Health Form T.145 (G)—modified).

			Pulmonary.			Non-Pulmonary.			Total.
			Disease Quiescent.	Disease Improved.	Disease not Improved.	Disease Quiescent.	Disease Improved.	Disease not Improved.	
Under 3 months.	Boys	Under 5	..	..	..	..	..	..	..
		Over 5	2	..	..	..	..	..	2
	Girls	Under 5	2	..	..	..	..	..	2
		Over 5	3	2	..	..	..	..	5
3–6 months.	Boys	Under 5	..	..	..	..	..	..	..
		Over 5	3	1	1	4	..	1	10
	Girls	Under 5	..	..	..	..	..	..	..
		Over 5	8	..	..	1	1	..	10
6–12 months.	Boys	Under 5	..	..	..	..	..	..	..
		Over 5	10	2	..	..	..	..	12
	Girls	Under 5	..	..	..	..	..	..	..
		Over 5	6	1	..	1	..	..	8
Over 12 months.	Boys	Under 5	..	..	..	..	..	..	..
		Over 5	..	..	..	..	..	..	..
	Girls	Under 5	1	..	..	..	..	..	1
		Over 5	2	..	..	..	..	..	2
	Totals		37	6	1	6	1	1	52
Observation and Negative Cases									38
Grand Total									90

SANATORIA.

Killingbeck Sanatorium.—Dr. W. Santon Gilmour, the Medical Superintendent writes :—

The accommodation remains the same, viz. 220 beds, allocated as follows :—Male 88, Female 78, Children 54. The total number of cases treated during the year was 697, comprising 300 males, 255 females, and 142 children, as compared with 655 for the previous year, comprising 289 males, 233 females, and 133 children. Of the 697 cases, 41 were non-pulmonary, divided as follows : 16 males, 11 females, and 14 children. The average percentage of bed cases was 65·37. The average length of stay per patient has been :— Non-pulmonary 57 weeks and pulmonary cases 26 weeks. The averages for 1932 were 64 and 23 weeks respectively.

Patients to the number of 745 were examined by the Dental Surgeon during the year and 344 received treatment.

Other Work Done—

Pneumothorax and air replacement, 42 cases—456 refills.
Gold cases, 83—973 injections.
Phrenic evulsion, 72.
Operations other than phrenic evulsion, 12.
Examinations of sputa, pus, etc., at Leeds Medical School and St. James's Hospital, 19
Sputum examinations at Killingbeck 624.
X-Ray examinations 519 films—319 screenings.

The arrangements for operative treatment at St. James's Hospital have proved invaluable. A considerable number of Phrenic Evulsions (72) and two Thoracoplasties have been performed, with great benefit to the patients. Apart from this progress in thoracic surgery, orthopædic operations in bone and joint tuberculosis have been carried out and it is hoped to extend this line of treatment, which shortens the long period of rest in bed and is of such great economic value both to the individual and the hospital.

Equipment.—The old wooden fencing surrounding the Sanatorium has been replaced by a neat open wire mesh which has improved its appearance from without and provides a better view of the countryside from within.

Laundry.—A new washing machine, of greater capacity, was installed during the year ; this has at last put the laundry in a position to deal with the increased demand and to turn out articles with a more perfect finish.

School Report.—During the year the school has been open 500 times, with a total of 14,695 attendances. The average number of children attending was 42.

Miss M. D. Okeley resigned the post of assistant teacher in October and the vacancy thus created was filled by Miss K. H. Fawcett who commenced duty on November 1st. Owing to the exceptionally fine summer, a great deal of work was done out of doors, with great benefit to the children.

Acknowledgments.—Thanks are due to the concert parties who have entertained the patients and in this connection particularly to the Rev. Edmund Beabey, A.K.C., the Honorary Chaplain, for his ever willing help.

Thanks are also due to those friends and firms who provided gifts for the patients' comfort at Christmas.

A sewing Guild of voluntary workers has been formed during the year to provide an interest for the female patients, particularly those confined to bed. The first lot of raw materials was subscribed for and a small sale of work held during the summer has put the Guild into a position of being self-supporting.

I wish to thank the staff at Killingbeck for their loyalty during the year and the staffs of the Health Department, the Tuberculosis Dispensary, and St. James's Hospital for their kind assistance.

Killingbeck Sanatorium.

GRADE OF EXERCISE ATTAINED BY ADULT CASES.

		Males.	Females.	Total.
No exercise		20	37	57
Walking		23	25	48
Work	Grade A.*	27	30	57
	Grade B.†	10	1	11
	Grade C.‡	32	..	32
Treatment not completed		35	32	67
Total		147	125	272

* Light work in wards and garden, or vocational.
† Slightly heavier than "A."
‡ Moderately heavy work in wards and garden.

Killingbeck Sanatorium.

PERIOD ENDED 31st DECEMBER, 1933.

(Ministry of Health Form T.145 (D)—modified).

		Remaining Jan. 1st, 1933.	Admitted.	Discharged	Died.	Remaining Dec. 31st, 1933.
Pulmonary.	Males	86	190	138	53	85
	Females	65	171	121	41	74
	Boys — Under 5	..	..	..	..	..
	Boys — Over 5	17	26	21	..	22
	Girls — Under 5	..	..	..	..	..
	Girls — Over 5	21	16	19	2	16
Non-Pulmonary	Males	6	10	9	..	7
	Females	4	7	4	1	6
	Boys — Under 5	..	2	..	..	2
	Boys — Over 5	5	5	6	..	4
	Girls — Under 5	..	..	..	..	..
	Girls — Over 5	2	..	..	..	2
Observation Cases.	Males	1	7	5	..	3
	Females	1	7	6	..	2
	Boys — Under 5	1	1	2	..	..
	Boys — Over 5	7	27	28	..	6
	Girls — Under 5	..	1	..	..	1
	Girls — Over 5	2	9	8	..	3
	Totals	218	479	367	97	233

ANALYSIS OF CASES DISCHARGED.

DURATION OF RESIDENTIAL TREATMENT.

(Ministry of Health Form T.145 (G)—modified).

		Pulmonary Tb. Disease.						Non-Pulmonary Tb. Diseases.			Total.
		T.B. Minus.			T.B. Plus.						
		Quiescent.	Improved.	Not Improved.	Quiescent.	Improved.	Not Improved.	Quiescent.	Improved.	Not Improved.	
Under 3 months.	Males	5	2	2	4	17	20	..	2	1	53
	Females	2	1	9	..	6	19	..	1	..	38
	Children — Under 5	..	..	..	..	..	..	..	..	..	..
	Children — Over 5	6	2	2	..	..	1	..	..	1	12
3–6 months.	Males	6	1	..	4	22	4	..	1	..	38
	Females	4	5	2	3	22	12	..	1	..	49
	Children — Under 5	..	..	..	..	..	..	..	..	..	..
	Children — Over 5	5	..	..	..	1	..	..	..	..	6
6–12 months.	Males	3	..	..	2	24	8	1	1	..	39
	Females	2	2	..	3	12	9	..	1	..	29
	Children — Under 5	..	..	..	..	..	..	..	..	..	..
	Children — Over 5	10	..	..	..	..	..	1	..	..	11
Over 12 months.	Males	..	..	..	2	10	2	..	3	..	17
	Females	1	..	..	1	2	4	..	1	..	9
	Children — Under 5	..	..	..	..	..	..	..	..	..	..
	Children — Over 5	7	2	..	2	2	..	2	2	..	17
	Totals	51	15	15	21	118	79	4	13	2	318
Observation and Negative Cases											49
Grand Total											367

Gateforth Sanatorium (Males only).
PERIOD ENDED 31st DECEMBER, 1933.
(Ministry of Health Form T.145 (D) modified).

	Remaining Jan. 1st, 1933.	Admitted.	Discharged.	Died.	Remaining Dec. 31st, 1933.
Pulmonary ..	43	73	74	3	39
Non-Pulmonary ..	2	5	5	..	2
Observation Cases..	1	26	20	..	7
Totals	46	104	99	3	48

ANALYSIS OF CASES DISCHARGED.
DURATION OF RESIDENTIAL TREATMENT.
(Ministry of Health Form T.145 (G)—modified).

	PULMONARY T.B. DISEASE.						NON-PULMONARY T.B. DISEASES.			
	T.B. Minus.			T.B. Plus.						
	Quiescent.	Improved.	Not Improved.	Quiescent.	Improved.	Not Improved.	Quiescent.	Improved.	Not Improved.	Total.
ıder 3 mths.	..	10	..	..	12	3	..	..	..	25
6 months ..	2	9	..	..	13	1	..	1	1	27
12 months..	3	1	..	..	6	3	..	1	..	14
ver 12 mths.	..	1	..	..	9	1	1	1	..	13
Total ..	5	21	..	..	40	8	1	3	1	79
Observation and Negative Cases										20
Grand Total										99

GRADE OF EXERCISE ATTAINED BY PATIENTS ON DISCHARGE.

Cases who completed treatment. Grade.						Treatment not completed.	Total.
1	2	3	4	5	6		
9	3	6	5	..	24	32	79

NOTE.—Patients take walking exercise until 2 hours per day are done without symptoms. Six grades of manual work are then carried out, the last grade involving 6 hours normal work without any rest period.

Gateforth Sanatorium.—The tables on page 123 show the number and classification of patients discharged during the year. In the early part of the year Miss B. A. Black succeeded Miss A. A. Fuge as Matron.

As in previous years the bulk of the patients were in an early stage of pulmonary tuberculosis, but a certain number of non-pulmonary and " observation " cases were also admitted.

During the year many improvements were completed or initiated in both buildings and grounds. In the kitchen and scullery the flagstone floor was replaced by tiles, and the antiquated woodwork fixtures were removed to make way for more hygienic furnishings.

Good results were obtained in the breeding of poultry, which is now confined to fowls and a limited number of geese. Several substantial poultry shelters were built by two of the patients, replacing the inadequate structures previously in use.

Among the more immediate needs of the institution are a new apparatus for the sterilisation of sputum utensile, and a refuse destructor. Repairs to the roof and lantern light of the main building are necessary, and the re-making of the road which forms the main approach to the Sanatorium is a much-needed improvement.

Eggs, poultry, and vegetables to the value of £195 were produced and used in the institution, and £130 was realised by the sale of eggs, poultry, pigs, and other produce.

Thanks are due to the Leeds Wounded Warriors' Welfare Committee for bringing a number of concert parties to the institution during the winter months, and for the arrangement of summer evening tournaments of outdoor games.

Maternity and Child Welfare.

MATERNITY AND CHILD WELFARE.

The outstanding features of the year in this section of the Department's work were (1) the decline in the infant mortality rate and (2) the increase in the maternal death rate. This is just the reverse of what occurred last year when I had to report an increase in the infant mortality rate and a decrease in the maternal mortality rate.

With regard to the former it should be noted that the increase in 1932 was somewhat unexpected and was due in large measure to the incidence of respiratory conditions in the first quarter of the year. Last year the death-rate from those conditions still remained somewhat high but the main cause of the relatively high infant mortality in 1933 was the abnormal number of deaths of children under one occurring as a result of infantile diarrhoea consequent upon the hot dry Summer. (*Vide* page 59).

The latter—the increased maternal mortality—is difficult to explain. Our knowledge of both the causation and the prevention of maternal death is yet very far from complete. Theoretically, it should be possible to avoid death in the majority of confinements, but in practice this is not so easy to accomplish. To some women child-bearing presents no difficulty while to others it is not only a painful but a dangerous operation. The reason for the difference between the two classes is by no means evident and one can only assume that the individual constitution plays an important part. (*Vide* page 131).

Statistics.—The number of children under one year of age who died in 1933 was 537 (males 295 and females 242) as compared with 617 (males 361 and females 256) for 1932. The infant mortality rate was 81 as compared with 88 for the previous year and an average of 82 for the previous five years.

Compared with the other large towns in England and Wales, Leeds had the highest infant mortality rate with the exception of Liverpool, Stoke-on-Trent, and Nottingham.

In searching for an explanation of the continued high rate of death in children under one year in this city one must turn once more to the housing conditions which, as is well known, bear a very important relationship to the rate of infant morbidity and mortality. A glance at the table on page 249 which sets out the infant mortality rates in various slum areas of the city which have already been represented for clearance will suffice to show the effect which these areas have on the total infant mortality rate of the city. In not one of

the ten areas, comprising in all a total of 4,421 houses and a population of 15,757 persons, is there a single instance where the infant mortality equals or is less than that of the city, the majority being well above—in some as much as 80 per cent. One may, therefore anticipate that as these areas disappear, or are opened out, the infant mortality rate of the city will improve accordingly.

The rate for England and Wales was 64 or 21·0 per cent. lower than the rate for Leeds.

Causes of Death.—The principal causes contributing to the infant death-rate in order of numerical importance were premature birth, diarrhœa and enteritis and pneumonia. As compared with the previous year the main decreases to be recorded were pneumonia (31) and measles (13). An examination of the list of causes of death given on page 136 discloses the fact that 106, or 19·7 per cent., of the total deaths of children under one year of age were due to the respiratory group of diseases—pneumonia, bronchitis, whooping cough and influenza. Last year the number dying from this group of diseases was 156, or 25·3 per cent., and the average for the previous five years was 147 or 24·4 per cent.

Prematurity was the most important single cause of death. The number of deaths attributed to it was 134 or 25·0 per cent. of the total as compared with 128 or 20·7 per cent. for the previous year.

The following table shows the number of deaths from prematurity and the death-rates per thousand births for the years 1923-1933.

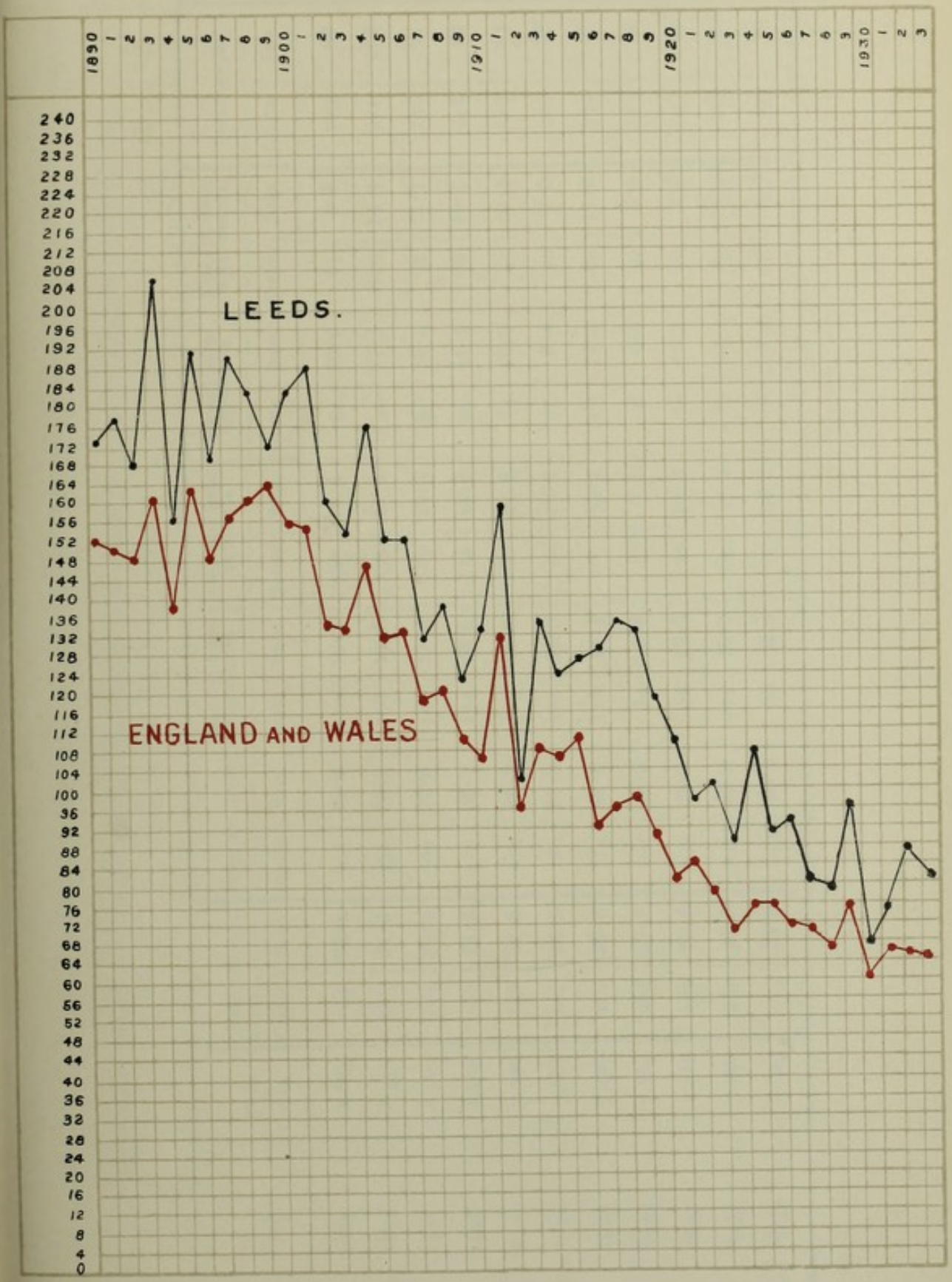
Year.	Births.	Deaths from prematurity.	Death-rate per 1,000 births.
1923	8,684	159	18·3
1924	8,558	144	16·8
1925	8,180	146	17·8
1926	8,065	149	18·5
1927	7,790	146	18·7
1928	7,665	169	22·0
1929	7,426	173	23·3
1930	7,568	152	20·1
1931	7,219	114	15·8
1932	7,004	128	18·3
1933	6,643	134	20·2

The average death-rate per thousand births for the ten years, 1923-1932, was 18·9.

Infant Mortality.

Year.	Deaths under one year.	RATE PER 1,000 BIRTHS.	
		LEEDS.	England and Wales.
1890	2,128	173	151
1891	2,216	177	149
1892	2,114	168	148
1893	2,542	206	159
1894	1,945	156	137
1895	2,384	191	161
1896	2,120	169	148
1897	2,454	190	156
1898	2,372	183	160
1899	2,222	172	163
1900	2,397	183	154
1901	2,429	188	151
1902	2,113	160	133
1903	1,992	153	132
1904	2,207	176	145
1905	1,875	152	128
1906	1,837	152	132
1907	1,533	131	118
1908	1,654	138	120
1909	1,350	123	109
1910	1,446	133	105
1911	1,679	159	130
1912	1,051	102	95
1913	1,469	135	108
1914	1,324	124	105
1915	1,253	127	110
1916	1,216	129	91
1917	1,023	135	96
1918	984	133	97
1919	899	119	89
1920	1,232	110	80
1921	997	98	83
1922	935	101	77
1923	773	89	69
1924	921	108	75
1925	748	91	75
1926	748	93	70
1927	629	81	70
1928	606	79	65
1929	722	97	74
1930	512	68	60
1931	552	76	66
1932	617	88	65
1933	537	81	64

INFANT MORTALITY PER 1000 BIRTHS, 1890 – 1933.



Infantile Mortality during the Eleven Years 1923-1933 at different periods of the first year of life.

Year.	Births in year.	Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.	
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
1923 ..	8,684	204	23·5	363	41·8	110	12·7	125	14·4	92	10·6	83	9·6	773	89
1924 ..	8,558	185	21·6	331	38·7	156	18·2	155	18·1	150	17·5	129	15·1	921	108
1925 ..	8,180	184	22·5	309	37·8	141	17·2	119	14·5	88	10·8	91	11·1	748	91
1926 ..	8,065	187	23·2	312	38·7	134	16·6	118	14·6	96	11·9	88	10·9	748	93
1927 ..	7,790	170	21·8	274	35·2	103	13·2	87	11·2	84	10·8	81	10·4	629	81
1928 ..	7,665	201	26·2	286	37·3	102	13·3	94	12·3	72	9·4	52	6·8	606	79
1929 ..	7,426	210	28·3	314	42·3	111	14·9	107	14·4	108	14·5	82	11·0	722	97
1930 ..	7,568	208	27·5	291	38·5	74	9·8	57	7.5	49	6·5	41	5·4	512	68
1931 ..	7,219	172	23·8	233	32·3	92	12·7	86	11·9	80	11·1	61	8·4	552	76
1932 ..	7,004	189	27·0	255	36·4	110	15·7	100	14·3	85	12·1	67	9·6	617	88
1933 ..	6,643	175	26·3	243	36·6	99	14·9	80	12·0	57	8·6	58	8·7	537	81

Diarrhœa and enteritis was the second most important single cause of death. Ninety-seven deaths, or 18·1 per cent. of the total, being attributable to this disease as compared with 94, or 15·2 per cent., for the previous year, and an average of 88, or 12·8 per cent. for the previous decade.

The deaths from pneumonia (all forms) numbered 75, or 14·0 per cent., of the total deaths under one year, as compared with 106, or 17·2 per cent., for the previous year and an average of 107 or 15·7 per cent. for the previous decade.

Deaths in Age Groups.—Of the total (537) infant deaths 89, or 16·6 per cent., took place on the first day of life; 175, or 32·6 per cent., in the first week; 243, or 45·3 per cent., in the first month; 99, or 18·4 per cent., between one and three months; 80, or 14·9 per cent., between three and six months; 57, or 10·6 per cent., between six and nine months; and 58, or 10·8 per cent., between nine and twelve months.

The percentage changes in the infant death-rates per 1,000 births in 1933 as compared with the average of the previous ten years are as follows:—

Under 1 week, increase	7·8%	3–6 months, decrease ..	10·4%
Under 1 month decrease	3·7%	6–9 ,, ,, ..	25·9%
1–3 months increase	2·8%	9–12 ,, ,, ..	12·1%

Whole year decrease, 6·9%

It is interesting to note the changes which have taken place at the various age periods of infancy since the quinquennium 1905-1909. These are set out in the table on page 135. The quinquennial average has been taken in order to make a better comparison.

Neo-Natal Death-rate.—The number of deaths of infants occurring in the first month of life was 243, or 12 less than the previous year, and the neo-natal rate was 36·6.

Of the total deaths under one year 45·3 per cent. occurred in the first month as compared with 41·3 per cent. for the previous

year and of the deaths in the first month 36·6 per cent. occurred on the first day, 72·0 per cent. in the first week, and 83·5 per cent. in the first two weeks.

The deaths in the first month were largely due to prematurity and other congenital defects. (*Vide* table on page 149).

Illegitimate Death-rate.—Of the 335 illegitimate births, 56, or 16·7 per cent., died before reaching the age of one year which is equal to an infant mortality rate of 167. This is an increase of 26 per thousand as compared with 1932 and 36 as compared with 1931.

Death-rate in Quarters.—The infant mortality rate for the four quarters of the year is given in the accompanying table.

	I.	II.	III.	IV.	Year.
1923	114	74	86	82	89
1924	171	83	68	109	108
1925	84	62	100	126	91
1926	120	78	75	100	93
1927	104	70	66	83	81
1928	84	60	77	99	79
1929	142	84	79	84	97
1930	80	62	54	76	68
1931	105	62	57	83	76
1932	103	77	74	100	88
1933	107	62	67	90	81

Maternal Mortality.—The number of mothers who lost their lives in childbirth during the year was 27, an increase of 6 on the figure for 1932. The maternal mortality rate per thousand live births was 4·06 as compared with 3·00 for the previous year and an average of 4·37 for the previous five years. If the maternal mortality

rate is calculated on the total number of births (live and still) the rate for the year is reduced to 3·87.

The following table shows the maternal mortality rate per thousand live births and per thousand total (live and still) births for the last five years.

MATERNAL MORTALITY.

Year.	No. of deaths.	Rate per 1,000 live births.	Rate per 1,000 total (live and still) births.
1929	33	4·44	4·23
1930	32	4·23	4·05
1931	39	5·40	5·14
1932	21	3·00	2·86
1933	27	4·06	3·87

The death-rate of unmarried mothers per thousand illegitimate births was 5·97 as compared with a rate of 3·96 for married mothers. Last year the death-rate of unmarried mothers was 8·11 and that of married mothers 2·71.

Further details on this subject will be found on page 148.

Infantile Mortality in Wards at different periods of the first year of life, Calendar Year, 1933.

Ward.	Births in year.	Under one day.		Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.	
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
Mill Hill and South	242	5	20·7	9	37·2	13	53·7	6	24·8	5	20·7	5	20·7	5	20·7	34	140
Westfield	344	4	11·6	11	32·0	13	37·8	6	17·4	12	34·9	5	14·5	8	23·3	44	128
Blenheim ..	249	5	20·1	7	28·1	8	32·1	7	28·1	7	28·1	3	12·0	3	12·0	28	112
Central	323	8	24·8	14	43·3	19	58·8	8	24·8	4	12·4	3	9·3	6	18·6	40	124
Woodhouse ..	261	2	7·7	7	26·8	10	38·3	2	7·7	2	7·7	..	..	2	7·7	16	61
North	231	3	13·0	5	21·6	7	30·3	2	8·7	..	..	2	8·7	1	4·3	12	52
Far Headingley ..	151	1	6·6	5	33·1	5	33·1	1	6·6	..	..	..	..	..	..	6	40
Hyde Park ..	145	2	13·8	4	27·6	4	27·6	2	13·8	2	13·8	..	..	..	..	8	55
Kirkstall	270	3	11·1	4	14·8	7	25·9	3	11·1	..	..	2	7·4	3	11·1	15	56
Burmantofts ..	367	2	5·4	7	19·1	12	32·7	11	30·0	8	21·8	5	13·6	3	8·2	39	106
Harehills	218	1	4·6	3	13·8	5	22·9	1	4·6	2	9·2	1	4·6	1	4·6	10	46
Potternewton ..	200	4	20·0	6	30·0	11	55·0	4	20·0	1	5·0	1	5·0	1	5·0	18	90
Roundhay.. ..	174	..	..	2	11·5	3	17·2	1	5·7	..	..	..	..	1	5·7	5	29
Cross Gates and Templenewsam	145	2	13·8	4	27·6	6	41·4	2	13·8	1	6·9	..	..	2	13·8	11	76
Richmond Hill ..	470	8	17·0	12	25·5	17	36·2	7	14·9	7	14·9	6	12·8	4	8·5	41	87
Osmondthorpe ..	321	2	6·2	7	21·8	10	31·2	5	15·6	2	6·2	4	12·5	1	3·1	22	69
East Hunslet ..	287	3	10·5	4	13·9	4	13·9	5	17·4	7	24·4	4	13·9	1	3·5	21	73
Hunslet Carr and Middleton ..	372	3	8·1	7	18·8	11	29·6	2	5·4	2	5·4	5	13·4	3	8·1	23	62
West Hunslet ..	256	7	27·3	11	43·0	13	50·8	5	19·5	1	3·9	2	7·8	1	3·9	22	86
Beeston	162	4	24·7	7	43·2	8	49·4	..	..	1	6·2	1	6·2	..	..	10	62
Holbeck (South)	176	2	11·4	2	11·4	4	22·7	4	22·7	2	11·4	1	5·7	1	5·7	12	68
Holbeck (North)	291	3	10·3	7	24·1	16	55·0	8	27·5	4	13·7	2	6·9	6	20·6	36	124
Armley and New Wortley ..	311	6	19·3	9	28·9	9	28·9	1	3·2	3	9·6	2	6·4	1	3·2	16	51
Upper Armley ..	208	3	14·4	3	14·4	5	24·0	2	9·6	5	24·0	..	..	2	9·6	14	67
Bramley	226	4	17·7	11	48·7	14	61·9	2	8·8	2	8·8	1	4·4	..	..	19	84
Farnley and Wortley ..	243	2	8·2	7	28·8	9	37·0	2	8·2	..	..	2	8·2	2	8·2	15	62
City	6,643	89	13·4	175	26·3	243	36·6	99	14·9	80	12·0	57	8·6	58	8·7	537	81

Births and Deaths under one year with rates.—Calendar Year 1933

Ward.	Total Births (nett).	Birth rate per 1,000 population.	No. of legitimate births.	No. of illegitimate births.	Total deaths under one year (nett).	Death rate per 1,000 births.	No. of legitimate deaths under one year.	Legitimate death rate per 1,000 legitimate births.	No. of illegitimate deaths under one year.	Illegitimate death rate per 1,000 illegitimate births.
Mill Hill and South	242	15·33	223	19	34	140	30	135	4	211
Westfield ..	344	17·53	322	22	44	128	42	130	2	91
Blenheim	249	10·91	214	35	28	112	18	84	10	286
Central	323	15·33	292	31	40	124	35	120	5	161
Woodhouse ..	261	13·89	254	7	16	61	16	63	..	..
North	231	14·86	220	11	12	52	11	50	1	91
Far Headingley ..	151	8·29	145	6	6	40	5	34	1	167
Hyde Park ..	145	8·81	137	8	8	55	5	36	3	375
Kirkstall	270	13·74	260	10	15	56	14	54	1	100
Burmantofts ..	367	15·84	356	11	39	106	37	104	2	182
Harehills	218	11·04	214	4	10	46	9	42	1	250
Potternewton ..	200	10·19	186	14	18	90	14	75	4	286
Roundhay ..	174	11·44	169	5	5	29	5	30	..	..
Cross Gates and Templenewsam	145	10·01	139	6	11	76	8	58	3	500
Richmond Hill ..	470	19·13	446	24	41	87	36	81	5	208
Osmondthorpe ..	321	14·70	308	13	22	69	20	65	2	154
East Hunslet ..	287	15·49	279	8	21	73	20	72	1	125
Hunslet Carr and Middleton..	372	18·41	363	9	23	62	22	61	1	111
West Hunslet ..	256	14·16	244	12	22	86	21	86	1	83
Beeston	162	10·65	157	5	10	62	9	57	1	200
Holbeck (South)	176	12·29	167	9	12	68	12	72	..	..
Holbeck (North)	291	15·82	279	12	36	124	34	122	2	167
Armley and New Wortley.. ..	311	15·30	289	22	16	51	15	52	1	45
Upper Armley ..	208	12·22	199	9	14	67	12	60	2	222
Bramley	226	12·80	217	9	19	84	17	78	2	222
Farnley and Wortley.. ..	243	13·01	229	14	15	62	14	61	1	71
City	6,643	13·70	6,308	335	537	81	481	76	56	167

PERCENTAGE CHANGES (5 YEAR PERIODS, ALSO YEARS 1930, 1931, 1932 AND 1933) IN THE INFANT DEATH-RATE per 1,000 BIRTHS AS COMPARED WITH THE AVERAGE OF THE FIVE YEARS 1905-1909.

Five year period.	Under one week		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under 12 months.		Under one year.	
	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.
1905-1909	26·2	—	44·3	—	25·5	—	28·0	—	23·0	—	18·6	—	139	—
1910-1914	26·6	+1·5%	44·1	−0·5%	24·7	−3·1%	23·9	−14·6%	20·1	−12·6%	18·0	−3·2%	131	−5·8%
1915-1919	26·4	+0·8%	44·4	+0·2%	21·5	−15·7%	25·0	−10·7%	19·7	−14·3%	17·9	−3·8%	129	−7·2%
1920-1924	23·8	−9·2%	42·3	−4·5%	17·9	−29·8%	16·1	−42·5%	13·2	−42·6%	11·6	−37·6%	101	−27·3%
1925–1929	24·3	−7·3%	38·2	−13·8%	15·1	−40·8%	13·4	−52·1%	11·5	−50·0%	10·1	−45·7%	88	−36·7%
Year 1930	27·5	+5·0%	38·5	−13·1%	9·8	−61·6%	7·5	−73·2%	6·5	−71·7%	5·4	−71·0%	68	−51·1%
Year 1931	23·8	−9·2%	32·3	−27·1%	12·7	−50·2%	11·9	−57·5%	11·1	−51·7%	8·4	−54·8%	76	−45·3%
Year 1932	27·0	+3·1%	36·4	−17·8%	15·7	−38·4%	14·3	−48·9%	12·1	−47·4%	9·6	−48·4%	88	−36·7%
Year 1933	26·3	+0·4%	36·6	−17·4%	14·9	−41·6%	12·0	−57·1%	8·6	−62·6%	8·7	−53·2%	81	−41·7%

Deaths from Stated Causes under One Year of Age.

Causes of death.	Year 1932.	Year 1933.	Increase or decrease.	Percentage of total deaths under one.
Smallpox	..	..	..	..
Chickenpox	..	..	..	..
Measles	17	4	−13	0·7
Scarlet Fever	2	..	− 2	..
Whooping Cough	18	10	− 8	1·9
Diphtheria	2	2	−+	0·4
Influenza	5	6	+ 1	1·1
Erysipelas	4	5	+ 1	0·9
Tuberculous Diseases ..	11	10	− 1	1·9
Meningitis	6	4	− 2	0·7
Convulsions	19	15	− 4	2·8
Bronchitis	23	15	− 8	2·8
Pneumonia (all forms) ..	106	75	−31	14·0
Other diseases of Respiratory Organs	4	..	− 4	..
Diarrhœa and Enteritis ..	94	97	+ 3	18·1
Gastritis	6	..	− 6	..
Syphilis	7	5	− 2	0·9
Rickets	1	1	−+	0·2
Suffocation, including overlying	10	10	−+	1·9
Injury at birth	16	12	− 4	2·2
Atelectasis	21	16	− 5	3·0
Congenital Malformations	31	38	+ 7	7·1
Premature birth	128	134	+ 6	25·0
Atrophy, Debility, and Marasmus	22	26	+ 4	4·8
Other Causes	64	52	−12	9·7
Totals	617	537	−80	100·0

MATERNITY AND CHILD WELFARE SERVICES INCLUDING SUPERVISION OF MIDWIVES.

BY

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Number of Midwives.—The total number of midwives on the register at December 31st, 1932 was 84 ; 33 new names were added during the year ; 12 did not renew their notification of intention to practise ; 13 left the district and 2 died, leaving a total on the register at 31st December, 1933, of 90. The actual number of midwives who practised in the area during the year was 82, of whom 38 were attached to Nursing Homes, Associations, etc. Seventy-nine (or 96·3 per cent.) of those were trained and three (or 3·7 per cent.) untrained. The number of births attended by midwives was 2,001 or 28·3 per cent. of the total births registered as compared with 2,314 or 31·4 per cent. during the previous year.

The following table gives an analysis of the cases attended by midwives :—

TRAINED.			UNTRAINED.	
79 midwives. Total cases attended .. 1,974 Average per midwife 25 cases.			3 midwives. Total cases attended .. 27 Average per midwife 9 cases.	
No. of Cases	Practising on their own account.	Attached to Nursing Homes or Associations.	No. of Cases.	Practising on their own account.
Over 200	..	..	Over 200	..
,, 150	1	..	,, 150	..
,, 100	3	..	,, 100	..
,, 75	2	2	,, 75	..
,, 50	1	6	,, 50	..
,, 25	9	1	,, 25	..
,, 10	6	7	,, 10	1
,, 5	4	6	,, 5	1
Under 5	15	16	Under 5	1

Twenty-three trained midwives (14 attached to institutions, nursing homes or Associations) took no cases during the year.

Inspection of Midwives.—The total number of inspections made during the year was 286, of which 182 were routine and 104 special visits. Twenty-four midwives were followed up to their cases in order to see them at their work. On seventy-two occasions midwives were interviewed in connection with breaches of the rules of the Central Midwives Board, and other minor misdemeanours; twenty-three were reported to the Senior Medical Officer for Maternity and Child Welfare and twenty-one were interviewed by her. No serious breach of the rules of the Central Midwives Board occurred during the year.

Advising Medical Help.—Notifications of having advised medical assistance were received in 981 cases, which may be classified as follows:—

Illness during pregnancy or abortion	49
Malpresentation	45
Delayed or obstructed labour	165
Ruptured perineum	200
Retained membrane or placenta	18
Hæmorrhage	57
Convulsions, eclampsia	1
Puerperal rise of temperature	55
Illness of mother during puerperium	66
Illness of child	131
Infants—discharging eyes	76
Artificial feeding	18
Death of infant under ten days	26
Still-births	55
Suspected infectious disease	18
Maternal deaths	1

Midwives Emergencies.—During the year 604 claims were made by medical practitioners in the city for attendance on emergencies of labour under section 14 of the Midwives Act, 1918. Of these 14 were paid direct by the parent, and 415 met in whole, or in part, by the Local Authority, at a total cost of £393 5s. 9d. At the end of the year there were 175 claims awaiting settlement.

The following table gives a comparison of the number of medical aid requests sent, and the number of applications for payment of their fee by registered medical practitioners during the last five years.

Year.	Total Births (live and still).	No. of Midwives cases.	No. of Requests sent.	No. of Requests per 100 cases.	No. of applications for payment.	No. of applications per 100 requests.
1929 ..	7,592	2,897	990	34·2	533	53·8
1930 ..	7,801	3,030	1,049	34·6	592	56·4
1931 ..	7,525	2,478	1,071	43·2	511	47·7
1932 ..	7,262	2,265	983	43·4	608	61·9
1933 ..	7,167	1,974	981	49·7	604	61·6

It will be noticed that the number of requests sent per 100 cases is growing, and medical aid is called in for an ever-increasing proportion of cases. Applications by medical practitioners for payment of their fee shows a corresponding rise.

Accouchement Sets.—During the year 128 sterilised accouchement sets were sold to mothers through the Welcomes, midwives and maternity homes. This is considerably less than last year when the number was 219. These sets are of undoubted advantage both to the mother and the attendant. The decrease in the number used is disappointing, but it probably is explained by the inability of the mothers to pay for the sets as well as by the fact that nowadays so many women prefer to be confined in a Nursing Home or Hospital rather than their own homes.

Nursing in the Home.—The arrangement with the Leeds District Nursing Association for the nursing in their own homes of cases of puerperal fever, puerperal pyrexia, ophthalmia neonatorum, measles, pneumonia and pemphigus remained in operation. A total of 65 cases were provided for in this way during the year.

Puerperal Fever.—There were 39 cases of this disease notified during 1933, of which 27 recovered and 7 died. In 5 cases the result is not known as the patients came from outside the city.

Four of the cases followed abortion—in the remainder the labour was at full term. The number of cases of puerperal fever occurring in doctors' practices was 9, in midwives 10 and in institutions 20. There were 115 cases of puerperal pyrexia notified and of these 12 died, three from puerperal fever.

The Inspector of Midwives paid a total of 131 visits for the purpose of investigating rises of temperature in the puerperium. Arrangements were made for the district nurses to take over the nursing of 15 cases.

Eight midwives were disinfected after contact with cases of puerperal fever and 19 after puerperal pyrexia.

This subject is further dealt with in the section on Infectious Diseases on page 54.

Ophthalmia Neonatorum.—During the year 44 cases of ophthalmia neonatorum were notified, 4 cases occurred in the practice of doctors, 2 of whom had handywomen in attendance, 25 occurred in the practice of midwives, and 15 in institutions. Of the total cases, 29 were treated at home, and 15 in hospital. Seventeen cases of ophthalmia neonatorum and 22 cases of discharging eyes were referred to the District Nursing Association for home treatment. As a result of treatment 41 cases apparently made a complete recovery; in one case the sight of the left eye has been lost; one case is still under treatment, and one child died from enteritis.

This subject is further dealt with in the section on Infectious and Other Diseases on page 54.

Pemphigus.—There were 10 cases of pemphigus brought to the notice of the Department during the year, all of which were midwives' cases. Home nursing was provided for 5 cases and 2 were sent to hospital. There were no deaths. One midwife had a series of 3 cases, another midwife 3 isolated cases, while four midwives had each one case.

Municipal Midwives.—There were no midwives actually employed by the Health Department, but there continued in operation the arrangement made between the Corporation and the Maternity Hospital, whereby provision is made for the maintenance

of district midwives in five districts of the city. The total number of cases dealt with by the Branch Midwives was 377 a decrease of 64 on the previous year and a decrease of 247 on the figure for 1931.

The deficit on the working of all the Branches for the year was £420, which is borne by the Corporation under the agreement already referred to.

The five Branch Midwives and three independent midwives are approved by the Central Midwives Board to take pupil midwives for district experience.

Owing to the continuous fall in the number of cases attended by the Branch Midwives some reorganisation of this service may be necessary in the future.

Compensation to Midwives.—A midwife can claim compensation for any case lost because of her having been in contact with infection. There was one such claim during the year and the cost to the Corporation was 15s. She can also claim for the loss of a case she has sent to an ante-natal clinic, or referred to a medical practitioner, and which owing to some abnormality has had to be sent into hospital for confinement. The number of such claims was 26 and the cost to the Corporation £26. The possibility of a large number of women falling out of maternity benefit at the end of the year, and a communication from the Midwives' Institute on the subject, induced the Maternity and Child Welfare Sub-Committee to call for a special report on the midwifery service in the city. This report was prepared and presented in December, 1933. After a very full consideration of all the details it was decided to indemnify midwives to the extent of half the fee in cases in which the parents are in straitened financial circumstances and unable themselves to pay the fee. Applications made to the Maternity and Child Welfare Sub-Committee for payment of fee will be considered on their merits. Under this new arrangement two midwives received part fee during the year at a total cost of £1 15s. to the Corporation.

Handywomen.—During the year 4 handywomen were visited and warned as to limitations of practice, etc.; five were disinfected after being in contact with cases of puerperal fever and other infections; one was reported to the Senior Medical Officer for Maternity and Child Welfare on account of irregular practice and was interviewed by her.

Ante-natal Work.—A total of 2,713 expectant mothers attended the ante-natal clinics during the year which represents a decrease of 217 on the previous year, and a decrease of 439 on the figure for 1931. Of the total 2,086 were new and attended for the first time. The attendance at all the clinics totalled 8,765 as compared with 9,391 for 1932.

The appended table gives an analysis of the new cases admitted during 1933 to the registers of the different clinics, with particulars as to where the recommendations came from. It will be noted that the average sent by midwives was 45·1 per cent. as compared with 49·6 per cent. for 1932. This however is not a true figure of the number of midwives' cases who attended the ante-natal clinics, as in some cases the mother goes to the clinic before she books a midwife.

NEW CASES ADMITTED TO THE REGISTERS OF THE ANTE-NATAL CLINICS DURING 1933, AND BY WHOM RECOMMENDED.

Welcome.	Midwife.	Self.	Hospital.	Welcome Dr.	Private Dr.	Health Visitor.	Total.	Percentage sent by Midwife.
Ellerby ..	71	97	..	3	1	4	176	40·3
West Street	19	56	1	..	..	..	76	25·0
Burmantofts	144	43	7	..	1	..	195	73·8
Hunslet ..	93	24	4	3	..	7	131	71·0
University ..	97	38	8	3	..	13	159	61·0
Woodhouse..	72	38	..	11	3	28	152	47·4
Holbeck ..	49	44	6	1	4	26	130	37·7
Armley ..	4	206	4	..	2	3	219	1·8
Chapeltown	25	95	2	..	..	1	123	20·3
St. Nicholas	130	17	5	..	1	10	163	79·8
Bramley ..	9	69	6	..	6	4	94	9·6
New Wortley	39	46	..	..	..	20	105	37·1
Middleton ..	78	34	3	..	2	9	126	61·9
West Hunslet	71	43	5	2	3	..	124	57·3
Cross Gates..	1	13	..	..	..	2	16	6·3
Burley ..	30	23	..	1	..	10	64	46·9
Halton ..	3	11	..	..	..	4	18	16·7
Kirkstall ..	6	7	..	1	1	..	15	40·0
TOTAL ..	941	904	51	25	24	141	2,086	45·1

Particulars of the work at the ante-natal clinics are set out in the following table.

EXPECTANT MOTHERS ON REGISTER.

Welcome.	No. on register at beginning of year.	Registered during year.	Live Births.		On register end of year.	Total attend-ance of expectant mothers.
			Full Term.	Prema-ture.		
Ellerby	51	176	163	5	43	688
West Street ..	24	76	63	2	28	213
Burmantofts ..	54	195	175	8	46	905
Hunslet ..	48	131	131	6	34	429
University ..	30	159	124	8	43	546
Woodhouse ..	34	152	120	7	47	723
Holbeck ..	42	130	116	5	34	671
Armley	66	219	183	9	82	1,221
Chapeltown ..	41	123	110	15	30	393
St. Nicholas ..	53	163	163	6	34	561
Bramley ..	35	94	68	2	43	514
New Wortley ..	36	105	103	3	30	528
Middleton ..	32	126	106	9	32	447
West Hunslet ..	37	124	110	11	34	560
Crossgates ..	7	16	15	2	4	62
Burley	28	64	53	3	26	194
Halton	3	18	12	2	4	45
Kirkstall ..	6	15	11	..	9	55
Totals ..	627	2,086	1,826	103	603	8,755

Of the 2,713 mothers on the register 21 miscarried and 96 had still births.

In addition to the above 10 expectant mothers paid 10 visits to Meanwood and Harehills Centres where no ante-natal clinics are held, making a total of 8,765 attendances.

Included in the number of live births are 27 sets of twins.

The fact that the numbers attending these clinics is decreasing is not only disappointing but also a cause of anxiety since it has been proved that ante-natal supervision is of undoubted value in assuring a happy, healthy motherhood, easy delivery, and the production of healthy babies. The fall in the birth-rate, although it is a contributory cause, does not altogether account for the decrease, and it is to be hoped that expectant mothers will soon come to realise the absolute necessity for ante-natal care and avail themselves of the facilities provided.

Consultative Ante-natal Clinic at Holbeck.—A consultative ante-natal clinic was established at Holbeck Infant Welfare Centre at the beginning of 1932, for an experimental period of one year. The object of this was to serve the needs of the population South of the river, for whom the Maternity Hospital Consultative Clinic was somewhat inaccessible.

A report on the first year's working was presented to the Maternity and Child Welfare Committee on February 8th, 1933. Although the numbers referred to the Clinic during 1932, especially those sent by private practitioners, had not come up to expectations, the results were very satisfactory, and as it was felt that the clinic had had hardly time to be well-known, it was decided to continue it for a further experimental period of one year.

During 1933, 72 mothers were referred to the clinic, 42 by welcome doctors and 30 by private practitioners. The corresponding figures for 1932 were a total of 53, 44 referred by clinic doctors, and 9 from outside practitioners.

The numbers for 1933, therefore, show a definite increase in the total, principally as a result of the larger number referred by outside doctors.

The cost of the clinic, including consultants' fees and part nurse's salary, will amount to approximately £86 for the year, or a cost of £1 3s. 10d. per mother.

The following table gives the reasons for sending Patients :—

Contracted pelvis, disproportion (real or suspected)	19
Abnormal presentations	6
Medical complications of pregnancy	10
Diagnosis of pregnancy	6
Previous bad obstetrical history	5
Haemorrhage	4
Albuminuria	7
Miscellaneous and Post-natal	15

The results have been satisfactory. There have been no maternal deaths. The mothers all did well.

Out of a total of 54 births (several are not yet delivered) there were 3 stillborn infants, and 51 live births. Two of the stillbirths

were in hospital, one occurring after a very difficult labour, the other was a premature delivery in a mother with serious heart disease.

Of the 51 live births, 27 were delivered in hospital and 24 at home.

As it was felt that this clinic was serving a very useful purpose it has been decided to continue it as a permanent part of the Maternity and Child Welfare Scheme.

Natal Work.—Of the total 7,070 births occurring in 1933, 3,312 or 46·85 per cent., took place in institutions or nursing homes. This figure is steadily increasing each year. Ten years ago it was roughly one half of what it is to-day.

An analysis of the births registered as occurring in the various lying-in institutions in the city is given in the following table:—

Institution.	No. of births.	Percentage of total registered.
Leeds Maternity Hospital	1,863	26·36
St. James's Hospital	799	11·30
St. Mary's Infirmary	309	4·37
Hope Hospital	6	0·08
Hospital for Women	10	0·14
Private Nursing Homes	325	4·60
Total ..	3,312	46·85

Besides contributing to the upkeep of beds at the Maternity Hospital, the Health Committee maintains six beds at St. Mary's Hospital and three at St. James's Hospital. The table on page 146 gives the details of the utilisation of the maternity beds in these Hospitals during the year.

Illegitimate Births in Institutions.—Of the 3,312 births which took place in institutions, 303 or 9·1 per cent. were illegitimate.

This is a decrease of 15 on the figure for last year.

Scheme for Utilisation of Maternity Beds in Public Assistance Hospitals.
Report for Years 1930, 1931, 1932 and 1933.

	St. James' Hospital.				St. Mary's Infirmary.			
	1930.	1931.	1932.	1933.	1930.	1931.	1932.	1933.
Number of Beds reserved ..		3	3	3	6	6	6	6
Total Number of Cases for which accommodation is available	78	78	78	78	156	156	156	156
Number of Cases treated—								
(*a*) Normal	25	23	9	20	102	95	104	89
(*b*) Abnormal	4	3	2	4	28	39	29	31
(*c*) Not delivered	3‡	3*	3‡	3	8	8*	5	3
Total	32	29	14	27	138	142	138	123
Number of Births—								
(*a*) Full term	27	24	10	23	118	124	121	108
(*b*) Premature	..	..	2‖	..	7	6‖	7	4
(*c*) Stillborn	2	2	..	1	5	5	5	4
(*d*) Premature and Stillborn	..	..	..	..	..	..	..	4
(*e*) Miscarriage	..	..	..	..	..	..	..	..
Total	29	26	12	24	130	135	133	120
Average length of stay (in days)	13·7	17·0	†12·7	14·3	14·5	15·6	13·4	13·1
Total Cost per case	£3 1s. 7d.	£3 16s. 7¾d.	£2 17s. 2½d.	£3 4s. 6d.	£3 5s. 6½d.	£3 9s. 11½d.	£3 0s. 2d.	£2 19s. 0½d.
Cost per case per week ..	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.	£1 11s. 6d.
Gross Cost to Corporation ..	£98 11s. 0d.	£111 3s. 0d.	£40 1s. 0d.	£87 1s. 6d.	£452 5s. 0d.	£496 16s. 0d.	£415 3s. 6d.	£363 3s. 0d.

Total nett cost to Corporation	1930 ..	£96 14s. 10d.	Amount of patients' payments, 1930 .. £454 1s. 2d.
Do. do. do.	1931 ..	£120 8s. 0d.	Do. do. do. 1931 .. £487 11s. 0d.
Do. do. do.	1932 ..	£8 1s. 6d.	Do. do. do. 1932 .. £447 3s. 0d.
Do. do. do.	1933 ..	£9 1s. 0d.	Do. do. do. 1933 .. £441 3s. 6d.

* Includes 1 baby born before arrival. † Includes 2 babies born before arrival. ‖ Includes 2 twin babies.

Specialist Service.—In connection with the City's Maternity and Child Welfare Scheme a consultant service is provided to enable medical practitioners to call in a consultant in the event of obstetric difficulty arising during the ante-natal period, labour, or the puerperium. The number of claims received from consultants for services rendered in connection with the above scheme was 23 and the total cost to the Corporation was £54 19s. 6d.

Maternity and Nursing Homes.—The number of registered nursing homes in the city on December 31st, 1932, was 27.

The following table gives particulars as to the registration of maternity and nursing homes during 1933 :—

	Maternity Homes.	Other Nursing Homes.
No. of existing registered Homes on January 1st, 1933	21	6
No. of applications for registration ..	..	..
No. of Homes registered	..	..
No. of Orders made refusing or cancelling registration	1	..
No. of Appeals against such Orders ..	1	..
No. of Cases in which such Orders have been :—		
(*a*) Confirmed on appeal	1	..
(*b*) Disallowed	..	..
No. of applications for exemption from registration	3	1
No. of Cases in which exemption has been :—		
(*a*) Granted	3	1
(*b*) Withdrawn	..	..
(*c*) Refused	..	..
No. of Cases in which registration voluntarily surrendered	..	1

The total number of registered nursing homes on December 31st, 1933, was 26, comprising :—

Maternity Homes	9
Maternity and General Nuring Homes ..	12
General Nursing Homes..	5

All registered homes were visited regularly and inspected, the number of visits paid for this purpose being 62.

Three homes were visited in connection with the infringement of the Nursing Homes Act.

Ambulance Service.—For the number of cases removed to the various lying-in institutions by the special ambulance provided and maintained for the purpose, see page 69.

Maternal Mortality.—During the year 27 mothers lost their lives in childbirth, as compared with 21 for the previous year and 39 for 1931. The rate of mortality for the city was 4·06 per thousand live births or 3·87 per thousand total births (live and still). The corresponding figures for the previous year were 3·00 and 2·86. The death-rate of married mothers per 1,000 legitimate births was 3·96 and that of unmarried mothers per 1,000 illegitimate births 5·97. The corresponding figures for the previous year were 2·71 and 8·11.

The ratio of mothers dying in childbirth to those surviving was 1 to 1,197 for mothers attending the ante-natal clinics as compared with 1 to 257 for the city. The maternal mortality rate for clinic mothers was 0·49 per 1,000 live and stillbirths as compared with 3·87 for the city.

Of the 27 deaths, 15 were due to sepsis, and of these 3 occurred after a normal full-time delivery, 5 after an abnormal full-time delivery and 7 after abortion.

Only in seven cases out of the 27 had the patient had what one would consider good ante-natal care, in 4 cases this care was quite inadequate, and in the remaining 16 cases there had been no pre-natal supervision whatever.

The table on page gives 132 particulars of the maternal death-rate in Leeds for the last 5 years.

Stillbirths and Neo-natal Mortality.—The number of stillbirths for 1933 was 373 or 5·2 per cent. of the total births notified, as compared with 355 or 4·9 per cent. for 1932 and an average of 4·6 per cent. for the last ten years.

Of the total stillbirths, 35·2 per cent. occurred in primiparas, 19 per cent. in women with one child, and 15 per cent. in women with 2 children ; the percentages diminished as the parity increased. The first confinement is naturally the most difficult and the most liable to require interference, so it is not surprising to find that the largest number of stillbirths occur in first pregnancies.

COMPARISON BETWEEN LIVE BIRTHS AND STILLBIRTHS FOR THE LAST ELEVEN YEARS.

Year.	Live births notified.	Stillbirths notified.	Total births notified live and still.	Percentage of stillbirths to total births.
1923	8,264	379	8,643	4·4
1924	8,105	348	8,453	4·1
1925	8,034	334	8,368	4·0
1926	7,828	380	8,208	4·6
1927	7,582	367	7,949	4·6
1928	7,497	388	7,885	4·9
1929	7,210	382	7,592	5·0
1930	7,444	357	7,801	4·6
1931	7,119	406	7,525	5·4
1932	6,907	355	7,262	4·9
1933	6,794	373	7,167	5·2

Notification of Births Act came into force in Leeds 1st January, 1914.

The following table gives the analysis of the causes of neo-natal mortality during the last ten years in Leeds :—

NEO-NATAL MORTALITY.

Cause of Death.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.
Congenital malformation	21	21	19	30	23	14	23	21	20	15	18
Premature birth ..	152	136	134	133	120	153	148	138	105	118	126
Atrophy, debility and marasmus..	41	32	39	32	15	25	26	32	15	13	20
Atelectasis ..	24	17	15	19	19	16	19	17	10	21	16
Injury at birth ..	22	23	18	19	17	10	18	16	20	16	12
Suffocation including overlying ..	1	7	10	4	11	11	17	8	9	8	6
Diarrhœa–enteritis	35	15	12	12	8	7	5	7	7	8	2
Syphilis	12	10	9	9	2	2	4	3	3	1	1
Pneumonia ..	11	11	8	12	12	7	19	11	5	8	12
Convulsions ..	29	21	19	17	21	18	16	13	12	13	6
Other causes ..	15	38	26	25	26	23	19	25	27	34	24
Total ..	363	331	309	312	274	286	314	291	233	255	243
Notified stillbirths	379	348	334	380	367	388	382	357	406	355	373

POPULATION PER ACRE AND INFANT DEATH-RATES IN WARDS 1933.

MUNICIPAL WARD.	Population per Acre.	Birth Rate.	Infant Mortality Rate.	Neo-Natal Mortality Rate.
Mill Hill and South	27·5	15·33	140	53·7
Westfield	83·9	17·53	128	37·8
Blenheim	51·5	10·91	112	32·1
Central	67·5	15·33	124	58·8
Woodhouse	43·1	13·89	61	38·3
North	3·1	14·86	52	30·3
Far Headingley	3·4	8·29	40	33·1
Hyde Park	35·2	8·81	55	27·6
Kirkstall	18·3	13·74	56	25·9
Burmantofts	84·6	15·84	106	32·7
Harehills	30·1	11·04	46	22·9
Potternewton	41·7	10·19	90	55·0
Roundhay	3·9	11·44	29	17·2
Cross Gates and Temple-newsam	2·6	10·01	76	41·4
Richmond Hill	94·5	19·13	87	36·2
Osmondthorpe	15·0	14·70	69	31·2
East Hunslet	50·6	15·49	73	13·9
Hunslet Carr and Middleton ..	7·6	18·41	62	29·6
West Hunslet	87·8	14·16	86	50·8
Beeston	13·0	10·65	62	49·4
Holbeck (South)	46·8	12·29	68	22·7
Holbeck (North)	48·0	15·82	124	55·0
Armley and New Wortley ..	36·0	15·30	51	28·9
Upper Armley	18·0	12·22	67	24·0
Bramley	8·4	12·80	84	61·9
Farnley and Wortley	6·6	13·01	62	37·0
City	12·7	13·7	81	36·6

In comparing the rates of infant mortality and neo-natal mortality in different groups according to the social conditions of the parents and their environment, the general conclusion is that the death-rate among infants during the first month of life differs but little in different social classes, and in different types of environment, but as the age increases the mortality rate in the less favourably situated classes becomes progressively higher.

In 1933 the average density of population per acre in the city was 12·73. In Burmantofts, a much overcrowded ward, with a density of population of 84·6 per acre, the infant mortality rate was 106 and the neo-natal mortality rate 32·7 ; similarly Richmond Hill, with a density of population of 94·5 per acre had an infant mortality rate of 87 and a neo-natal mortality rate of 36·2. On the other hand Far Headingley, a good class residential ward with a density of population of 3·4 per acre had an infant mortality rate of 40 and a neo-natal mortality rate of 33·1.

The accompanying table with birth-rate, infant mortality rate, neo-natal mortality rate and density of population per acre shown for each ward makes an interesting study in comparisons.

In cases of stillbirth and death in early infancy, follow-up visits were paid at intervals of six months, and the mother advised what to do, to avoid a similar result in the event of her again becoming pregnant.

The death-rate in the first four weeks of life, *i.e.*, the neo-natal mortality, has been reduced by only 17·4 per cent. as compared with the five year period 1905-1909, whereas the infant death-rate as a whole in the same period has been reduced by 41·7 per cent. The saving of life in the first month has therefore been less than one-half of what it has been in the subsequent eleven months. Until ante-natal supervision becomes the rule rather than the exception there is little hope of reducing either the neo-natal deaths, the stillbirths or the maternal deaths.

Post Natal Supervision.—There is no separate post-natal clinic for mothers, but if any abnormality is suspected when a mother makes her first attendance with her infant, she is referred to the ante-natal clinic for examination, and if treatment is required sent to her own doctor or to hospital.

Mothers whose health would be likely to be impaired by further pregnancies are referred to the Gynaecological clinic at

the Maternity Hospital where they receive advice and instruction in the use of contraceptives in accordance with the recommendations of the Ministry of Health embodied in Memorandum 153/M.C.W.

Home Visiting.—The total number of visits paid by the health visitors during the year amounted to 122,728.

A complete summary of the work of the health visitors is appended.

	VISITS.
Notified births including re-visits	95,277
Stillbirths and deaths under one month including re-visits	655
Death investigations of children from one month–five years	650
Ophthalmia Neonatorum	82
Measles	5,149
Whooping Cough	1,073
Pneumonia	1,483
Epidemic Diarrhœa..	–
Expectant Mothers	4,290
Special visits (medical aid claims 604, cancer 42, and others 516)	1,162
Visits to ill children notified from the Leeds General Infirmary and Public Dispensary..	702
Visits to children under the Children and Young Persons Act, 1908-1932	860
Ineffectual visits	11,345
Total visits for the year	122,728

Although children are not brought to the Infant Clinics so regularly after the age of two years, they are kept under surveillance by the health visitors right up to the age of five years. Regular medical inspection of every child—even once a year—from two to five years would necessitate a much augmented medical staff, and although the health visitor's examination cannot compare with a full medical inspection, children with defects or suspected defects are always referred for advice and treatment to their own doctor, the doctor at the Welcome, or to the Leeds General Infirmary or Dispensary; very few escape attention. It does not follow, however, that the advice given is always followed or that the child does in fact receive the treatment recommended.

Infant Life Protection.

Children and Young Persons Acts, 1908-1932.

Children Nursed for Hire or Reward during the Year 1933.

Number of foster-mothers on the register at the beginning of the year	102
Number of foster-mothers on the register at the end of the year	117
Foster-mothers with one child	111
Foster-mothers with two children	5
Foster-mothers with three children	1

Number of children on the register at the beginning of the year	131
(This includes 20 children who had attained the age of 7 years who were re-entered until 9 years).	
Number of children placed on the register during 1933	65
Number of children who ceased, during the year to come under the provision of this Act	72
Number of children on the books at the end of the year	124

Details as to the Number of Children who Ceased, during the Year, to come under the Provisions of the Children and Young Persons Acts, 1908-1932.

Returned to parents or relatives	33
Attained the age of 9 years	8
Adopted without payment	10
Sent to special homes, etc.	11
Removed to other districts	10
Total	72

Infant Life Protection.—During the year 860 visits were paid to boarded out children by the health visitors who are also the Infant Protection Visitors for the purposes of the Children and Young Person Acts, 1908-1932.

Proceedings were taken in two cases under Section 67 1(*a*) and 1 (*b*) ; in one case the order for removal was obtained from a Justice, in the other from the Court.

Infant Welfare Centres or Welcomes.—There are 20 infant welfare centres situated in different parts of Leeds.

On December 5th the St. Nicholas Welcome was transferred to new and better premises in Goodman Street. These premises are not only more commodious but the accommodation is better suited to the needs of the work. By the change a long felt want has been supplied.

The necessity for providing more suitable and accessible premises at Middleton is very urgent, and it is hoped that it will be possible to do something at an early date to meet the situation which every year becomes more pressing.

The number of new babies under one year of age admitted to the Welcomes during 1933 was 4,205, between one and two years 448, and between two and five years 794. Of the total children born during the year 63·3 per cent. attended at one or other of the Welcomes as compared with 62·6 for last year. The total number of names on the registers at the Welcomes at the end of the year was 9,715 as compared with 10,023 in 1932, and the total attendances of all babies at all the Welcomes during the year was 113,234, which includes attendances at the morning treatment clinics. This is a decrease of 1,549 compared with the figure for 1932.

The mortality rate of infants attending the Welcomes was 35, as against 81 for the city, which again proves that the Welcome child has a better chance of survival and is likely to attain a much higher standard of physical fitness than the child who does not attend a Welcome.

Infant Consultations.—The number of infant sessions at six of the Welcomes is 3 per week, at eight 2 and at six one. In addition special sessions for massage and treatment of minor ailments are held at 12 Welcomes.

Babies under One registered during year 1933.

Welcome.	0–1 month.	1–3 months.	3–6 months.	6–12 months.	Total.
Ellerby ..	132	85	16	12	245
West Street ..	102	107	29	25	263
Burmantofts ..	95	156	14	13	278
Hunslet ..	95	72	18	20	205
University ..	87	95	30	18	230
Woodhouse ..	122	82	26	18	248
Holbeck ..	145	92	24	32	293
Armley ..	119	117	27	50	313
Chapeltown ..	96	124	29	44	293
St. Nicholas	118	84	21	16	239
Bramley ..	49	62	9	30	150
New Wortley	104	73	9	22	208
Middleton ..	81	28	13	41	163
Meanwood ..	20	50	14	9	93
West Hunslet	97	114	33	27	271
Harehills ..	63	106	30	28	227
Cross Gates ..	26	37	7	20	90
Burley ..	80	95	34	19	228
Halton ..	30	44	7	12	93
Kirkstall ..	24	36	5	10	75
Totals ..	1,685	1,659	395	466	4,205

Babies over One registered during year 1933.

Welcome.	1–2 years.	2–3 years.	3–4 years.	4–5 years.	Total.
Ellerby ..	19	11	15	12	57
West Street ..	39	32	14	9	94
Burmantofts ..	29	11	8	4	52
Hunslet ..	13	14	12	8	47
University ..	23	22	12	11	68
Woodhouse ..	28	19	20	5	72
Holbeck ..	29	22	13	12	76
Armley ..	42	28	32	27	129
Chapeltown ..	40	28	32	10	110
St. Nicholas ..	14	17	16	10	57
Bramley ..	10	5	12	4	31
New Wortley ..	20	11	11	9	51
Middleton ..	25	22	10	9	66
Meanwood ..	6	8	11	6	31
West Hunslet ..	23	22	10	4	59
Harehills ..	25	29	15	7	76
Cross Gates ..	15	6	5	7	33
Burley ..	23	22	12	2	59
Halton ..	13	14	16	6	49
Kirkstall ..	12	6	5	2	25
Totals ..	448	349	281	164	1,242

Attendances made at Infant Welfare Centres during year 1933.

Welcome.	Consultations and meetings.			Morning treatment.			
	Mothers.	Babies under 1 year.	Babies 1—5 years.	Mothers.	Babies under 1 year.	Babies 1—5 years.	Callers.
Ellerby ..	4,945	2,649	1,375	4	394	34	147
West Street ..	2,136	3,872	3,214	108	607	724	139
Burmantofts ..	3,953	3,660	2,438	246	1,442	528	4
Hunslet ..	3,005	3,687	2,873	6	540	90	91
University ..	3,010	2,859	2,849	74	766	114	294
Woodhouse ..	3,158	3,507	1,838	28	330	98	19
Holbeck ..	2,723	4,631	3,265	212	1,191	222	212
Armley ..	2,587	3,612	2,837	519	1,435	1,901	611
Chapeltown ..	2,621	3,245	2,210	—	635	41	46
St. Nicholas ..	3,440	2,925	1,737	23	604	67	509
Bramley ..	937	2,006	1,655	8	309	61	137
New Wortley ..	1,464	2,835	1,835	122	948	400	88
Middleton ..	1,458	2,016	1,892	—	184	63	3
Meanwood ..	103	1,181	946	2	174	1	6
West Hunslet ..	1,835	4,281	2,622	2	595	110	—
Harehills ..	623	3,373	1,779	—	430	4	15
Crossgates ..	346	949	820	—	88	5	8
Burley ..	683	3,148	1,802	—	395	134	22
Halton ..	438	1,290	1,444	2	148	500	54
Kirkstall ..	71	844	738	11	152	31	2
Totals ..	39,536	56,570	40,169	1,367	11,367	5,128	2,407

Clinics for the treatment of mothers and babies by artificial sunlight are held at Central, Armley, Holbeck and Hunslet Welcomes.

Dental, Orthopædic, Venereal Disease and Immunisation clinics are held at Central Clinic.

Sewing and cookery classes are organised in connection with the Welcomes. As regards the cookery classes it is a matter of regret that the interest of the mothers in some of the districts is lukewarm. Those who attend are eager to learn, and it is to be hoped that these classes will be extended, as the good and economical preparation of food is a fundamental need of family life and it need hardly be stressed is a vitally essential factor in the successful rearing of children.

Medical Findings at the Welcomes.—The table on page 158 gives details of the condition of children on their admission to the Welcomes during 1933 with the percentages of normal children for each clinic. It will be noted that the average percentage of normal children at their first attendance for all clinics was 56·3 per cent., which does not differ greatly from the figure for the previous year. The table on page 159 indicates the defects discovered during the year, with in addition the number of attendances made by each child. The total number of defects was 8,167. The largest groups were minor digestive disorders 1,918, debility and malnutrition 1,187, bronchitis 969, and rickets 856. These are very similar to the figures for previous years. Minor defects are treated at the Welcomes, the more serious were referred to the family doctor—if there was one—or to the hospitals.

Adenoids and Enlarged Tonsils Investigation.—This investigation was continued as in previous years.

Leeds Babies' Welcome Association.—The Maternity and Child Welfare Department continued to work in close co-operation with the Leeds Babies' Welcome Association during the year. The work of the Association is worthy of high commendation. The services of the voluntary workers at the Welcomes continues to be most helpful and much appreciated.

Defects discovered in New Cases on Admission to the Clinics, in 1933.

Condition.	Ellerby.	West Street.	Burmantofts.	Hunslet.	University.	Woodhouse.	Holbeck.	Armley.	Chapeltown.	St. Nicholas.	Bramley.	New Wortley.	Middleton.	Meanwood.	West Hunslet.	Crossgates.	Harehills.	Burley.	Halton.	Kirkstall	Total.
Normal	148	197	151	113	151	101	167	223	190	146	98	111	104	88	175	60	148	178	62	35	2,646
Malnutrition	27	11	50	28	15	94	24	5	30	38	16	10	9	6	11	12	16	55	20	15	492
Debility	7	42	4	1	10	6	4	46	14	4	3	2	4	..	8	1	12	7	5	1	181
Rickets	7	24	11	8	10	13	9	17	19	16	4	3	6	5	9	8	9	12	1	7	198
Minor digestive disturbances	38	32	60	26	5	75	34	46	6	16	18	25	1	3	22	7	15	14	4	8	455
Enlarged Tonsils and Adenoids	..	3	..	3	1	14	3	11	..	1	1	..	..	..	6	..	..	1	1	2	47
Developmental defects	4	8	8	13	6	73	15	6	6	7	5	22	2	3	22	2	5	4	9	..	220
Skin diseases	3	2	6	7	2	6	11	7	4	9	5	9	1	2	9	1	3	2	2	4	95
Bronchitis	4	4	2	7	3	18	3	2	6	8	1	4	1	2	..	2	2	3	2	1	75
Phimosis	..	..	..	..	15	..	..	3	12	1	..	..	16	..	..	3	8	..	..	4	62
Dental Caries	..	2	2	1	1	11	6	7	1	7	1	2	..	..	3	1	1	1	3	3	53
Infant feeding difficulty	4	..	3	..	..	..	11	..	..	..	..	18	..	4	23	..	..	..	..	11	74
Inflammatory eye conditions	2	7	3	6	3	3	13	12	5	9	..	4	2	1	2	1	4	1	1	..	79
Umbilical Hernia	..	8	..	..	14	..	1	9	23	..	1	1	5	1	..	..	10	..	..	3	76
Otorrhoea	1	5	..	1	1	4	..	6	..	1	1	..	..	..	..	..	1	..	..	..	21
Prematurity	6	..	5	4	4	..	8	1	5	2	3	5	..	..	7	2	1	4	1	3	61
Squint	..	..	..	..	..	..	1	2	..	..	..	2	..	1	..	..	..	1	..	..	7
Infectious Diseases	..	..	2	1	..	..	2	..	..	..	1	..	..	..	..	..	..	1	..	..	7
Acute Gastro Enteritis	..	1	2	1	1	..	1	3	1	2	..	..	..	..	1	..	2	..	..	1	16
Granulating Umbilicus	..	..	..	..	..	..	6	..	..	..	..	6	..	..	8	..	1	..	..	..	21
Infantile Paralysis	2	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	5
Nocturnal Enuresis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	3
Cervical Adenitis	..	1	..	..	..	1	..	3	..	..	..	..	..	..	1	..	1	..	..	..	8
Mental Deficiency	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	5
Abscess or minor sepsis	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	3
Mongol	..	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	..	..	..	..	4
Worms	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Stomatitis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	2
Venereal Disease	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Nasal Catarrh	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Miscellaneous	..	4	2	3	..	4	3	3	1	3	..	5	..	1	2	2	4	3	3	6	49
Total Defects	254	352	314	225	242	425	325	415	323	272	158	229	152	118	310	102	243	291	117	104	4,971
Total number of cases included in the above	248	322	309	224	240	340	287	381	323	264	154	215	152	116	287	102	243	285	114	100	4,697
Percentage of Normal Children	59·7	61·2	50·3	50·4	62·9	29·7	58·2	58·5	58·8	55·3	63·6	51·6	68·4	75·9	61·0	58·8	60·9	62·5	54·4	35·0	56·3

Average percentage of normal children for all clinics is 56.3%

Medical findings at the Infant Welfare Centres during 1933 and Results.

Attendances for Medical Examination.	One to five attendances.				Six to ten attendances.				Ten to twenty attendances.				Over twenty attendances.				Totals.
Result.	Cured.	Improved.	In *statu quo.*	Referred elsewhere and/or result unknown.	Cured.	Improved.	In *statu quo.*	Referred elsewhere and/or result unknown.	Cured.	Improved.	In *statu quo.*	Referred elsewhere and/or result unknown.	Cured.	Improved.	In *statu quo.*	Referred elsewhere and/or result unknown.	
Defect—																	
Malnutrition	10	148	111	77	43	150	38	6	36	127	22	4	14	11	..	..	797
Debility	5	72	59	44	8	84	14	4	12	51	17	..	8	9	2	1	390
Minor digestive disturbances	358	122	79	113	478	87	16	12	452	69	5	2	96	26	3	..	1,918
Rickets	27	170	135	132	28	155	43	11	18	94	15	4	5	18	1	..	856
Skin diseases	124	19	21	60	187	29	5	16	162	25	7	6	16	2	1	..	680
Bronchitis	195	42	40	32	264	26	11	9	243	35	7	6	43	15	1	..	969
Developmental defects	43	48	81	76	78	42	33	28	53	30	21	14	5	2	1	2	557
Enlarged tonsils and adenoids	14	7	79	66	11	6	50	14	3	3	25	2	1	..	4	..	285
Inflammatory eye conditions	49	14	10	9	61	7	..	3	61	1	1	..	11	2	..	..	229
Otorrhoea	42	7	12	16	60	16	4	3	49	8	2	3	18	8	..	..	248
Dental caries	28	1	36	53	6	3	16	7	1	..	5	1	..	..	1	1	159
Infectious disease	94	3	..	5	76	2	4	4	46	1	..	1	11	1	..	..	248
Acute gastro enteritis	47	3	3	6	64	4	..	3	79	3	..	2	10	..	..	..	224
Umbilical hernia	18	7	21	12	24	4	4	1	5	3	2	1	3	..	1	..	106
Phimosis	27	2	14	11	22	..	6	3	13	..	4	4	2	..	..	..	108
Squint	..	4	13	13	2	4	6	6	..	5	6	..	..	..	1	..	60
Adenitis	10	9	5	12	8	8	2	2	6	4	1	4	3	3	..	..	77
Mental deficiency	..	..	6	7	..	1	3	1	..	..	..	..	..	..	..	..	18
Tuberculosis	1	..	2	3	1	1	..	1	..	1	..	..	..	..	..	..	10
Rheumatism	..	..	..	..	1	..	..	1	..	1	1	..	..	..	1	..	5
Pneumonia	3	..	..	2	4	..	..	1	2	4	..	..	..	..	..	..	16
Worms	3	..	..	..	..	1	..	..	1	..	..	..	1	..	..	..	6
Infant paralysis	..	1	1	1	..	1	..	1	..	1	..	..	..	..	..	..	6
Pyelitis	1	1	..	1	2	..	..	..	1	..	..	..	..	..	..	..	6
Granulating Umbilicis	13	1	..	1	11	..	..	..	7	..	..	..	..	..	..	..	33
Stomatitis	7	..	..	..	8	..	..	..	9	..	..	..	..	..	..	..	24
Anæmia	..	3	3	1	1	2	1	..	1	2	2	..	..	..	..	..	16
Mongol	..	1	2	1	..	1	..	..	..	..	..	..	..	..	..	..	5
Pink disease	1	..	..	2	..	..	1	1	..	..	..	..	..	..	..	..	5
Enuresis	..	1	..	2	2	..	..	..	..	1	..	..	..	..	..	..	6
Miscellaneous	8	5	15	8	8	10	9	9	12	6	1	5	2	2	..	..	100
Totals	1,128	691	748	766	1,458	644	266	147	1,272	475	144	59	249	99	17	4	8,167

I take this opportunity of extending the thanks of the Maternity and Child Welfare Committee and the Health Department to the Association—President, Officers, Members of Committee and helpers generally—for their valuable work during the year and for their constant interest and support.

Central Clinic.—On July 18th the temporary premises in Calverley Street had to be vacated on the completion of the Civic Hall and as there was difficulty in obtaining suitable alternative premises immediately temporary arrangements had to be made. The Education Department kindly offered their assistance and the dental clinic was temporarily transferred to the East Leeds School Clinic while the orthopædic clinic was held in the premises of the Central School Medical Clinic at the Education Offices. We are grateful to the Education Department for these facilities.

On November 20th, the Central Clinic moved into new premises at 26 Great George Street. These have since had to be vacated and the work is now being done at 8 Park Square (26-28 Park Cross Street).

Artificial Sunlight Treatment.—Central and three of the Welcomes are equipped with Mercury Vapour lamps for treatment with ultra-violet light. Sessions are held twice weekly. The best results are obtained in the treatment of rickets, malnutrition, catarrhal conditions and the debility following acute infections, it is also used for preventative reasons. The mother of a child is often so much convinced of the improvement in his condition that she will bring him regularly at some personal inconvenience and often regrets his discharge at the end of a course. Unfortunately, the indifference which may have led to the development of a severe type of rickets in a child may lead to irregular attendance or failure to attend before cure is complete.

Central.—A total of 265 children had artificial sunlight treatment at this clinic during the year. The attendances during the year of all cases were as follows :—babies under one year 15, children between one and five years 3,173, a total of 3,188.

Holbeck.—During the year a total of 284 children and 6 mothers received treatment. The total number of treatments was as

follows :—Mothers 72, babies under one year 238, and children between one and five years 2,492, a total of 2,802.

The cases for X-Ray examination were mostly rickety children for diagnosis and progress during treatment, orthopædic cases, and ante-natal cases where abnormality was suspected. The total number examined during the year was 165.

Armley.—There were 115 children and 9 mothers treated during the year. Altogether 54 attendances were made by mothers. 136 by babies under one year, 1,740 by children one to five years, a total of 1,930.

Hunslet.—During the year a total of 127 children received treatment. The attendances were as follows :—babies under one year 341, children from one to five years 1,919, total 2,260.

Orthopædic Clinic.—A total of 340 children and 2 mothers attended this clinic during the year. Most cases were re-examined in three months' time or less and their progress ascertained. The total number of attendances at the clinic was 410, an average of 17 per session.

The following table gives an indication of the type of case referred to the clinic :—

General Rickets	14
Genu valgum	140
Genu varum	44
Talipes	33
Flat feet	14
Deformities of hips	11
Deformities of spine	10
Torticollis	9
Different types of paralysis	22
Miscellaneous	43
	340

Fifteen cases were referred to Hospital for operation and 41 were transferred to the school orthopædic clinic on reaching the age of five years. Appliances were supplied in 41 cases at a cost of £31 7s. of which £11 13s. 9d. was refunded by the parents. There are four trained masseuses attending regularly at the Welcomes, two of whom do artificial sunlight treatment as well as massage. There is also a voluntary masseuse who does one session a week at Halton. During the year 14,501 massage treatments were given.

There are ten beds reserved for the use of the Corporation in connection with the orthopædics at the Marguerite Home, Thorp Arch, and during the year an average of eight beds were occupied per week.

Dental Clinic.—The total number of patients who received dental treatment during the year was 600, and included 152 expectant mothers, 282 mothers and 166 children.

The number of treatments was:—expectant mothers 1,265, mothers 6,160, and children 685, a total of 8,110. Dentures were supplied to 300 mothers, of which 135 were full upper and lower dentures, 31 full upper only, 7 full lower only, 19 full upper and partial lower, 5 full lower and partial upper, and the remainder (103) partial plates, remodels and repairs.

The total cost to the Corporation was £319 6s. of which £318 17s. 3d. was recovered from the patients.

Venereal Diseases Clinic.—The total number of patients referred to this clinic during the year was 56 and included 10 expectant mothers, 36 mothers and 10 infants. During the three months when the Central Clinic was closed, the patients were dealt with at the Leeds General Infirmary.

Milk Distribution.—Particulars respecting the amount of liquid and dried milk supplied to necessitous mothers attending the Welcomes are given in the appended tables.

The Almoning Committee met on 50 occasions and considered 7,761 applications, a similar figure to that of the previous year. In addition it supervised generally the work of the almoners and milk staff, details of which appear on page 163.

Work of Milk Staff.

	I. Quarter.	II. Quarter.	III. Quarter.	IV. Quarter.	Year.
Applications dealt with (new)	458	392	410	344	1,604
,, ,, (repeat)	4,744	3,912	4,225	3,707	16,588
,, ,, (refused)	..	..	..	..	..
No. of re-applications ..	174	126	137	141	578
*No. of external cases dealt with at the office ..	256	181	194	211	842
	5,632	4,611	4,966	4,403	19,612
No. of visits to Welcomes paid by the milk secretaries	166	142	167	154	629

* Persons under treatment at the Public Dispensary and the General Infirmary.

Cost of Milk Distribution Scheme for Year ended 31st December, 1933.

Expenditure	£	s.	d.	Income.	£	s.	d.
By salaries and wages	613	18	6	To cash received for sale of dried milk	2,475	3	2
,, Cost of dried milk	4,939	11	6				
,, Cost of cows' milk	774	1	4				
,, Printing, stationery, etc... ..	47	3	0				
,, Superannuation Contributions ..	29	13	8				
,, Sundries	11	6	9	,, balance—loss ..	3,940	11	7
	£6,415	14	9		£6,415	14	9

Nett cost per head to Corporation, £0 15s. 9d.

Amount of Dried Milk Distributed in Lbs. (Year 1933).

Welcome.	Free.	Assisted.	Full Price.	Issued through Public Assistance Committee.	Total.
Ellerby	4,184¾	2,060	576	650	7,470¾
West Street ..	3,497	1,187	563¾	550¾	5,798½
Burmantofts ..	4,433¼	1,446¾	1,377	761½	8,018½
Hunslet	2,209	1,447½	805	934	5,395½
University ..	2,899½	1,020¾	779½	565½	5,265¼
Woodhouse ..	2,715	1,152	1,271	508	5,646
Holbeck	2,890¼	1,518	921¾	477	5,807
Armley	1,561	625	398	104	2,688
Chapeltown ..	3,305¾	1,451½	1,745¾	373	6,876
St. Nicholas ..	2,605½	1,385	494	470	4,954½
Bramley	772	664	846	16	2,298
New Wortley ..	2,474	846¼	610½	195	4,125¾
Middleton ..	2,511	610	233¼	185	3,539¼
West Hunslet ..	1,561	753	1,468	109	3,891
Burley	375	218	288	3	884
Crossgates ..	308	259	237	12	816
Halton	264	102	567	46	979
External ..	647	198	27	124½	996½
Totals ..	39,213	16,943¾	13,208½	6,084¼	75,449½

Number of Recipients, Year 1933 (Dried Milk).

Welcome.	Free.	Assisted.	Full Price.	Total.
Ellerby	260	116	38	414
West Street	207	56	29	292
Burmantofts	286	90	68	444
Hunslet	174	96	59	329
University	189	66	43	298
Woodhouse..	184	78	81	343
Holbeck	163	102	62	327
Armley	116	37	25	178
Chapeltown	228	84	102	414
St. Nicholas	210	94	48	352
Bramley	52	43	66	161
New Wortley	142	45	36	223
Middleton	133	37	21	191
West Hunslet	91	33	102	226
Burley	24	10	21	55
Crossgates	19	12	20	51
Halton	21	7	43	71
External	107	20	6	133
Totals	2,606	1,026	870	4,502

Amount of Cows' Milk Distributed in Pints. (Year 1933).

Welcome.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	Total.
Ellerby	3,615	1,951	549	..	6,115
West Street ..	2,067	147	51	..	2,265
Burmantofts ..	3,824	1,337	404	..	5,565
Hunslet	1,661	1,254	105	..	3,020
University ..	3,282	798	76	..	4,156
Woodhouse ..	2,242	1,075	252	..	3,569
Holbeck	797	211	..	..	1,008
Armley	878½	119	442	..	1,439½
Chapeltown ..	3,364	1,448½	556	..	5,368½
St. Nicholas ..	2,612½	302	174	..	3,088½
Bramley	908	524	252	..	1,684
New Wortley ..	1,115½	211	36	..	1,362½
Middleton ..	2,961	28	563	..	3,552
West Hunslet ..	1,059	42	..	..	1,101
Burley	604	129	..	..	733
Crossgates ..	778½	22	..	..	800½
Halton	1,029	162	14	..	1,205
External ..	3,302	153½	8	..	3,463½
Totals ..	36,100	9,914	3,482	..	49,496

Number of Recipients Year 1933.

Welcome.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	Total.
Ellerby	29	15	6	..	50
West Street ..	15	1	3	..	19
Burmantofts ..	34	10	5	..	49
Hunslet	22	11	4	..	37
University ..	25	9	3	..	37
Woodhouse ..	25	7	5	..	37
Holbeck	14	3	..	..	17
Armley	8	2	4	..	14
Chapeltown ..	41	11	9	..	61
St. Nicholas ..	18	5	3	..	26
Bramley	8	5	3	..	16
New Wortley ..	12	3	1	..	16
Middleton ..	23	1	5	..	29
West Hunslet ..	11	1	..	..	12
Burley	6	2	..	..	8
Crossgates ..	5	1	..	..	6
Halton	5	1	1	..	7
External ..	47	6	1	..	54
Totals	348	94	53	..	495

During the year the amount of dried milk distributed in Leeds amounted to 30·97 tons, of which 17·51 tons were given free to 2,606 mothers and babies and 13·46 tons were supplied at full or assisted rates to 1,896 mothers and babies. In 1932 the corresponding figures were 21·3 tons given free to 2,635 persons, and 13·4 tons supplied at full or assisted rates to 1,747 persons.

In addition 2·72 tons were distributed at the Welcomes to cases in receipt of Public Assistance, as compared with 2·03 tons for 1932. The cost of milk supplied to Public Assistance cases is defrayed by the Public Assistance Committee.

The amounts of fresh cows' milk distributed during the year were 4,512 gallons free to 348 babies and 1,674 gallons at full or assisted rates to 147 babies; in 1932 the corresponding figures were 3,609 gallons free to 242 babies, and 1,650 gallons at full or assisted rates to 131 babies.

TOTAL ATTENDANCES OF RESIDENT AND DAY CHILDREN AT THE NURSERIES, IN AGE GROUPS FOR THE YEAR ENDED 31ST DECEMBER, 1933.

Nursery.	Whole attendances.				Half attendances.			
	Under 3 years.	3-5 years.	Over 5 years.	Total.	Under 3 years.	3-5 years.	Over 5 years.	Total.
Red House Residential Nursery ..	9,602	..	..	9,602	..	..	..	..
Cobden Place Day Nursery	7,128	1,786	..	8,914	756	170	..	926

THE INFANTS' HOSPITAL, WYTHER.

The accommodation and staffing of the Hospital were the same as in previous years.

Details of the work of the Hospital are given in the attached tables. It will be seen that the children dealt with were principally those suffering from rickets, dietetic disorders, malnutrition and marasmus with various accompanying ailments. There were also several cases referred from the Orthopædic clinic, the General Infirmary and the Public Dispensary.

Day Nursery.—The number of children admitted for the first time during the year was 47 as compared with 45 for the previous year. The total attendances are given in the accompanying table.

Residential Nursery.—There were 25 children in residence on January 1st, 1933; 85 were admitted during the year, 87 were discharged and 23 remained in residence on December 31st, 1933. Ten of the children were illegitimate. The reasons for other admissions were as follows:—In 45 cases mothers expecting confinement, in 29 cases illness of mother, in eleven cases death of mother, in nine cases mothers going for convalescence, in two cases mothers deserted, in two cases mothers out at work, in one case the mother was in prison, and in one case the father was ill.

On December 7th, the Nursery was transferred to new premises at Spring Bank, Headingley Lane. This house is larger, better situated and much superior to the previous nursery in every way. The accommodation allows for 36 children, with also an isolation ward for four children. An additional probationer nurse and maid were required. The staff now consists of Matron, sister, 10 probationers, three maids, a gardener and a boy.

I should like once more to express my own appreciation, and that of the Maternity and Child Welfare Committee, of the work of the Executive Committee of the Day and Residential Nurseries whose services given ungrudgingly have been of great value.

Summary of cases treated in the Infants' Hospital, Wyther.

	Males.	Females.	Total.
Remaining in Hospital, January 1st, 1933	20	25	45
Admitted during the year ..	63	66	129
Discharged during the year ..	55	69	124
Died during the year	2	3	5
Remaining in Hospital, December 31st, 1933	26	19	45

Mortality rate per cent. on admissions 3·9. Average stay in Hospital 95 days.

Classification of Admissions according to age and sex.

Males.		Females.		Total Infants.		Grand Total.
Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	
17	46	12	54	29	100	129

Analysis of Deaths during 1933.

Cause.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Prematurity	1	..	..	..	1
Severe Marasmus	..	1	..	..	1
Pyelitis	..	1	..	..	1
Congenital Heart Disease and Malnutrition	1	..	..	..	1
Gastro Enteritis	..	1	..	..	1
Total	2	3	..	..	5

Analysis of Cases Treated during 1933.

Reason for admission.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Rickets	..	..	11	10	21
Rickets and Bronchitis	..	..	2	..	2
Rickets and Malnutrition	..	..	5	1	6
Osteoclasis (rickets)	..	..	3	3	6
Spinal Kyphosis (rickets)	..	..	4	5	9
Rickets with marked deformity	..	..	12	11	23
Malnutrition	1	1	12	20	34
Malnutrition and Pyelitis	..	1	..	1	2
Malnutrition and Bronchitis	2	2	3	9	16
Malnutrition and Mental Deficiency	..	..	1	1	2
Marasmus	7	9	..	2	18
Marasmus and Infantile Eczema	2	1	..	..	3
Marasmus, Bronchitis and Otorrhœa	1	..	1	..	2
Marasmus—Mucous Colitis	1	..	..	..	1
Marasmus, Bronchitis and Enteritis	1	1	..	..	2
Severe Anæmia	..	..	1	..	1
Anæmia, Cervical Adenitis and Tape Worm	..	..	..	1	1
Dietetic	1	3	..	1	5
Broncho Pneumonia	2	..	1	..	3
Unresolved Pneumonia	..	..	2	..	2
Congenital Dislocation of Hip	..	..	..	3	3
Perthe's disease of Hip	..	..	2	..	2
Tuberculosis of Knee	..	..	..	1	1
Tuberculous Cervical Adenitis and Malnutrition	..	..	..	1	1
Prematurity	1	..	..	..	1
Congenital Heart Disease	1	..	..	2	3
Acute Otitis Media	1	..	..	..	1
Gastro Enteritis	..	1	..	..	1
Congenital Syphilis	1	..	..	..	1
Pink Disease	..	..	1	..	1
Total	22	19	61	72	174

Convalescent Treatment for Mothers and Babies.—As in previous years the arrangement for the convalescence of mothers with babies through the Leeds Convalescent Society was continued on behalf of the Maternity and Child Welfare Committee. Three beds were reserved by them at the Home at Withernsea for Leeds mothers with babies, the remainder being sent to different seaside and country homes.

Convalescence was arranged for 96 mothers with babies and 10 mothers without babies. The average period of stay at the Convalescent Homes was 14·3 days. The nett cost to the Corporation of this provision was £448 19s. 3d. or an average of £2 1s. 5½d. per case, per week.

In addition to the above, 154 children under 5 years were sent for convalescence to Meanwood Convalescent Home. The average stay of each child was 22·1 days and the cost to the Corporation was £3 6s. 1½d. per case. The total cost to the Corporation was £526 10s. of which £15 7s. was refunded by the parents.

Health Week.—October 8th to 14th.—The educational work of the Maternity and Child Welfare Department goes on continuously during the year, but during Health Week special additional efforts are made. In 1933 special health talks were given by the doctors at the clinics and also by a representative from the National Milk Publicity Council. Leaflets dealing with ante-natal care and other matters were distributed to the mothers at the Welcomes.

The Leeds Babies' Welcome Association co-operated in this propaganda. Competitions were held at all the Welcomes in the making and renovating of children's garments. An exhibition of all this work was held in Messrs. Lewis's Warehouse. Two other warehouses also helped. At Messrs. Schofields, in a part of the premises, a model welcome was staged, and helpers attended during the week to explain the work and distribute leaflets to the public. At Messrs. Hitchens, attention was drawn to the toddler; model diets and food values were exhibited in one window and also at the stand inside the premises, where workers explained to the public, the diet and general care of the toddler, and also gave demonstrations in washing, etc.

Other particulars of Health Week are given on page 252.

Inspection and Supervision of Food.

INSPECTION AND SUPERVISION OF FOOD.

INCLUDING REPORTS BY

THE CHIEF VETERINARY OFFICER

and

THE CITY ANALYST.

MEAT INSPECTION

BY

J. A. DIXON, M.R.C.V.S., *Chief Veterinary Officer.*

Tuberculous Carcases.—The number of carcases condemned for tuberculosis during 1933 was as follows :—beef with organs 195, pork with organs 69, and veal with organs 4.

Slaughter-houses.—During the year the number of private slaughter-houses was decreased by one, this being a registered slaughter-house which had fallen into disuse and was removed from the register of slaughter-houses by order of the City Council.

SLAUGHTERHOUSES IN USE.

	Number in use on December 31st.					
	1920	1929	1930	1931	1932	1933
Public Abattoir	1	1	1	1	1	1
Private slaughter-houses (registered)	63	46	44	43	42	41
Private slaughter-houses (licensed)	8	9	8	9	9	9
Knackers' Yards	2	2	2	1	1	1

The inspectors paid a total of 6,917 visits to the 50 private slaughter-houses, an average of 138 visits, or approximately three visits per week, to each slaughter-house.

Although as stated above the number of visits paid to private slaughter-houses gives an average of three visits to each slaughter-house per week, it may be pointed out that as the amount of slaughtering varies so much in the different private slaughter-houses visits of inspection must necessarily vary also. A number of slaughter-houses are visited twice daily, others receive one visit a day, while some in which little work is carried on are sufficiently covered by a weekly inspection or when slaughtering is notified in accordance with the Public Health (Meat) Regulations.

During the year the subject of private slaughter-houses received special notice, there being issued the Report of the Committee on the slaughtering of livestock appointed by the Economic Advisory Council. Although this Committee was appointed primarily to consider what better arrangements could be made for the slaughtering of livestock and the disposal of their carcases, it could not fail to give consideration to the question of private slaughter-houses, and on page 90 of the Report the following observation on private slaughter-houses appears :—

> (55) Meat inspection in private slaughter-houses in England and Wales is admittedly unsatisfactory. There is no uniformity in the standards of inspection or the rigour with which they are applied. Animals likely to be condemned in a public slaughter-house are sent elsewhere. This greatly reduces the value of inspection. The expense of inspection in small scattered slaughter-houses is to blame. The owners should be called upon to meet the cost of inspecting meat killed in their slaughter-houses. The establishment of uniform standards of meat inspection would also be of advantage.

This paragraph endorses the views long held by the Leeds Public Health Department and often expressed in these pages. As will be seen from the foregoing table of slaughter-houses since 1920, the number of private slaughter-houses in the city has been reduced from 71 to 50, but even so they are not disappearing quickly enough. The Committee of the Economic Advisory Council advises the total abolition of private slaughter-houses and the erection of public abattoirs in their place, but as the report of this body, and of another official body as well concerned with the livestock industry,

have not been received with great enthusiasm it is suggested that the City Council should give early consideration to the question of the abolition of all private slaughter-houses within the city by the exercise of the powers granted to them in the Leeds Corporation Act of 1930.

Attention is invited also to the knacker's yard. It must be admitted that although the number of horses in the city has been largely reduced owing to the great increase in the use of mechanical transport, there is still a need for a knacker's yard for the disposal of worn-out and dead horses, and the carcases of other animals not intended for the food of man. The knacker's yard now existing is claimed by the licensed proprietor to have been established more than 100 years and the condition of the structure certainly does not belie this statement. At the time of its erection it was no doubt fairly well isolated but with the industrial and housing development which has taken place in the interval it is now in such close proximity to occupied dwelling-houses as to be a nuisance. No matter how well a business of this sort is conducted by its very nature offence is almost inevitable. In view of the declining prosperity of the business it is unlikely that the licensed occupier will be able to afford to build new and up to date premises, and I suggest that it would be in the interests of the public health for the City Council at its expense to provide suitable premises on a convenient site which could be let at an economic rent to the licensee who would then be able to carry on the trade without creating a nuisance.

ANIMALS SLAUGHTERED IN THE PUBLIC ABATTOIR AND IN PRIVATE SLAUGHTERHOUSES.

	Year.	Cattle.	Calves.	Sheep.	Pigs.	Total.
Public Abattoir ..	1931	21,947	8,330	69,405	4,374	104,056
	1932	22,138	9,194	84,794	6,757	122,883
	1933	24,177	11,916	88,068	6,666	130,827
Private Slaughter-Houses ..	1931	14,625	7,842	54,807	40,345	117,619
	1932	14,183	7,793	67,972	44,292	134,240
	1933	13,745	9,857	65,226	43,213	132,041

Meat and other foods condemned as unsound.—The appended table indicates the amount of diseased and unsound meat and other food condemned and disposed of during the year.

MEAT, ETC., DESTROYED BY CONSENT.

	1933.	1932.	1931.	1930.
Beef	157,182 lbs.	157,181 lbs.	160,380 lbs.	167,752 lbs.
Veal	6,014 ,,	6,826 ,,	6,115 ,,	7,226 ,,
Mutton	11,350 ,,	10,805 ,,	9,213 ,,	10,756 ,,
Bacon and Ham	495 ,,	570 ,,	..	1,338 ,,
Pork	34,413 ,,	33,360 ,,	35,319 lbs.	28,288 ,,
Offals	137,688 ,,	112,236 ,,	96,341 ,,	88,872 ,,
Rabbits	10,859 ,,	15,001 ,,	10,896 ,,	16,059 ,,
Poultry	655 ,,	11,996 ,,	2,119 ,,	1,493 ,,
Game	880 ,,	198 ,,	782 ,,	965 ,,
Cheese	60 ,,	..	..	17,376 ,,
Fish	69,805 ,,	102,653 lbs.	104,649 lbs.	108,230 ,,
Shellfish	21,179 ,,	42,576 ,,	32,889 ,,	48,678 ,,
Fruit	12,272 ,,	7,419 ,,	23,974 ,,	26,707 ,,
Vegetables	87,180 ,,	84,101 ,,	129,908 ,,	92,282 ,,
Edible fungi	2,307 ,,	139 ,,	12 ,,	275 ,,
Inedible fungi	39 ,,	..	..	..
Yeast	..	..	..	709 lbs.
Tinned Goods	13,330 lbs.	6,193 lbs.	4,696 lbs.	3,654 ,,
Sundries	199 ,,	793 ,,	..	560 ,,
TOTALS	565,907 lbs.	592,047 lbs.	617,293 lbs.	621,220 lbs.
No. of Eggs	600	..	..	967

During the year the staff concerned with meat inspection was increased by the addition of an attendant to take charge of the condemned meat room and to keep condemned food deposited there in safe custody. This further help in the control of unsound food has been found to be of great assistance and has released a trained meat inspector for more important duties.

Slaughter of Animals Act, 1933.—At the end of the year there was issued the Slaughter of Animals Act, 1933 which requires, broadly, that all animals slaughtered at slaughter-houses and knackers' yards shall be stunned by a mechanically-operated instrument and that the operation shall be carried out by a person licensed for the purpose. The Act, which came into force on January 1st, 1934, superseded the Byelaw adopted by the City Council in February, 1931, enforcing the use of a mechanically-operated instrument.

Under the provisions of the Act a special resolution was passed by the City Council in December continuing the inclusion of sheep as in the Byelaw.

The Act also enforces the licensing of slaughtermen and it was decided that all slaughtermen operating in the city should be licensed under the supervision of the Health Committee. The number licensed up to the end of the year was 310, all of whom had been approved by the Veterinary Officers.

As regards pigs the Act is peculiar, in that it only applies to slaughter-houses where electrical energy is reasonably available, but even so, the butcher still has a choice between a pistol or an electrical instrument. In this city, and in fact throughout the country, the use of an electrical instrument for the stunning of pigs has made very rapid progress. It has been found that the method is more economical than the use of a captive bolt pistol, and what is more important, the meat is not so liable to be " blood splashed " as when the captive bolt pistol is used. Although electrical stunning has not yet been introduced at the Public Abattoir, it has been installed at each of the private slaughter-houses where the numbers of pigs slaughtered are considerable.

The following cases were taken into court under the Public Health Act, 1875.

THE PUBLIC HEALTH ACT, 1875.
PROSECUTIONS FOR THE YEAR 1933.

No.	Section.	Result of Hearing.	Remarks.
2	Section 117 ..	Fined 20/-	Butcher
	do. ..	Fined 40/-	Employee
1	do. ..	Dismissed	Pig dealer

Shellfish.—The condition of all shellfish coming into the city for sale, continues to receive special attention.

Precautions have been taken to see that shellfish from places scheduled as unsatisfactory under the Shellfish Regulations were not sold within the city.

During the year four samples of mussels were submitted for bacteriological examination and were found to be satisfactory.

Public Health (Meat) Regulations, 1924.—These Regulations continue to be well observed by the butchers in the city.

The following is a summary of the cases taken into Court under the Regulations during the year.

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.
PROSECUTIONS FOR THE YEAR, 1933.

No.	Article.	Result of Hearing.	Remarks.
1	Article 9 ..	Fined 20/- (including costs) ..	Butcher
2	Article 9 ..	Fined 20/-	Butcher
	do. ..	Fined £3	Employee
1	Article 8 ..	Dismissed under the Probation of Offenders Act on payment of 4/- costs	Butcher
2	Article 9 ..	Fined 40/-	Butcher
	do. ..	Dismissed under the Probation of Offenders Act on payment of 4/- costs	Butcher
1	Article 9 ..	Fined £2 each and costs. (Total £6 and costs)	Firm of Butchers

Food Preparing Places.—The following table gives a summary of the work done under Section 44 of the Leeds Corporation Act, 1930.

Applications submitted for registration ..		28
Applications approved :—		
(*a*) Pork butchers	7	
(*b*) Beef butchers	17	
(*c*) Potted meat makers	3	
	——	27
Applications disapproved		1
Number of visits to :—		
(*a*) Food preparing places	878	
(*b*) Restaurants	46	
	——	924

Where a food preparing place is registered under the Factory and Workshops Act it is exempt from the operation of Section 44 which is somewhat unfortunate as the former is concerned not so much with the protection of the food as with the protection of the worker.

DISEASES OF ANIMALS ACTS

BY

J. A. DIXON, M.R.C.V.S., *Chief Inspector and Veterinary Inspector.*

Tuberculosis Order of 1925.—The inspections carried out under the Order involved the examination of 1,574 cows-in-milk, 248 other cows and heifers, and 25 other bovine animals ; 60 animals were slaughtered, all of which on post-mortem examination were found to be diseased, 16 with tuberculosis of the udder, 1 giving tuberculous milk and showing lesions of tuberculosis, 8 with tuberculous emaciation, and 35 with tuberculosis of other organs. The owners of the 60 animals received compensation as follows :— 40 at the lowest rate, namely, one-fourth of the agreed market value, or 30/–, whichever was the greater, and 20 at the rate of three-fourths of the agreed market value.

In addition to dealing with bovine animals suffering from tuberculosis within the city, the Tuberculosis Order empowers the Veterinary Inspector to order the removal from a Market or Auction Mart of any animal which he considers to be effected with the disease within the terms of the Order, and during the year such action was taken with respect to 2 cows, 1 at the Victoria Cattle Market and 1 at Whitkirk Auction Mart. The animals were slaughtered and on post-mortem examination were found to be suffering from tuberculous emaciation and the carcases and organs were condemned.

A comparison of the figures shown in the adjoining return with those of previous years shows that dairy farmers are beginning to appreciate the importance of the early notification of animals which appear to be suffering from tuberculosis. In 1932, 27 reports were received from the owners of cattle as against 44 for 1933 ; in 1932, 18 animals showing definite clinical signs of tuberculosis, were condemned under the Order, while in 1933, 35 such animals were dealt with. It is an advantage to the health both of dairy cows and of the public that diseased cows should be removed and slaughtered before they have had an opportunity of communicating the disease to other cows as well as to the consumers of their milk. It may be said therefore that the Tuberculosis Order is becoming more effective.

ANNUAL RETURN OF THE WORKING OF THE TUBERCULOSIS ORDER OF 1925, FOR THE YEAR ENDING DECEMBER 31ST, 1933, ESTIMATED BOVINE POPULATION .. 2,808.

TOTAL NUMBER OF ANIMALS REPORTED			72
(*a*) By Owner			44
(*b*) By Veterinary Advisor to owner			1
(*c*) By Veterinary Officer acting under the Milk and Dairies Order, 1926			27
ANIMALS EXAMINED			1,847
(*a*) Cows in milk			1,574
(*b*) Other Cows or Heifers			248
(*c*) Other Bovine animals			25
ANIMALS TESTED WITH TUBERCULIN			2
ANIMALS FOUND DISEASED			60
(*a*) Having Tuberculosis of the Udder			16
(*b*) Giving Tuberculous Milk and showing lesions of Tuberculosis			1
(*c*) Suffering from Tuberculous Emaciation			8
(*d*) Affected, but not as in *a*, *b*, or *c*			35
COMPENSATION PAYABLE—	£	s.	d.
(*a*) Full value (0)	0	0	0
(*b*) Three-fourths value (20)	216	15	0
(*c*) One-fourth value or 30/- (40)	106	15	0
Total Compensation	£323	10	0
Total Salvage received	81	6	9
Nett Compensation	242	3	3
Recoverable from Government, 75% of Gross Compensation	242	12	6
ADMINISTRATION EXPENSES—	£	s.	d.
(*a*) 1. Veterinary examinations	0	0	0
2. Cost of tuberculin	0	0	0
3. Notification fees	0	2	6
(*b*) Reference to a Pathological Institute	2	0	0
(*c*) Valuation of Animals slaughtered	0	0	0
(*d*) Cost of travelling	42	0	0
Total Expenses	£44	2	6

Swine Fever Order of 1908.—During the year 56 cases of suspected swine fever were reported to the Ministry of Agriculture and Fisheries, and after investigation, swine fever was declared to exist in 15 cases.

It may be stated here that every case of unexplained death in pigs is regarded as suspected swine fever and duly reported, which accounts for the discrepancy between the cases reported and those found to be positive.

Legal proceedings were taken in three instances against pig keepers in the city for offences under the Order, with the results as shown in the table below.

SWINE FEVER ORDER OF 1908.
PROSECUTIONS FOR THE YEAR 1933.

No.	Article.	Result of Hearing.	Remarks.
1	Article 18 (1) (a)	Summons dismissed	Pigkeeper
1	Article 3 ..	Fined £3 and costs	do.
1	Article 1 ..	Fined £5 and costs	do.

During the year an improvement was made in the method of disposal of the carcases of pigs dealt with under the Swine Fever Order. The City Council has undertaken the removal and disposal of all such carcases, while the Ministry of Agriculture and Fisheries has undertaken to reimburse the Council for dealing with the carcases of all pigs upon which the Ministry's Veterinary Inspectors have made post-mortem examinations. It is considered that this alteration of procedure will considerably limit the possibilities of contagion being spread to other pig-keeping premises.

Regulations of Movement of Swine Order of 1922.—The administration of this Order has necessitated the issuing of 1,262 licenses for the dispersal of 10,032 pigs from the Whitkirk Auction Mart, whilst 1,595 visits were made to pig-keeping premises to ascertain whether the recently removed store pigs were detained and isolated for the appropriate period.

During the year four store pigs were removed from the Whitkirk Auction Mart on account of illness by licence of the Veterinary Officer and were returned to the premises from which they had been brought. Swine fever was subsequently found to exist on these premises.

No proceedings were taken during the year for infringements of the Order.

Parasitic Mange Orders of 1911 and 1918.—One horse was dealt with under the Orders during the year. The animal was inspected weekly by the Chief Veterinary Officer until it had recovered and was then released from restrictions.

Exportation and Transit of Horses, Asses and Mules Order of 1911.—The exportation of the carcases of horses to ports on the Continent has, for the present, become unremunerative, and during the year no animals were despatched from the city for slaughter at British ports for this purpose.

Anthrax Order of 1928.—Although during the year 5 cases of suspected anthrax were reported from different farms in the city, in no case was the presence of the disease confirmed by microscopic examination of the blood.

Sheep Scab Order of 1928.—No case of sheep scab occurred in the city during the year, although one suspected case was reported at premises at Alwoodley which on investigation proved to be not sheep scab, but a verminous condition due to neglect.

Contact sheep to the number of 172 were received for immediate slaughter in the city and the skins were immersed in an approved sheep dip in accordance with the Order.

Foot-and-Mouth Disease Order of 1928.—No case of this disease occurred in the city during the year, and the city was not affected by the various Orders made by the Ministry of Agriculture and Fisheries in connection with outbreaks of foot-and-mouth disease in other parts of the country.

Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1933.—The administration of this Order has entailed the issuing of 1,123 licenses for the removal from the Victoria Cattle Market of 5,147 cattle and 234 sheep recently landed from Ireland. In addition to these, 469 movement licences were issued for the movement of 3,847 cattle and 9,787 sheep recently landed from Ireland, but dispersed without passing through the Victoria Cattle Market.

Irish store cattle to the number of 258 and 1 Jersey cow and calf were received in the city, and these were all duly inspected on arrival and further visits paid to see that they were isolated and detained for the prescribed period of six clear days following their arrival, in accordance with the Order.

No proceedings were taken during the year for infringements of the Order.

Importation of Canadian Cattle Order of 1933.—Canadian Cattle to the number of 22 were exposed for sale in the Victoria Cattle Market and were disposed of by the issue of 4 licences; these were the first Canadian cattle to enter the Market for many years.

In addition to the above, 138 Canadian cattle were received on direct purchase by wholesale butchers and were dealt with by the issue of 12 licences.

Transit of Animals (Amendment) Order of 1931.—This Order has, on the whole, been satisfactorily observed by the persons engaged in the transportation of livestock by road. Stations for the cleansing and disinfection of vehicles in accordance with the Order have been established at the Victoria Cattle Market, the Public Abattoir and Whitkirk Auction Mart, where vehicles are cleansed and disinfected under the supervision of the officers of the Department, immediately after the animals have been discharged.

One prosecution for failing to observe this Order was undertaken, a cattle carrier and his employee being convicted for failing to keep the required record of animals carried on the vehicle.

Importation of Dogs and Cats Order of 1928.—Eighteen foreign performing dogs and two performing cats came to a theatre in the city. These animals were permitted to enter the city on licence and after daily inspections during the week of their stay, when strict isolation was observed, they were re-licensed to another theatre outside the city.

Foreign Hay and Straw Order of 1912.—During the year a consignment of Esparto grass was received on licence in the city

by a firm of upholsterers. The premises were visited and a guarantee obtained that the foreign material would be used only for upholstering and would not be permitted to come into contact with any animals.

General—The following Orders were issued by the Minister of Agriculture and Fisheries during the year.

(*a*) Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1933.

(*b*) Importation of Canadian Cattle Order of 1933.

(*c*) Animals (Importation) (Amendment) Orders of 1933, Numbers 1 and 2.

(*d*) Sheep (Movement into Scotland and Northumberland) Order of 1933.

(*e*) Order No. 5161 *re* double-dipping of sheep under the Sheep Scab Order of 1928.

(*f*) The North Wales, Cheshire and Shropshire Swine Fever Orders of 1933, Numbers 1, 2 and 3.

(*g*) Lancashire Swine Fever Infected Area Order of 1933.

(*h*) Regulation of Movement of Swine (Adjustment of Boundary) Order of 1933.

(*i*) Foreign Hay and Straw (Amendment) Orders of 1933, Numbers 1 and 2.

Veterinary attendance on Corporation Horses.—In addition to the work of the Veterinary Sub-department already mentioned, the veterinary officers are responsible for the attendance on all horses, cattle and pigs belonging to the Cleansing Department at the Cleansing Depots and various farms, the Education Department, the Parks and Cemeteries Department, the Public Assistance Department, the Sewerage Department, and, in fact, all the animals belonging to the Corporation except the horses of the mounted section of the City Police.

These duties entail a considerable amount of work and responsibility on the part of the veterinary officers and during 1933 brought to the Public Health Department an income of £194 7s. 9d.

MILK AND DAIRIES

BY

J. A. DIXON, M.R.C.V.S., *Chief Veterinary Officer.*

Town Produced Milk.—Within the city there are 173 dairy farms with an average number of 2,808 milch cows. During the year two farms were added to, and five removed from, the register. The Veterinary Officers made 11,230 examinations of cows. At 11,185 (99·6 per cent.) of the examinations, the cows were clean, and at 45 (0·4 per cent.) dirty. As regards the health of the 2,808 cows examined, 66 (2·35 per cent.) were found to be diseased, 6 (0·21 per cent.) having tuberculosis of the udder, 7 (0·25 per cent.) generalised tuberculosis, and 53 (1·89 per cent.) diseases other than tuberculosis. In all cases where tuberculosis was diagnosed, the animals affected were dealt with under the Tuberculosis Order of 1925.

Another disease of cows, namely, contagious abortion, has recently received greater attention since it has been found that the organisms responsible for this bovine disease, if conveyed to man, is frequently responsible for producing a condition called undulant fever. Unfortunately, it is not easy to discover cows which may be carrying the organism, but inasmuch as contagious abortion is a disease of breeding stock it is not common in the city, where the cows are kept almost entirely for milking. Nevertheless, a careful watch is maintained for cows affected with the disease and suitable action is taken when suspected cases arise.

The 173 registered dairy farms comprise 300 separate sheds, all of which were kept under close supervision by the Cowsheds and Dairies Inspector. The Veterinary Officers made 1,156 inspections of cowsheds, and the lay inspector 1,569, making a total of 2,725. In addition, 162 visits were paid by the lay inspector in the early morning, to ensure that cleanliness and care were observed then, as at other milking times. At 1,142 (98·8 per cent.) of the Veterinary Officers' visits, the sheds were clean, whilst at the remaining 14 (1·2 per cent.) they were dirty. The number of yards inspected by the Veterinary Officers was 166, and the total number of inspections 655. At 638 (97·4 per cent.) of the visits, the yards were clean, and at 17 (2·6 per cent.) dirty. It is observed that during the year the number of dairy farms was reduced by three, and the

number of cows regularly standing in the city fell by 128, thus rendering the public a little more dependent on country produced milk. This fall in the production of milk within the city is due to house building activities which in recent years has resulted in what was formerly pasture land going out of cultivation with the result that farms have been extinguished. This process is likely to be considerably accelerated in the near future as the building schemes of the City Council mature ; and milk production within the city will in consequence undergo a still further reduction.

Country Milk.—Every effort has been made to ensure that milk coming into the city, whether by road or rail, is clean and wholesome. The Inspectors paid regular visits to the railway stations and took samples both for chemical analysis and bacteriological examination. Where there was cause for complaint, the matter was taken up with the Local Authority in whose district the milk was produced.

Attention has also been given to the premises occupied as dairies by the registered dairymen. Under pressure from the Department, many of these premises have been improved and rendered more satisfactory, and there has been launched a general campaign to improve the character and equipment of the retail dairies throughout the city.

The following is a summary of the cases taken into Court for infringements of the Milk and Dairies Order during the year.

MILK AND DAIRIES ORDER, 1926.
PROSECUTIONS FOR THE YEAR, 1933.

No.	Article.	Result of Hearing.	Remarks.
4	Article 23 (ii.)	Fined £5 and costs	Farmer
	do.	Fined £2	Employee
	do.	Fined £2	do.
	do.	Fined £2	do.
1	Article 14 (i.) ..	Ordered to pay costs	Wholesaler-retailer
1	Article 6 (3) ..	Adjourned *sine die* to give defendant an opportunity of finding suitable dairy premises. (Now given up working for himself and is in the employ of a farmer)	Retailer
1	Article 6 (3) ..	Fined 30/– or 7 days' imprisonment	Retailer

Graded Milk and Issue of Licences.—Although the appended table indicates only a very slight increase in the popularity of graded milk, there can be no doubt that the consumption of " Pasteurised " milk is rapidly increasing. The number of licensed pasteurising establishments remains the same, but the output from each establishment is continually expanding.

During the year, another producer in the city was granted a licence from the Ministry of Health for the production of " Certified " milk.

LICENCES ISSUED UNDER THE MILK (SPECIAL DESIGNATIONS) ORDER, 1923, DURING THE YEAR, AND SHOWING COMPARISON WITH OTHER YEARS.

Description of Licences.	Number in force on 31st December.				
	1929.	1930.	1931.	1932.	1933.
(1) Producers' Licences to use the designation " Grade A " ..	8	8	8	8	8
(2) Dealers' Licences to use the designation " Certified ".. ..	10	10	10	20	22
(3) Dealers' Licences to use the designation "Grade A (Tuberculin Tested) " :—					
(*a*) Bottling establishments ..	2	2	2	2	2
(*b*) Shops	14	11	10	7	7
(4) Dealers' Licences to use the designation " Grade A " :—					
(*a*) Bottling establishments ..	3	3	3	3	3
(*b*) Shops	215	211	207	196	202
(5) Dealers' Licences to Pasteurise Milk	1	3	4	4	4

The cows at all the farms producing graded milk are examined monthly. At the two farms producing " Certified " milk, all cows are tested with tuberculin before they are added to the herds and the whole herd is re-tested with tuberculin every six months, whilst the milk is frequently examined as to its bacterial content and the premises and methods of production kept under regular supervision and inspection.

Dairy Farms and Milkshops.—The following tables show the number of registered dairy farms and milkshops in the city on December 31st, 1933.

DAIRY FARMS.

Number of dairy farms on the register December 31st, 1932	176
Number added to the register during the year	2
Number removed from the register during the year	5
Number on register on December 31st, 1933	173

MILKSHOPS.

Number of milkshops on the register on December 31st, 1932. (The total of 579 includes 34 dairymen with registered premises in the surrounding County area who are on our register of retail purveyors of milk)	579
Number added during the year (including five in the surrounding County area)	23
Number removed from the register during the year (including five in the surrounding County area)	36
Number on the register on December 31st, 1933 (including 34 in the surrounding County area)	566

During the year one dairyman was refused registration by the City Council owing to his proposed premises being considered unsatisfactory.

The following visits were paid during the year by the Food and Drugs Inspectors, and Cowsheds and Dairies Inspector in connection with the Milk and Dairies Acts and Orders :—

	VISITS.
To milkshops	1,088
To cowsheds	1,731
To railway stations	278
To farms or milkshops *re* infectious disease	16
To food shops and bottled milk stores	1,148

Biological Tests.—During the year 149 samples were taken and submitted to the City Bacteriologist for biological investigation for the presence of the tubercle bacillus. Of these, 127 were ordinary samples, and 22 were special and control samples taken under the Tuberculosis Order of 1925. These 22 samples consisted of 15

special samples taken from cows which were suspected to be suffering from tuberculosis of the udder, and 7 control samples taken from groups of cows to ensure that infected cows had been removed from herds. Of the ordinary samples, 4 (3·15 per cent.) were returned as tuberculous, whilst 2 (28·57 per cent.) of the control samples were also reported as tuberculous.

The percentage of original samples of milk found to be tuberculous is low as compared with the rest of the country, and this fortunate circumstance is regarded as being due to the regular and routine veterinary inspection carried on throughout the West Riding of Yorkshire where almost all of our imported milk is produced. In each case where a positive result was obtained, veterinary inspection was immediately carried out, either by the officers of this Department, or by those of the appropriate County authority, which resulted in the finding and destruction of four tuberculous cows.

The accompanying table gives details :—

BIOLOGICAL TESTS.

Ordinary Samples.	No.	Positive.	Negative.
Certified	16	..	16
Grade A (T.T.)	12	..	12
Grade A	66	2	64
Pasteurised	16	..	16
Ungraded Milk	17	2	15
Total	127	4	123

Samples taken under the Tuberculosis Order, of 1925.	No.	Positive.	Negative.
Special Smples—			
Grade A.	1	..	1
Ungraded Milk	14	..	14
Control Samples—			
Graded Milk	..	..	..
Ungraded Milk	7	2	5
Total	22	2	20

Special Bacterial Tests.—Two samples of milk were submitted to the City Bacteriologist for special examination to ascertain the bacterial content and the presence of bacillus coli. These were in

connection with an application from a local farmer to produce "Certified" milk and were reported to be not of the standard required by the Milk (Special Designations) Order of 1923.

One sample of condensed milk was submitted for bacteriological examination following a report from the Public Analyst that on his opening the tin the milk was found to be clotted. The sample was reported to be satisfactory.

Six samples of dried milk from the stock of the Maternity and Child Welfare Section submitted for bacteriological examination were all found to be satisfactory.

Samples to the number of 54 were taken by the Sampling Officers under the Condensed an Dried Milk Regulations and Public Health (Preservatives, etc., in Food) Regulations and submitted to the City Analyst for analysis. The results are shown in the City Analyst's report on page 194.

Public Health (Prevention of Tuberculosis) Regulations, 1925.—Although no official action was necessary under the above mentioned regulations, they have been found helpful in preventing persons from handling milk whilst suffering from tuberculosis in an active and infectious form.

Departmental Laboratory.—During the year 552 samples of milk were submitted to the Departmental Laboratory for bacteriological examination. Of this number 144 were of graded milk, 166 pasteurised, 115 before pasteurisation, 71 taken on delivery at local institutions, 3 at schools and 53 from other sources, *i.e.* milk brought to the laboratory by farmers, dairymen and others.

The samples for bacteriological examination were kept at room temperature until the souring point was reached. The average keeping quality of the samples of milk was as follows:—

Graded	3·2 days.
Pasteurised	2·9 ,,
Raw milk (for pasteurisation) ..	2·5 ,,
Institutions	2·1 ,,
Schools	2·0 ,,

Twenty-five samples, of which 16 were "Certified," failed to comply with the standard laid down in the Milk (Special Designations) Order, 1923; 9 "Certified" and 3 "Grade A" samples were from farms within the city, and 7 "Certified" and 6 "Grade A" samples from farms outside the city. In each case appropriate action was taken to prevent recurrence of the offence.

Twenty-five samples of ice cream from local vendors were also submitted for bacteriological examination, the results are shown in the table on page 191.

Milk Samples Tested by the Gerber Method.—During the year 56 samples of milk were tested in the departmental laboratory by the Gerber method, the results of which were as follows :—

Total.	Genuine.	Deficient in fat only.	Deficient in Solids-not-fat only.	Deficient in fat and Solids-not-fat.
* 56	38	14	4	..

* These were all informal samples.

The average composition of the 56 samples was :—

Fat	3·30 per cent.
Solids-not-fat	8·84 per cent.
Total solids	12·14 per cent.

Twenty-two samples of water from farms and other premises were examined for the presence of bacillus coli with the following results :—

Containing B. Coli in 1 c.c.	13
Free from B. Coli in 1 c.c.	9

The following investigations were also undertaken :—

Milk for the presence of tubercle or other bacilli ..	67
Sputum for the presence of tubercle or other bacilli	3
Hair scrapings for the presence of parasites ..	2

Other work :—

Microscopical slides prepared and examined ..	212
Tubes of media prepared	2,830

As in previous years, the laboratory has been found to be of considerable educational benefit and help to persons engaged in the production and sale of milk—wholesale and retail—and also of interest to others not directly engaged in the business. Individual farmers, dairymen, students, and other members of the community

have visited the laboratory from time to time and had explained and demonstrated to them the methods employed for the examination of milk.

SAMPLES EXAMINED AS TO BACTERIAL CONTENT.

Bacterial Content per c.c.	Graded Milk.	Pasteurised Milk.	Raw Milk for pasteurisation.	Institution Milk.	School Milk.	Ice Cream.	Total.
1–50,000	135 93·8%	158 95·2%	72 62·6%	52 73·2%	2 66·7%	7 28·0%	426
50,000—100,000	1 0·7%	5 3·0%	15 13·0%	7 9·9%	1 33·3%	3 12·0%	32
100,000—200,000	4 2·8%	2 1·2%	20 17·4%	7 9·9%	..	3 12·0%	36
200,000—500,000	3 2·1%	1 0·6%	5 4·3%	5 7·0%	..	5 20·0%	19
500,000—1,000,000	..	..	..	..	..	5 20·0%	5
1,000,000+	1 0·7%	..	3 2·6%	..	..	2 8·0%	6
Total Samples	144	166	115	71	3	25	524

SAMPLES EXAMINED AS TO B. COLI CONTENT.

Bacterial Content per c.c.	Graded Milk.	Pasteurised Milk.	Raw Milk for pasteurisation.	Institution Milk.	School Milk.	Ice Cream.	Total.
B. Coli present in 1/10 c.c.	16 11·1%	28 16·9%	21 18·3%	13 18·3%	1 33·3%	9 36·0%	88
,, 1/100 c.c.	9 6·3%	5 3·0%	19 16·5%	14 19·7%	1 33·3%	2 8·0%	50
,, 1/1000 c.c.	..	12 7·2%	50 43·5%	15 21·1%	..	6 24·0%	83
B. Coli absent	119 82·6%	121 72·9%	25 21·7%	29 40·8%	1 33·3%	8 32·0%	303
Total Samples	144	166	115	71	3	25	524

FOOD AND DRUGS.

FERTILISERS AND FEEDING STUFFS.

Food and Drugs.—The Sampling Officers took 495 formal and 25 informal samples of food other than milk and cream. The total number of formal samples of all kinds taken during the year was 1,910 and informal 75. For the results of the analyses of these samples see the City Analyst's report on page 194.

Fertilisers and Feeding Stuffs Act, 1926.—During the year 69 samples were taken under the above mentioned Act and submitted to the Agricultural Analyst for examination. Of this number 53 were samples of Feeding Stuffs and 16 Fertilisers. In no case was the deficiency revealed on analysis sufficient to justify suspicion of deliberate adulteration. For the results of the analysis of these samples see the City Analyst's report on page 194.

It is becoming more apparent that whilst the large firms of factors and grinders are prepared to carry out the requirements of the Act, the defaulters are the grinders in a small way of business who usually carry on in rural areas, and get little or no supervision.

Within the City of Leeds 90 per cent. of the feeding stuffs consumed are supplied by the large firms and this is probably the reason for the failure to find serious contraventions of the Act. The attitude of the farmers towards the Act remains one of indifference ; in only one case during the year was a request made for a sample to be taken.

Fertilisers call for little comment. Beyond depreciation of chemical values whilst kept in stock, there appears to be a desire to meet the requirements of the Act by the bulk of manufacturers.

Leeds Corporation Act, 1930.—Ice Cream.—During the year a great improvement has been noted in the conditions under which this commodity is manufactured, the majority of the premises being clean and well kept. Defects or contraventions found have in all cases been immediately rectified.

It is regrettable that the open ice-cream freezer is still to be seen in the streets in spite of the competition from reputable firms who sell the commodity only in wrapped or covered cartons. Apart from the danger from dust there is the risk of contamination from careless handling and dirty utensils.

The following table shows a summary of the work done during the year.

Number of premises registered for the manufacture and sale of ice cream	14
Number of premises registered for the sale of ice cream	72
Number of premises where registration was refused	3
Withdrawal of application for registration of premises	1
Number of premises voluntarily closed	14
,, ,, visits paid to premises	1,401
,, ,, contraventions found on premises ..	42
,, ,, contraventions removed	41
,, ,, persons found manufacturing ice cream on unregistered premises ..	6
,, ,, samples taken for bacteriological examination in Departmental laboratory—(*a*) Ice cream	25
(*b*) Milk	1
,, ,, samples of ice cream submitted to City Bacteriologist for bacteriological examination	..

During the year the following cases were taken into Court.

No.	Section.	Result of Hearing.	Remarks
1	Section 44 (1)	Dismissed under the Probation of Offenders' Act on payment of costs. (remitted)	Manufacturer
1	Section 44 (1)	Fined 40/–, or 14 days imprisonment	Retailer

MUNICIPAL LABORATORY

BY

C. H. MANLEY, M.A., F.I.C., *City Analyst.*

The total number of samples analysed in 1933 was 3,696, of which 1,985 were food and drugs, and 69 were fertilisers and feeding stuffs.

Analyses have been made during the year for ten Corporation Departments, viz., Public Health, Public Assistance, Waterworks, City Engineer's, City Buildings, City Police, Tramways and Transport, Baths, Cleansing and Mental Health Services, apart from the work carried out each month for the Smoke Abatement Committee, and concerned with rain water samples, light tests, and atmospheric sulphur dioxide.

The following is a summary of the analyses made during 1933 :—

Samples taken under the Food and Drugs Act, 1928		1,985
Samples taken under the Fertilisers and Feeding Stuffs Act, 1926		69
Samples taken under the Rag Flock Acts, 1911-1928		6
Special samples analysed for the Medical Officer of Health		77
Samples analysed for the	Public Assistance Committee	17
,, ,, ,,	Waterworks Department	25
,, ,, ,,	City Engineer	4
,, ,, ,,	City Buildings	2
,, ,, ,,	City Police	6
,, ,, ,,	Tramways and Transport Department	4
,, ,, ,,	Baths Department	3
,, ,, ,,	Cleansing Department	2
,, ,, ,,	Mental Health Services	1
,, ,, ,,	Regional Smoke Abatement Committee :—	
	Rain Gauges	60
	Light Tests	1,413
	Sulphur Dioxide Tests	18
Consultant Work Analyses		4
TOTAL		3,696

FOOD AND DRUGS.

The tables on pages 202 and 203 summarises the samples taken under the Food and Drugs (Adulteration) Act, 1928, along with the percentage and number of adulterations. The percentage of samples found to be adulterated was 9·4 as compared with 10·4 for 1932. Of samples other than milk 4·1 per cent. were adulterated as compared with 3·7 per cent. for the previous year and 5·1 per cent. for England and Wales.

Milk.—Of 1,446 samples 163 (11·3 per cent.) failed to conform to the Sale of Milk Regulations, 1901. This was an improvement on the figure for 1932, 14·0 per cent., the drop being partly due to the unusually low figure for the fourth quarter, 6·4 per cent., which incidentally was the lowest figure in Leeds for the past six years, that is, since the appointment of a full-time analyst. The previous lowest was 7·0 per cent. for the fourth quarter of 1930.

Of the 163 samples below standard, 51 contained added water, 91 were deficient in fat, and 21 showed both added water and fat deficiency. The greatest amount of added water was 26·0 per cent. and the greatest fat deficiency 42·0 per cent. Shortage of fat again accounted for the greatest number of milks below standard. All the samples examined were free from preservatives and colouring matter.

In prosecutions for added water continued use has been made of the Freezing Point Test, referred to in my last Annual Report. In Case No. 32C evidence was given to explain why it was that, although the sample calculated from the Sale of Milk Regulations figure was only 5·5 per cent. deficient in non-fatty solids, actually at least 9·4 per cent. of water had been added to the original milk. In Cases Nos. 61, 62 and 63L, in which a farmer was prosecuted for selling samples of milk containing 11·9 per cent., 10·5 per cent., and 16·9 per cent., of added water respectively, the appeal-to-cow samples being satisfactory, evidence was given that the freezing points clearly indicated that the poor quality of the milk could not be explained by the feeding of the cows but was due to the deliberate

addition of water. In Case No. 314L (4·1 per cent. added water) it is significant that the defending solicitor admitted the critical value of the Freezing Point Test. Further, when hearing Case No. 414L, the Stipendiary Magistrate asked it it would not be better to base the percentage of added water on the freezing point rather than on the non-fatty solids, and on being told that such a course had already been adopted by one County Council who were making use of Section 4(1) of the Milk and Dairies (Amendment) Act, 1922, His Worship said that due consideration might be given to this matter. The outcome of this suggestion has been a re-drafting of the form of certificate, following a consultation with the Town Clerk, who decided, however, not to proceed under the Milk and Dairies (Amendment) Act, 1922 (which forbids among other things the addition of water to milk intended for sale, and the sale of any milk to which any such addition has been made), but to continue to make use of the Food and Drugs (Adulteration) Act, 1928. Where a milk contains less than the 8·5 per cent. of non-fatty solids required by the Sale of Milk Regulations, 1901, and has a freezing point higher (that is, nearer O° C) than—0·530° C, the minimum amount of water added to the milk is now calculated from the freezing point. This was done and a successful prosecution instituted against two retailers in partnership for selling milk No. 739L containing at least 26 per cent. of added water. The matter was carried a step further when a farmer appeared on February 7th for selling on December 28th 2 samples of milk in which the freezing point disclosed that at least 3·8 per cent. and 4·2 per cent. respectively of water had been added.

Before the adoption of the freezing point test it was the practice to prosecute only in respect of milks containing a minimum of 5 per cent. of added water, even though satisfactory appeal-to-cow samples had been obtained within the required period. Now cases of 5 per cent. and under are successfully carried through, and it is hoped that the adoption of this new policy will result in the suppression of the not uncommon practice of adding up to half a pint of water to a gallon of milk in the assurance that no prosecution will follow.

The average composition of milk samples taken in Leeds in 1933 was as follows (the 1932 figures are given for comparison).

	1933.		1932.
Non-fatty solids	8·79%	..	8·82%
Fat	3·70%	..	3·64%
Total solids	12·49%	..	12·46%

Cream.—All the 19 samples submitted were satisfactory.

Butter.—Out of 35 samples, 1 (2·9 per cent.), was adulterated with 65 per cent. of Margarine. This was an official sample, No. 339C, bought at a shop on April 25th. Proceedings were instituted and the case heard on June 2nd, when the defendant was dismissed on payment of 14/6d. costs, as there was insufficient evidence to prove that other than a technical offence had been committed.

Condensed Milk.—Of 11 samples, 1 (9.1 per cent.), was unsound, the milk, on opening the tin, being clotted and possessing an unnatural odour. The sample was a machine-skimmed sweetened one.

Dried Milk.—Of 6 samples, 1 (16·7 per cent.), contained only 24·9 per cent. of fat instead of the 26 per cent. minimum. The manufacturers were warned by letter from the Medical Officer of Health.

Black Beer.—Of 8 samples, 1 (12·5 per cent.), contained 1/40 grain of arsenic per gallon. A warning letter was sent by the Medical Officer of Health.

Cheese.—Of 6 samples, 1 (16·7 per cent.), sold as a cream cheese was only a whole-milk cheese containing 19·2 per cent. of butter fat instead of a minimum of 50 per cent. The vendors were warned verbally by the inspector who took the sample.

Pearl Barley.—Of 8 samples, 1 (12·5 per cent.), contained 50 parts of sulphur dioxide per million. The retailer was warned by letter from the Medical Officer of Health.

Bismuthated Magnesia Tablets.—One sample was bought and found to be 6·8 per cent. deficient in the amount of Bismuth Carbonate declared, and 34·2 per cent. deficient in Magnesium Carbonate. There was also present 9·3 per cent. of talc, which was not declared on the label. The retailers were communicated with respecting these deficiencies.

Cream of Tartar.—Of 4 samples, 1 (25·0 per cent.), contained 5 parts of lead per million in excess of the permitted amount of 20 parts. The retailer was warned.

Prescribed Medicine.—Of 3 samples, 1 (33·3 per cent.), was 9·0 per cent. deficient in Carbonate of Magnesia.

Sweet Spirit of Nitre.—Of 4 samples, 2 (50·0 per cent.), were 19·2 per cent. and 10·4 per cent. respectively deficient in ethyl nitrite. Warning letters were sent to the retailers concerned.

Sago.—All 4 samples submitted proved to be tapioca. As a result a letter was sent by the Medical Officer of Health to the Leeds and District Grocers and Provision Dealers Association, and this letter was read at a meeting of the latter on February 28th, 1934, following which some prominence was given to the matter in the local press, since when one firm has displayed in its window the various forms of tapioca on sale. These are Flake, Seed Pearl, Medium and Bullet. Sago is usually of the same size as pearl tapioca, but of a brown appearance.

Rice.—Of 17 samples, 1 (5·9 per cent.), was mixed with a small quantity of tapioca.

Rum.—Of 10 samples, 1 (10·0 per cent.), was 48° under proof, this being equivalent to 20·0 per cent. excess water. The sample in question was an official one bought at a hotel on December 5th (No. 1072C). Proceedings were instituted, and at the case heard on January 16th, 1934 the licensee was fined 40/- and costs.

Sausages.—Of 21 samples, 1 (4·8 per cent.), contained 150 parts of sulphur dioxide per million without disclosure of the presence of the preservative at the time of sale on February 9th. The vendors concerned were prosecuted on April 3rd, and on pleading guilty were ordered to pay the costs. (No. 137C).

Vinegar.—Of 16 samples, 1 (6·3 per cent.), was 53 per cent. deficient in acetic acid, containing only 1·88 per cent. acetic acid instead of 4·0 per cent. the standard fixed by the Local Government Board in 1911. This was an official sample (508L) bought at a shop on October 5th. Proceedings were instituted, and at the case heard on November 15th, the shopkeeper was fined 20/– (including costs).

Malt Vinegar.—Of 18 samples, 4 (22·2 per cent.) were not genuine. Of these Nos. 442L and 659L each contained only 3·9 per cent. acetic acid (2·5 per cent. deficient). No. 443L was an artificial vinegar coloured with caramel, and No. 507L contained only 3·6 per cent. acetic acid (10·0 per cent. deficient). Warning letters were sent to each of the shopkeepers concerned.

FERTILISERS AND FEEDING STUFFS AND OTHER ANALYSES

Fertilisers and Feeding Stuffs.—Of 69 samples taken under the 1926 Act, 2 fertilisers and 4 feeding stuffs failed to conform to the warranties.

The fertilisers in question were :—

(*a*) Steamed Bone Meal No. 6, which contained 3·3 per cent. nitrogen as against 0·82 per cent. declared, *i.e.* 2·48 per cent. actual excess. This sample should have been described simply as " Bone Meal."

(*b*) Basic Slag No. 14, which contained 8·4 per cent. Phosphoric Acid as against 19·64 per cent. declared, *i.e.* 11·24 per cent. actual deficiency.

The feeding stuffs were :—

(*a*) Dairy Nuts No. 33, containing 5·6 per cent. oil instead of 6·5 per cent. guaranteed (13·8 per cent. deficiency).

(*b*) Dairy Meal No. 47, containing 8·3 per cent. fibre instead of 7·0 per cent. declared (18·6 per cent. excess).

(*c*) Two samples of Uveco, No. 67 (informal) and No. 68 (formal), each declared to contain 27 per cent. added iodised mineral matter, but found to contain no such addition, and to yield normal ash figures of 0·9 per cent. and 1·35 per cent. respectively. In these last cases it was subsequently found that the containing sack had a fold in it which caused the partly blurred print on it to be read as 27 per cent. instead of 2 per cent. The firm concerned was communicated with and requested to take greater care in future in the stamping of their sacks.

Rag Flocks.—All the 6 samples taken under the 1911 and 1928 Acts conformed with the Regulations and did not contain more than 30 parts of chlorine per 100,000, although sample No. 6 reached this figure. This is the third year in succession that all the samples have been satisfactory.

The Medical Officer of Health.—Of the samples submitted 27 consisted of milk, flour, water, along with some food and drugs taken in connection with certain cases of illness. In addition 50 samples of school and college swimming bath waters were analysed in November and December for the presence of organic pollution. The results of the analyses were included in a report which was submitted to the Medical Officer of Health and which I understand was subsequently the subject of correspondence between the Health and Education Departments.

Public Assistance Committee.—(including St. James's Hospital). —The 17 samples consisted of 8 soaps, 2 floor polishes, 1 lead paint, 2 margarines, 3 urines and a sample of fæces.

Waterworks Committee.—The monthly analyses of the city water supply have been continued, and several other analyses

have been carried out at the request of the Waterworks Manager. On my advice, the lime treatment of the city water supply at Eccup has been modified, and the modified process has now been in operation for over a year with satisfactory results.

Improvements Committee.—Four samples of bitumen were examined.

Property Committee.—Two disinfectants were examined.

Watch Committee.—One set of pills, one zinc lotion, 3 wines and one milk submitted by the police were analysed. The zinc lotion was in connection with an attempted murder charge heard at the Leeds Assizes in May, which resulted in the acquittal of the accused person. The sample of milk contained 0·14 per cent. ammonia, which may have been added with the intention of causing bodily harm.

Transport Committee.—Three oils and one soap were analysed in connection with an outbreak of dermatitis among the painters in the Tramways department.

Cleansing Committee.—Two bone meals were analysed.

Mental Health Services Committee.—One butter was analysed and found satisfactory.

Regional Smoke Abatement Committee.—The monthly analyses of the five rain gauges have been continued along with the daily light tests. In addition since April, estimations of sulphur dioxide in the air at Park Square and Headingley have been made each month.

Scholastic.—Mr. W. Lee, a junior member of the laboratory staff, was successful in obtaining a Higher National Certificate in Chemistry and was awarded the Sir Edward Frankland Medal and prize of ten guineas open to registered students (under 22) of The Institute of Chemistry for his essay on " The training of Part Time Students and its relation to professional efficiency."

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED TO THE CITY ANALYST DURING 1933.

Article.	No. examined.			No. adulterated.			Percentage adulteration.
	Formal	Informal	Total	Formal	Informal	Total	
Almonds (Ground) ..	6	..	6	..	..	..	..
Apples (Toffee)	..	1	1	..	..	..	..
Aspirin	3	..	3	..	..	..	..
Baking Powder	25	..	25	..	..	..	..
*Beer	27	..	27	..	..	..	..
Black Beer	7	1	8	1	..	1	12·5
Bicarbonate of Soda ..	1	..	1	..	..	..	..
Bismuthated Magnesia Tablets	1	..	1	1	..	1	100·00
*Butter	31	4	35	1	..	1	2·9
Cheese	5	1	6	1	..	1	16·7
Chocolate Drops ..	1	..	1	..	..	..	..
Cinnamon	4	..	4	..	..	..	..
Cocoa	15	..	15	..	..	..	..
Coffee	16	..	16	..	..	..	..
Coffee and Chicory ..	5	..	5	..	..	..	..
Condensed Milk	11	..	11	1	..	1	9·1
*Cordials	19	..	19	..	..	..	..
*Cream	19	..	19	..	..	..	..
Cream of Tartar ..	4	..	4	1	..	1	25·0
Coconut (Desiccated) ..	2	..	2	..	..	..	..
Custard Powder	2	..	2	..	..	..	..
Dried Milk	..	6	6	..	1	1	16·7
*Epsom Salts	4	..	4	..	..	..	..
*Flour	2	..	2	..	..	..	..
Flour—Bun	1	..	1	..	..	..	..
Flour—Malt	1	..	1	..	..	..	..
Flour—Self Raising ..	5	..	5	..	..	..	..
Ginger (Ground) ..	6	..	6	..	..	..	..
Glauber's Salts	1	..	1	..	..	..	..
Gravy Salt	1	..	1	..	..	..	..
Health Salts	3	..	3	..	..	..	..
*Jam	12	..	12	..	..	..	..
*Jellies	4	..	4	..	..	..	..
*Lard	29	1	30	..	..	..	..
Carried forward ..	273	14	287	6	1	7	..

* Tested for preservative.

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED TO THE CITY ANALYST DURING 1933—Continued.

Article.	No. examined.			No. adulterated.			Percentage adulteration.
	Formal	Informal	Total	Formal	Informal	Total	
Brought forward ..	273	14	287	6	1	7	..
Lard Compound	1	..	1	..	..	..	..
*Margarine	23	..	23	..	..	..	..
*Meat Paste	2	..	2	..	..	..	..
*Milk	1,396	50	1,446	157	6	163	11·3
*Milk Skimmed	7	..	7	..	..	..	..
*Mincemeat	4	..	4	..	..	..	..
Mustard	3	..	3	..	..	..	..
Oatmeal	3	..	3	..	..	..	..
Olive Oil	4	..	4	..	..	..	..
Paraffin—Liquid ..	1	..	1	..	..	..	..
*Pearl Barley	8	..	8	1	..	1	12·5
Peas	6	1	7	..	..	..	..
Pepper	17	1	18	..	..	..	..
*Polony	4	..	4	..	..	..	..
*Potted Meat	1	..	1	..	..	..	..
Prescribed Medicine ..	..	3	3	..	1	1	33·3
Rice	17	..	17	1	..	1	5·9
Rum	9	1	10	1	..	1	10·0
Sago	4	..	4	4	..	4	100·00
*Salmon Creme	1	..	1	..	..	..	..
*Sausages	21	..	21	1	..	1	4·8
Semolina	1	..	1	..	..	..	..
Shredded Suet	1	1	2	..	..	..	..
*Sugar	12	2	14	..	..	..	..
*Sugar Demarara ..	4	..	4	..	..	..	..
*Sultanas	4	..	4	..	..	..	..
Sweet Spirit of Nitre ..	3	1	4	2	..	2	50·0
Sweet Spirit of Balsam..	1	..	1	..	..	..	..
Tapioca	4	..	4	..	..	..	..
Tea	27	..	27	..	..	..	..
Toffee	..	1	1	..	..	..	..
*Vinegar	16	..	16	1	..	1	6·3
*Vinegar, Malt	18	..	18	4	..	4	22·2
Whisky	14	..	14	..	..	..	..
Total	1,910	75	1,985	178	8	186	9·4

* Tested for preservative.

Summonses Issued during 1933 under the Food and Drugs (Adulteration) Act, 1928.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
32C	Milk ..	5·5% of added water ..	..	Ordered to pay 25/– costs; retailer.
31C	Milk ..	18·8% of added water and 42·0% deficient in fat	1 0 0	Ordered to pay costs; retailer.
64C	Milk ..	15·7% of added water and 11·0% deficient in fat	5 0 0	Ordered to pay costs; producer.
65C	Milk ..	22·6% of added water and 19·0% deficient in fat	..	Ordered to pay costs; producer.
57L	Milk ..	7·3% of added water and 7·0% deficient in fat	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailer.
61L	Milk ..	11·9% of added water and 27·0% deficient in fat	5 0 0	Ordered to pay costs; producer.
62L	Milk ..	10·5% of added water and 13·0% deficient in fat	..	Ordered to pay costs; producer.
63L	Milk ..	16·9% of added water and 10·0% deficient in fat	..	Ordered to pay costs; producer.
86L	Milk ..	6·0% of added water and 19·0% deficient in fat	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailers.
125L	Milk ..	16·0% deficient in fat ..	..	Dismissed under the Probation of Offender Act on payment of 21/– costs; retailers.
137C	Sausages	Contain 150 parts per million of sulphur dioxide preservative without declaration of the fact at the time of sale	..	Ordered to pay costs; retailers.
155C	Milk ..	4·6% of added water ..	..	Ordered to pay costs; retailer.
163C	Milk ..	4·9% of added water ..	3 0 0	Ordered to pay costs; producer.
165C	Milk ..	8·7% of added water ..	3 0 0	Ordered to pay costs; producer.
175L	Milk ..	12·0% deficient in fat ..	2 0 0	Ordered to pay costs; retailer.

Summonses Issued during 1933 under the Food and Drugs (Adulteration) Act, 1928—Continued.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
248C	Milk ..	6·0% of added water ..	..	Ordered to pay 26/– costs; producer.
254C	Milk ..	10·4% of added water and 2·0 deficient in fat	3 0 0	Ordered to pay 26/6 costs; producer.
304L	Milk ..	4·2% of added water ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailer.
308L	Milk ..	4·0% of added water ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailer.
305L	Milk ..	5·1% of added water ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailer.
314L	Milk ..	4·1% of added water ..	..	Dismissed under the Probation of Offenders Act on payment of 25/– costs; producer.
339C	Butter	Contains 65·0% of Margarine	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs; retailer.
365L	Milk ..	18·0% of added water and 3·0% deficient in fat	2 0 0	Firm of dairymen concerned dismissed from prosecution owing to employee having publicly admitted to having added water to the sample. Employee fined and ordered to pay costs.
414L	Milk ..	4·7% of added water ..	1 5 0	Ordered to pay costs; retailer.
422L	Milk ..	12·0% of added water ..	..	Ordered to pay 10/6 costs; retailer.
508L	Vinegar	53·0% deficient in acetic acid	1 0 0 (including costs)	Retailer.

Summonses Issued during 1933 under the Food and Drugs (Adulteration) Act, 1928—Continued.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
590L	Milk ..	25·0% deficient in fat ..	..	Ordered to pay 14/6 costs; retailer.
602C	Milk ..	20·0% deficient in fat ..	..	Ordered to pay 10/6 costs; retailer.
609C	Milk ..	16·0% deficient in fat ..	..	Dismissed on production of warranty from producer; retailer.
659C	Milk ..	20·0% deficient in fat ..	..	Dismissed on production of warranty from producer; retailer.
739L	Milk ..	26·0% of added water ..	2 0 0	Ordered to pay 10/6 costs; retailers.
763C	Milk ..	5·1% of added water and 11·7% deficient in fat	..	Ordered to pay £2 11s. costs; producer.
773L	Milk ..	22·0% deficient in fat ..	1 0 0	Ordered to pay 10/6 costs; retailer.
813C	Milk ..	10·8% of added water ..	..	Dismissed on production of warranty from producer; wholesaler-retailer.
827C	Milk ..	6·0% of added water ..	1 0 0	Ordered to pay costs; producer.
828C	Milk ..	6·6% of added water ..	1 0 0	Ordered to pay costs; producer.
889C	Milk ..	19·7% of added water ..	..	Ordered to pay £3 5s. costs on three charges; producer.
895C	Milk ..	14·1% of added water ..	..	
896C	Milk ..	22·4% of added water ..	..	
1072C	Rum ..	48 degrees under proof equivalent to 20·0% of excess water	2 0 0	Ordered to pay costs; retailer.
1127C	Milk ..	3·8% of added water ..	..	Ordered to pay £3 3s. 6d. costs on two charges; producer.
1132C	Milk ..	4·2% of added water ..	..	

Sanitary Circumstances.

SANITARY CIRCUMSTANCES

BY

E. Ashworth Underwood, M.A., B.Sc., M.B., D.P.H., *Deputy Medical Officer of Health and Chief Sanitary Inspector.*

Rivers and Streams.—Close co-operation continued to be maintained between the Health Department and the West Riding Rivers Board, which administers the powers conferred by the Rivers Pollution Prevention Act, 1876, in respect of the Leeds area. During the year an abatement of pollution was secured on 8 occasions.

Water.—Mr. H. Shortreed, the Waterworks Manager, has kindly furnished me with the following particulars regarding the water supply of the city during 1933.

In spite of the drought, which seriously affected many districts the rainfall in the Washburn Drainage Area for the year ended 31st December, 1933, was 32·43 inches, as compared with 33·7 inches in the year 1932, and an ample supply of water was available throughout the whole of the year.

During the year 37,200 yards of new distribution mains of from 3 inches to 10 inches in diameter were laid, and 4,464 yards of old mains were replaced by new ones of not less than 3 inches in diameter.

The total consumption of water for the year ended 31st December, 1933, was 6,650 million gallons, equal to an average daily consumption of 18·22 million gallons, as compared with a daily average of 17·89 million gallons during the previous year. The daily average consumption for domestic purposes was approximately 25 gallons per head.

The regular monthly analyses (chemical and bacteriological) indicate a high standard of purity.

Examination of Swimming Bath Waters.—Towards the end of the year 1933 the writer carried out an investigation into the degree of purity of the water in five large swimming baths, each of which was used to a large extent by children and young adults. These baths are designated as follows :—A, B, C, D, E. Of these baths

" A " was the only one which is provided with a filtration plant. In all the other instances the baths are emptied weekly and replenished by fresh water from the mains brought up to the requisite temperature. The water is changed usually on Saturday, after bathing has ceased, or on Monday, before bathing has commenced.

Samples of water were taken 3 times weekly (Monday, Wednesday and Friday) from each bath for four weeks. These samples were submitted to both chemical and bacteriological examination, and the final decision on the quality of the water was based on a minute consideration of the results. It is impracticable to give full details here, but in order to show the progressive deterioration of the water in the non-filtered baths as the week advanced the findings for corresponding days in each of the four weeks have been averaged. The results of the chemical examination are set forth in the table on page 210.

The results of the bacteriological examination cannot be summarised in a similar fashion but a brief description of the findings are given here.

From published work it would seem that the gelatine count at 22° Centigrade is of little value, since Thresh and also Bowes have shown that even a slight increase in the use of a bath can lead to a very marked rise in the gelatine count. In the same way the count on agar at 37° Centigrade should not be interpreted too strictly since many of the organisms counted are non-pathogenic. The agar count would of course be of value when the resulting figures were high, *e.g.*, over 2,000 or 3,000 per c.c. Again, it must not be assumed that the B. coli count is always a reliable index, since Mallman has shown that these organisms can increase in swimming water after use. On the other hand streptococci do not tend to increase in number, and it is claimed in America that their presence is indicative of sewage pollution. The streptococcus most commonly present from such sources is the streptococcus fæcalis.

" A."—The total agar count at 37° usually varied from 2 to 960 colonies per c.c., and was commonly between 50 and 360. On two occasions B. coli were present in 10 c.c.'s, this being the highest concentration of this organism. Streptococci were never present. From the bacteriological standpoint there was nothing to be said against this water.

Results of Chemical Examination.

Examination.	Designation of Bath.														
	A			B			C			D			E		
	Mon.	Wed.	Fri.	Mon.	Wed.	Fri.	Mon.	Wed.	Fri.	Mon.	Wed.	Fri.	Mon.	Wed.	Fri.
Total dissolved solids	31·6	29·8	32·1	10·8	10·3	10·5	10·5	10·4	10·2	10·0	9·7	10·3	10·8	10·4	10·5
Free and Saline Ammonia ..	0·0015	0·0015	0·0017	0·0016	0·0210	0·0338	0·0016	0·0159	0·0169	0·0010	0·0079	0·0078	0·0010	0·0057	0·0093
Albuminoid Ammonia ..	0·0050	0·0054	0·0068	0·0100	0·0118	0·0166	0·0074	0·0101	0·0119	0·0060	0·0079	0·0098	0·0062	0·0072	0·0101
Oxygen absorbed in 4 hours at 20°C.	0·025	0·035	0·032	0·156	0·161	0·176	0·159	0·166	0·158	0·148	0·155	0·155	0·162	0·153	0·154
Nitrate Nitrogen ..	0·30	0·29	0·28	0·05	0·06	0·06	0·03	0·04	0·06	0·03	0·04	0·04	0·03	0·04	0·04
Chlorine present as chloride	5·2	5·1	5·3	1·2	1·3	1·2	1·2	1·2	1·2	1·0	1·2	1·2	1·2	1·2	1·2
Alkalinity as Calcium Carbonate	6·9	6·5	7·0	4·7	4·4	4·5	4·4	4·3	4·5	4·6	4·2	4·2	4·4	4·1	4·5
Free Chlorine ..	0·03	0·11	0·07	Absent in all samples			Absent in all samples			Absent in all samples			Absent in all samples		
Colour in 2-foot tube	White in all samples			Yellow, deepening with use			Yellow, deepening with use			Yellow, deepening with use			Yellow, deepening with use		
Deposit	Not appreciable			Organic debris-protozoa, etc.			Not appreciable			Not appreciable			Not appreciable		

All results are in parts per 100,000, except free chlorine, which is given in parts per million.

" B."—The agar count was very variable. The two highest agar counts were 1,200 and 1,800. B. Coli was frequently present in 10 c.c's. This organism was also present in 1 c.c. on two occasions, but since both of these samples were taken on Mondays it is doubtful whether too much reliance can be placed on these results. On the other hand, the high agar counts of 1,200 and 1,800 both corresponded with estimations of free and saline ammonia of 0·0340 and 0·0370, respectively. These figures were the highest found in any bath at any time for free and saline ammonia. Further, on one occasion 12 colonies of streptococci were obtained from this water.

" C."—In these samples the total agar counts varied from 53 to 630. These counts do not permit of any very definite deductions. Generally, B. coli was present in 25 c.c's. of water. On three occasions, however, B. coli was present in 1 c.c., and again, since two out of these three occasions were Mondays, too much emphasis should not be placed on these results. On one occasion 10 colonies of streptococci were obtained from this bath water.

" D."—In these waters the total agar count varied from 13 to 580. B. coli was frequently absent in 25 c.c's., but on three occasions it was present in 10 c.c's. On one examination a few streptococci were obtained. It is probable that the few streptococci present indicate fæcal pollution, but apart from this there is little bacteriological evidence of gross contamination.

" E."—The total agar count varied from 19 to 700. B. coli was present in 10 c.c's. on four occasions, and at one examination it was present in 1 c.c. A few streptococci were present on one occasion. Here again these streptococci almost certainly indicate pollution with intestinal organisms, but apart from these there is no bacteriological evidence of gross contamination.

As a result of the examinations it was concluded that the water in bath " A " was of a considerable degree of purity and required no further treatment. The water in bath " D " probably showed as little impurity as could reasonably be expected of a non-filtered swimming bath water. In the case of bath " E " however the presence of streptococci suggested the presence of pollution from a human source, and taking into account the fact that the examination was made in Winter when the temperature is low and the number of bathers limited it was considered

advisable that a filtration plant should be installed at the earliest possible date. In the case of baths " B " and " C " the evidence of pollution was so definite that the authorities were urged to instal filtration plants without delay. I have since learned that in each case this has either been done or steps for its accomplishment are in progress.

Sewage Disposal.—The Thorpe Stapleton Main Sewage Disposal Works continue to function efficiently, and a generally satisfactory degree of purification is obtained in the treatment of the sewage of the city.

During the year under review a start has been made with the construction of the sludge press house and the installation of modern sludge pressing machinery. Considerable progress has been made, and it is anticipated that the new plant will come into operation during the present year.

The Rodley Sewage Works are efficient and up to date, giving a very good degree of purification to the sewage delivered to these works. No further extensions or alterations have been carried out during the past year.

I have to thank Mr. E. H. Howatson, the Sewerage Engineer, for the above information.

Closet Accommodation.—During the year the Corporation continued the scheme of giving financial assistance to property owners in approved cases in the matter of the cost of conversion of trough-closets into modern pedestal water-closets, and 95 trough-closets were converted. The total contribution of the Corporation towards these works amounted to £581 6s. 10d., the average cost per closet being £7 18s. 2d., as compared with £8 0s. 3d. during 1932. On December 31st, 1933, there remained in the city 1,063 trough-closets.

Twenty privies were replaced by modern water-closets during the year.

The position with regard to the various types of sanitary conveniences in the city at the end of the year was as follows :— privies 228, pail-closets 185, trough-closets 1,063, and cistern water-closets approximately 119,700. There were also 364 cesspools.

Table shewing Numbers of Trough Closets, Privies and Pail Closets in the City during the last Twenty-nine Years.

Year.	Trough Closets.	Privies.	Pail Closets.
1905	10,507	1,669	231
1906	10,461	1,193	229
1907	10,424	963	228
1908	10,410	875	202
1909	10,120	851	198
1910	10,047	821	165
1911	9,963	785	164
*1912	9,934	1,284	221
1913	9,790	1,269	217
1914	9,760	1,211	207
1915	9,738	1,047	188
1916	9,725	1,026	185
1917	9,723	1,023	169
1918	9,693	1,022	166
1919	9,655	1,014	166
†1920	9,594	1,051	155
1921	9,521	900	128
1922	9,324	651	111
1923	9,256	558	102
1924	8,781	472	101
1925	8,222	332	94
‡1926	7,685	332	219
1927	6,447	294	197
§1928	4,440	435	267
1929	3,647	360	256
1930	2,772	322	230
1931	‖ 1,589	300	227
1932	1,158	248	205
1933	1,063	228	185

*Roundhay, Seacroft, Shadwell and Crossgates were added to the city in this year. In this area there were 502 privies and 61 pail closets.

†Middleton was absorbed in this year. In this area there were 148 privies.

‡Portion of Adel was added to the city in this year. In this area there were 65 privies and 136 pail closets.

§Eccup, Alwoodley, Templenewsam and Austhorpe were added to the city in this year. In these areas there were 192 privies and 106 pail closets.

‖This is a corrected figure obtained as a result of a recent census.

The existing privies and pail-closets are almost entirely in rural districts where no sewer will be available for some considerable time.

It will be noticed that the number of trough-closet conversions fell from 431 in the year 1932 to 95 in the current year. This decrease is due to the fact that during 1933 practically all the trough closets which were not in areas scheduled for treatment under the Housing Acts were dealt with. A brief summary of the Corporation's activities in this respect is not without interest. Since the subsidy was increased to 75 per cent. in August, 1923 a total of 8,093 trough closets have been converted. The amount of grants paid during this period was £58,100 7s. 2d. Leeds has suffered from having been a pioneer in the conversion of privies into water-flushed trough closets, but it is satisfactory to know that the day of the objectionable trough water-closet is now nearly at an end. The conversion of over 8,000 trough water-closets in a period of ten years is a notable achievement.

In the report for 1932 reference was made to the unsatisfactory position regarding cesspools. Two difficulties militate against their abolition, namely: (*a*) absence of sewers, and (*b*) the cost of connecting up to the sewer. During the year various attempts were made to reduce the number with indifferent success. It is a matter which will have to have serious attention in the near future.

Cleansing.—I am indebted to Mr. S. Thornley, the Director of Public Cleansing, for the following information. Household refuse collected by the Cleansing Department during 1933 amounted to 158,547 tons, of which 96,263 tons were dealt with at the destructors and 62,284 tons were disposed of at controlled tips and for agricultural purposes.

Ashpits and Ashbins.—During the year 421 ashpits were abolished. On December 31st, 1933 there still remained in the city 472 sunken ashpits and 5,435 other types. For reasons of economy the powers of the Corporation to defray the expense of removing the ashpit and providing the first ashbin, in accordance with Section 50 of the Leeds Corporation Act, 1930, were in no instance exercised. Many of the ashpits both under and overground are in areas likely to be dealt with in the Corporation's slum clearance proposals and will consequently disappear in due course.

The inspectors have paid particular attention to the dangers arising from dilapidated and misused ashbins, and in response to

representations from the Department, 4,293 metal ashbins were provided. Of this number 145 were supplied by the Corporation in default.

Public Conveniences.—After entire reconstruction, the public convenience in Briggate was re-opened on the 23rd August, 1933. Formerly the entrance was at the Southern end, and the approach almost within the actual area of the adjacent busy circus. Owing to the traffic congestion at this point, the situation of the entrance was an undoubted public danger. In the reconstruction scheme, the convenience is entered from the Northern end which is some distance higher up Briggate, and in a much safer position from the traffic point of view. Further, the accommodation has been increased, there being now 20 urinal stalls, instead of as formerly 12 only, and in addition the lavatory facilities have been increased and improved. The reconstructed convenience while a great improvement on the former one is still too small to cope with the demand at this busy corner especially at peak periods.

Flushing.—During the year the flushing service continued as previously. The work has been carried out efficiently, and the wisdom of substituting motor for horse traction has been amply confirmed.

During the past year 8,927 flushing operations were carried out in connection with public conveniences, and 3,734 flushings at private properties. The income derived from the private flushings was £86 8s. 4d. The corresponding figures for the year 1932 were 8,946, 3,703 and £89 10s. 3d.

Section 17, Housing Act, 1930.—The powers conferred by this Section continued to be operated during the year, and the following table sets forth clearly comparative figures of the work done during the past five years.

	1929.	1930.	1931.	1932.	1933.
Number of houses where defects were found	1,050	1,759	2,046	1,875	1,659
,, ,, houses at which defects were remedied	870	1,632	1,950	2,012	1,506
,, ,, informal notices served ..	1,050	1,741	1,865	1,256	1,111
,, ,, statutory notices served ..	180	481	716	756	395

In connection with the administration of this Section it is gratifying to be able to record that in no instance was it necessary to have the work carried out by the Corporation in default.

Leeds Corporation Act, 1927, Section 95.—By the provisions of this Section power is given to remove aged and infirm persons to a suitable institution. During the year several cases of this type came to the notice of the inspectors, but in every case it was found possible to persuade them to accept institutional treatment voluntarily.

It is of interest to note that the case mentioned in last year's report is still having to be made the subject of those monthly applications to the Court for renewal of the order of detention. Up to the time of writing this single case has already necessitated the personal attendance of the Medical Officer of Health at the local Police court on 6 occasions. It is regrettable that the procedure of the Act cannot be made less cumbersome.

Offensive Trades.—Below is a table showing the nature and number of scheduled offensive trades which were being carried on in the city at the end of the year :—

OFFENSIVE TRADES.

Nature of Trade.	Number of each Trade.
Bone Boiler	5
Fellmonger	2
Fat Melter	10
Glue Maker	2
Gut Scraper	4
Leather Dresser	23
Rag and Bone Dealer	33
Size Maker	4
Soap Boiler	5
Tanner	16
Tripe Boiler	12
Fish Frier	550
Total	666

During the year 3,705 visits of inspection were made to premises in which offensive trades were carried on or in respect of which applications had been received for permission to establish such trades, as compared with 3,531 in 1932.

Fish Frying.—During the year 18 applications were received for permission to establish the offensive trade of a fish frier. Of these five were rejected.

The policy of the Department limiting consent to one year only, and renewable thereafter subject to the satisfactory conduct of the business has been continued and has been justified by results.

The campaign to improve the condition of existing fried-fish shops, which is referred to in the report for 1932, was continued during 1933. In response to representations made by this Department 256 fried-fish shops were brought up to the standard considered reasonable for modern premises of this kind.

District Sanitary Inspection.—Routine sanitary inspection has continued as in previous years and the amount of this work done during 1933 will be seen on reference to the tables on pages 218 and 219.

The number of preliminary notices served during the year for the abatement of nuisances was 7,709, and the number of statutory notices 2,163. Of the latter 1,968 have been effective and 195 were outstanding at the year end.

In connection with common lodging-houses, houses-let-in-lodgings, etc., there were served during the year 516 preliminary notices and 210 statutory notices.

In addition 248 preliminary notices and 36 statutory notices were served in connection with factories, workshops and workplaces.

It will be seen that the inspection of houses and premises in connection with infectious disease made heavy claims on the inspectors' time.

Training of Sanitary Inspectors.—Eleven student sanitary inspectors received training in the Department during the year.

During the year a scheme for the training of sanitary inspectors by the creation of two student-probationerships was instituted. In brief the conditions governing these probationerships are such

Analysis of Work done by District Inspectors, 1933.

			EASTERN DIVISION.	WESTERN DIVISION.	CITY TOTALS.
	HOUSE INSPECTION.				
1.	Houses and premises completely examined on account of	Infectious disease ...	1,517	1,902	3,419
2.		Alleged nuisances ..	84	274	358
3.		House-to-house work ..	24	59	83
4.	Houses and premises examined only as to	Occupants	552	196	748
5.		Alleged nuisances ..	3,958	5,754	9,712
6.		Drainage	304	307	611
7.	Number of houses wholly or partly examined		6,439	8,492	14,931
8.	Total number of above houses where sanitary defects or nuisances were found		4,324	6,416	10,740
	NUISANCES FOUND DURING ABOVE EXAMINATIONS AND DAILY INSPECTIONS.				
9.	Houses dirty		132	66	198
10.	Overcrowded houses		230	84	314
11.	Defective roofs, fallpipes and spouting, &c. ..		2,671	3,544	6,215
12.	Defective drains		377	488	865
13.	Houses without proper drains		17	44	61
14.	,, without proper water supply ..		14	12	26
15.	Privies		7	8	15
16.	Additional closets required		3	10	13
17.	Pail closets		1	14	15
18.	Defective or unsuitable trough or water closets		960	1,166	2,126
19.	Ashpits	(*a*) Sunken	46	27	73
		(*b*) Other than sunken	198	200	398
20.	Houses with unsuitable or insufficient ashes accommodation		3,322	2,951	6,273
21.	Dirty closets		108	89	197
22.	Defective or dirty yard surfaces		203	84	287
23.	Stopped drains		827	703	1,530
24.	Other nuisances		2,564	2,068	4,632
25.	Other housing defects		1,554	2,148	3,702
26.	Number of houses affected by above nuisances		11,998	12,060	24,058
27.	Offensive accumulations and other outside nuisances including manure pits and cesspools		285	83	368
28.	Pollutions of river or streams		2	7	9
29.	Animals (pigs, poultry, etc.) improperly kept		46	12	58
30.	Offensive urinals		20	6	26
31.	Total nuisances and housing defects found ..		13,587	13,814	27,401
32.	Complaints unfounded		395	162	557
33.	Additional visits paid to houses for	Infectious disease	482	636	1,118
34.		Non-abated Nuisances	12,017	15,477	27,494
35.		Inspection of work in progress ..	2,184	1,660	3,844
36.		Other causes	3,954	1,094	5,048
37.	Visits on account of special enquiries ..		2,201	2,013	4,214
38.	Visits to offensive trades		1,359	2,199	*3,558
39.	Visits to bakehouses		1,721	1,883	3,604
40.	Visits to rat-infested premises		419	213	632
41.	Appointments		559	728	1,287
	DRAIN TESTING.				
42.	Number of tests applied to drains on Account of	House-to-house inspection ..	207	128	335
43.		Nuisance complaints	228	499	727
44.		Requests	69	199	268
45.		Infectious disease	1,382	1,784	3,166
46.		Work in progress	297	433	730

*In addition to the above, 147 visits were paid by the Workshops Inspectors to Offensive Trades.

Analysis of Work done by District Inspectors—1933—contd.

		EASTERN DIVISION.	WESTERN DIVISION.	CITY TOTALS.
47.	Number of informal notices served	4,344	3,365	7,709
48.	Number of statutory notices served.. ..	1,218	945	2,163
	NUISANCE ABATEMENT.			
49.	Metal ashbins provided	2,318	1,975	4,293
50.	Houses cleansed..	108	47	155
51.	Overcrowded houses dealt with	32	13	45
52.	Defective roofs, fallpipes and spouting, &c. repaired	2,743	3,607	6,350
53.	Disconnection of house drains	98	134	232
54.	Other drainage works	303	404	707
55.	Houses provided with proper drains ..	15	30	45
56.	Houses supplied with town's water	4	10	14
57.	Privies abolished or converted into water closets	9	11	20
58.	Water closets erected (*a*) Outside	8	9	17
	(*b*) Inside	—	3	3
59.	Pail closets abolished or converted into water closets	3	17	20
60.	Trough closets converted into water closets ..	83	12	95
61.	Trough and water closets repaired	895	1,113	2,008
62.	Ashpits abolished (*a*) Sunken	33	32	65
	(*b*) Other than sunken ..	170	186	356
63.	Houses provided with suitable ashes accommodation	3,282	2,938	6,220
64.	Closets cleansed (limewashed, etc.)	98	94	192
65.	Yard surfaces repaired or renewed	157	77	234
66.	Stopped drains cleared..	803	696	1,499
67.	Other nuisances remedied	2,259	1,801	4,060
68.	Other housing defects remedied	1,348	1,914	3,262
69.	Total houses for which above work done ..	11,624	11,821	23,445
70.	Offensive accumulations removed	211	38	249
71.	New manure pits or metal receptacles provided	20	4	24
72.	Manure pits repaired	3	—	3
73.	Pollutions of river or streams abated ..	2	6	8
74.	Animals improperly kept removed	22	10	32
75.	Offensive urinals dealt with	15	3	18
76.	Cesspools filled up	4	10	14
77.	Public or private wells abolished	—	—	—
78.	Total nuisances and housing defects abated	12,728	13,219	25,947
79.	Abated in response to prelim. notices or volun.	10,345	11,242	21,587
80.	Abated in response to statutory notices ..	2,383	1,977	4,360
	HOUSING ACT, 1930: SECTION 17.			
81.	Number of houses where defects found ..	687	925	1,612
82.	Number of houses where defects remedied..	596	876	1,472
83.	Defects remedied in response to (*a*) Prelim. Notices or Volun	388	693	1,081
84.	(*b*) Statutory Notices ..	208	183	391
85.	Number of informal notices served ..	650	667	1,317
86.	Number of statutory notices served.. ..	236	231	467

that a student is appointed for a period of two years. During the first year he receives a complete course of practical work and office work in the various sections of the Department. He is paid at the rate of £50 per annum, this remuneration being of the nature of a loan. During his second year, that is to say after he has obtained the Sanitary Inspectors' Certificate, the student is attached to a Division and carries out the duties of a probationer sanitary inspector for which he receives a salary of £150. From this salary the £50 loaned to him during his first year is deducted. In the year 1933 both student probationerships were filled. The scheme it is hoped will have the dual effect of enabling young men of limited means to follow the calling of a sanitary inspector and by offering a larger period of training in the practice of a Public Health Department of improving the standard of knowledge.

Applications for Council Houses.—By arrangement with the Improvements Committee it was decided to grant preferential treatment to families in which overcrowding was present or where there were definite cases of tuberculosis in the households. All these applications are referred to this Department for investigation, and in this connection 754 houses have been inspected during the year. In 514 of these, gross overcrowding was found, and applications were granted on the ground of tuberculosis in 90 cases. These inspections meant increased work for both the inspectorial and clerical branches of the Department.

Common Lodging Houses.—Strict supervision of the 26 common lodging-houses in the city has been maintained, and it can be safely claimed that the standard of cleanliness in these is high. No legal proceedings were instituted against any Keeper.

At the end of the year there was available in the city the following common lodging-house accommodation in registered premises :—

For Men	23 houses, with	*1,606 beds.
For Women ..	3 houses, with	116 beds.

Included in the above are three registered lodging-houses for men, controlled by the Salvation Army and by the Church Army, with a total of 376 beds.

*A recent census has revealed an error in the total number previously reported.

Common Lodging-Houses.

Number registered—	
Men's 23 Beds available 1,606 } ..	..
Women's 3 ,, ,, 116 }	
Routine visits to all common lodging-houses ..	1,087
Visits as to drain tests and abatements ..	111
Visits to smallpox contacts	..
Visits for infectious disease	1
Preliminary notices served	52
Statutory notices served	2

Nuisances found and abated :—	FOUND.	ABATED.
Dirty closets	2	2
Dirty rooms	72	72
Dirty bedding	90	90
Defective or stopped drains	6	6
Defective roofs or eaves spouts	10	10
Other nuisances	109	108
Total	289	288

Houses-Let-in-Lodgings.

	HOUSES.	ROOMS.
Registered during 1933, let as furnished rooms	13	105
On register at end of 1933	74	512
Houses-let-in-lodgings visited though not registered	76	432
Drains tested 67, in 60 houses		
Drains re-tested —, in — houses		
Visits for inspection of nuisance abatement and requirements of byelaws .. 1,527		
Visits for other causes 495		
,, infectious disease (9 cases) 10		
,, additional inspection .. 1,114		
Preliminary notices served	470	
Statutory notices served	179	

Nuisances—	FOUND.	ABATED.
Dirty or bad bedding	17	17
Dirty rooms	428	365
Overcrowding	20	15
Dirty closets	29	29
Other nuisances	365	169
Structural defects	479	414

During the year under review the beds in the 23 men's lodging-houses were occupied on 374,859 occasions, the average number of beds vacant per night being 406 ; the 116 beds in the women's lodging-houses, were occupied on 17,605 occasions, the average number of vacant beds nightly being 67.

The table on page 221 sets forth the work carried out in respect of the common lodging-houses during 1933.

Houses-let-in-Lodgings.—The control of this type of house continues to be a difficult problem, and frequent inspections are necessary.

In the report for 1932 the difficulties associated with this type of dwelling were fully discussed and it is not necessary to recapitulate here.

At the time of writing new byelaws have just been approved by the Minister of Health the effect of which will be to bring to light numbers of such dwellings not previously known to this Department.

The number of statutory notices served for breaches of the Byelaws was 150, and of these 122 were complied with.

Details of the work in connection with houses-let-in-lodgings will be found in the table on page 221.

University Lodgings.—The usual procedure has been followed and the lodgings on the register of approved premises for the use of University students were duly inspected and the results reported to the University Authorities. In this connection the following details are given :—

	HOUSES.	ROOMS.
New Lodgings inspected during 1933	47	111
Old lodgings re-inspected	23	66

Drains tested—160 drains in 64 houses.

Total number of visits to the above houses 70.

Details of sanitary defects found and rectified are included in the table under houses-let-in-lodgings.

Residential Flats.—The special inspectors concerned paid 31 visits to the 113 residential flats in the city.

Cellar Dwellings and Underground Sleeping Rooms.—During the year 40 underground sleeping-rooms were found to which 53 visits were paid. Alternative accommodation was found in 38 cases, and the remaining two are still under consideration.

Below are particulars of visits, nuisances found and abated, and notices issued :—

Visits to cellar dwellings	10	
Visits to underground sleeping-rooms ..	53	
Visits on account of nuisance abatement ..	30	
Visits for other causes	..	
Preliminary notices served	40	
Statutory notices served	..	
Nuisances :—	FOUND.	ABATED.
Underground sleeping-rooms	40	38
Other nuisances	..	..

Tents and Vans.—During the year 4 additional camping-grounds were found. Two of these, however, were subsequently closed. In addition 2 of the old camping-grounds have also ceased to exist. At the end of the year there were in the city 12 camping-grounds. With the exception, however, of the Stanningley Road and Brewery Yard encampments, the number of vans on the site does not exceed one or two. Since the beginning of the current year the Stanningley Road encampment has been dissolved and the vans dispersed. This is however a matter for my next report where details of this important occurrence will appear.

The following table gives details of the several inspections made :—

Visits to vans (251 vans)	1,220	
Visits to tents (42 tents)	327	
Visits on account of infectious disease ..	1	
Visits to camping grounds	126	
Visits on account of nuisances	232	
Camping grounds closed	2	
Statutory notices served	40	
Nuisances :—	FOUND.	ABATED.
Dirty camping grounds	5	5
Dirty vans	4	4
Overcrowded vans	1	1
Camping places without sanitary accommodation	4	2
Tents and vans not habitable	48	16
Other nuisances	88	82

Canal Boats.—The work in connection with the registration and inspection of canal boats has been carried on as in past years.

Details appear in the table appended.

CANAL BOATS.

Registered during the year 1933	1
Re-registered and Transferred to fresh owners ..	12
Re-registered owing to structural alterations	..
Struck off register (on revising register)	22
Remaining on register at end of year..	117
Visits of inspection to wharves and locks	601
Complete inspections of boats	464
Cases of infectious disease	..
Cases of overcrowding	..
Dirty cabins	2
Absence of registration certificate	22
Boats not marked with registered number	9
,, not properly ventilated	..
,, requiring painting or repairing	6
,, found to be not registered	..
Number of children of school age found on registered boats—6 boats, 8 children	

Sanitation of Schools.—A separate report is issued by the School Medical Officer and this includes particulars relating to the sanitary circumstances of the Leeds Schools.

Rat Suppression.—As in past years the annual Rat Week was held in November when an effort was made to educate the public concerning the dangers to health and the economic wastage occasioned by rats. In addition, a rat film was shown in two cinemas, and thanks to the valuable support given by the Press a good deal of interest was created. The co-operation of the City Engineer's Department was enlisted and special measures were taken against sewer rats. Further, the Cleansing Department carried out a campaign against rats in refuse tips and dumps.

The number of complaints received was 372, as compared with 371 last year, and 316 in 1931. The increase in the number of the

complaints indicates an appreciation by the public generally of the fact that the Department is able to give advice on the eradication of these pests. The figures do not, of course, give any indication of the extent to which the city is affected. Particulars of the work done during the year under the Rats and Mice (Destruction) Act, 1919, are as follows :—

Complaints received	372
Premises inspected	588
Premises cleared	212
Rats caught or found poisoned	2,343
Visits for purposes of observation of work in progress	719
Visits for other purposes—interviews with owners of infested premises and the like..	170
Informal notices served	60
Notices complied with	53

Pig Keeping.—Constant supervision has been necessary throughout the year in order to prevent nuisances arising from the keeping of pigs. It is encouraging to note, however, that during the year no legal action had to be taken to ensure compliance with the byelaws.

At the end of the year the total number of persons (excluding farmers) keeping pigs in the city was 306.

Plans.—The system whereby those plans submitted to the Building Surveyor which deal with schemes involving sanitary works are reviewed by this Department before being finally approved by the Corporation, was continued during 1933. The total number of plans examined and commented upon was 218.

Factory and Workshop Act, 1901.—A complete summary of the work done during the year under the above Act appears on pages 228 and 229.

Close co-operation continued to be maintained between the Department and H.M. Factory Inspectorate.

OTHER VISITS PAID BY MALE WORKSHOPS INSPECTORS.

	Factories.	Workshops.	Workplaces.
Non-abatements	248	162	137
Drain Inspection	53	18	55
Drains tested	30	16	44
Disease enquiries	26	5	7
River pollution	5	..	..
Complaints	70	28	1
Measurement of workrooms ..	1	..	..
Other causes	208	147	66
TOTAL	641	376	310

Work of Women Inspectors.—During the year the two women inspectors carried out their various duties, comprising visiting of outworkers, investigation of outbreaks of infectious diseases in factories, workshops and schools, the routine inspection of workshops and certain restaurants, and the investigation of complaints received from the factory inspectors or other sources relating to sanitary defects affecting the health of female workers.

The following is a summary of their year's work :—

Infectious Diseases.—The following visits were made :—

To schools (on account of 1,633 cases) ..	1,265
To absent pupils	183
To factories (101 cases)	99
To workshops (2 cases)	2
To workplaces, including restaurants (22 cases)	22
To absent employees	3
Special visits	10

Factories and Workshops.—Part of the work done by the women inspectors under this heading appears on pages 228 and 229.

In addition to that appearing in the table the following visits were paid :—

Outworkers' homes	418
Outworkers, employers' premises	147
Factories	12
Workshops (routine and complaint)	495
Workplaces and retaurants do.	1,264
Special visits	95
	2,431
Inspections of public sanitary conveniences for women	477

Nuisances found 116, abated 108.

Rag Flock Acts, 1911 and 1928.—During the year 20 visits were made to premises occupied by persons manufacturing or using rag flock. Six samples were taken and submitted to the City Analyst for analysis and all were found to comply with the legal standard of not more than 30 parts of chlorine per 100,000, although one sample reached this figure. The average amount of chlorine found to be present was 18·3 parts per 100,000. This is the third year in succession in which all the samples have been satisfactory.

Mortuary Accommodation.—The number of bodies dealt with at Marsh Lane Mortuary during the year was 262, comprising 179 admitted from dwelling-houses, workshops, etc., 19 from rivers and the lakes at Roundhay Park, 37 persons who have died in the street, 19 as a result of fatal street accidents, 2 killed by aeroplane (Middleton Park) and 6 unclaimed bodies.

FACTORIES AND WORKSHOPS.

1.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions
Factories .. .. (Including Factory Laundries.)	536	165	..
Workshops .. .. (Including Workshop Laundries.)	2,333	105	..
Workplaces	1,525	23	..
Total	4,394†	293	..

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
Nuisances under the Public Health Acts :—*				
Want of cleanliness	155	148	..	..
Want of ventilation	18	16	..	..
Overcrowding	..	..	..	..
Want of drainage of floors ..	..	..	..	..
Other nuisances	612	560	..	..
Sanitary accommodation. Sec. 22 in force. — insufficient ..	31	30	..	..
Sanitary accommodation. Sec. 22 in force. — unsuitable or defective ..	154	130	..	..
Sanitary accommodation. Sec. 22 in force. — not separate for sexes ..	15	19	..	..
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	..	..	..	..
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	26	26	..	..
Other offences	..	..	..	..
Total	1,011	929	..	..

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

† Exclusive of 3,604 visits to 648 bakehouses by ward inspectors, see page 218.

3, 4, 5.—OTHER MATTERS.

	Number of		
	Lists.	Outworkers.	
Homework :—			
List of Outworkers (S. 107) :—		C.	W.
Lists received twice in the year	284	511	398
,, once in the year	26	21	39
Addresses of outworkers received from other Authorities ..		92	
Addresses of outworkers forwarded to other Authorities		..	
Notices to occupiers as to keeping or sending lists ..		419	
Prosecutions		..	
Inspection of Homeworkers' premises		553	
Homework in unwholesome premises :—			
Instances		10	
Notices		10	
Prosecutions		..	
Homework in infected premises :—			
Instances		3†	
Orders made (S. 110)		3	
Prosecutions (SS. 109, 110)		..	
[Infectious cases removed, disinfection carried out under ordinary powers.]			
Workshops on the Register (S. 131) at the end of year :—			
Ordinary (139 trades)		1,014	
Domestic (6 trades)		32	
Bakehouses on register as workshops		272	
Do. domestic		376	
Total number of workshops on Register		1,694	
Matters notified to H.M. Inspectors of Factories :—			
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		18	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Notified by H.M. Inspector ..		87	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Reports (of action taken) sent to H.M. Inspectors ..		39	
Other		..	
Underground Bakehouses (S. 101) :—			
Certificates granted during the year		..	
In use at the end of 1933		25	

† 1 Diphtheria, 2 Scarlet Fever.

The above table is that required by the Home Office and represents work done by the male workshops inspectors and by the women inspectors.

BAKEHOUSES.

Ward.	Overground.			Underground.			
	Employees beyond family.	Workshop bakehouses.	Domestic bakehouses.	Employees beyond family.	Workshop bakehouses.	Domestic bakehouses.	Total visits to all.
Mill Hill and South	46 in	15	21	..		1	180
Westfield	23 ,,	11	33	..		..	235
Blenheim	44 ,,	14	15	4 in	2	1	255
Central	152 ,,	22	8	4 ,,	2	..	83
Woodhouse.. ..	21 ,,	12	20	1 ,,	1	2	110
North	20 ,,	13	1	1 ,,	1	1	47
Far Headingley ..	5 ,,	5	13	..		..	70
Hyde Park.. ..	15 ,,	13	4	5 in	4	1	99
Kirkstall	16 ,,	7	11	2 ,,	2	..	175
Burmantofts ..	14 ,,	8	18	2 ,,	1	..	49
Harehills	24 ,,	16	16	..		..	234
Potternewton ..	15 ,,	8	7	1 in	1	1	41
Roundhay	13 ,,	5	3	..		..	64
Cross Gates and Templenewsam ..	27 ,,	16	2	..		..	242
Richmond Hill ..	11 ,,	6	34	..		..	188
Osmondthorpe ..	24 ,,	8	8	..		..	141
East Hunslet ..	13 ,,	5	25	..		..	160
Hunslet Carr and Middleton ..	5 ,,	3	4	6 in	2	..	117
West Hunslet ..	23 ,,	10	19	5 ,,	2	..	137
Beeston	10 ,,	7	11	..		..	91
Holbeck (South) ..	42 ,,	4	8	..		..	91
Holbeck (North) ..	81 ,,	8	30	..		..	279
Armley and New Wortley ..	9 ,,	7	10	..		..	84
Upper Armley ..	17 ,,	10	20	..		..	233
Bramley	21 ,,	15	15	..		..	143
Farnley & Wortley	19 ,,	6	13	..		..	56
Totals ..	710 in	254	369	31 in	18	7	3,604

These visits made by Ward Inspectors only. This work is included in the figures in the table on page 218.

SMOKE ABATEMENT.

The table on page 235 shows the work of the smoke inspectors during the year. The average duration of black smoke per observation was 29 seconds, the same as for the previous year, but the number of chimneys found offending against the byelaw increased from 57 to 67. The ratio of offending chimneys to observations in 1933 was 1 to 98 which works out at a percentage of 1·0 as compared with 1 to 124 and a percentage of 0·8 for the previous year. For the previous five years the average ratio was 1 to 80 or a percentage of 1·3. In all cases offenders were warned by letter either from the Medical Officer of Health or the Town Clerk. The smoke inspectors also visited and advised as to the steps to be taken for preventing the recurrence of the offence.

The state of the atmosphere of the city though greatly improved as compared with what it was even ten years ago is still far from satisfactory. The factory chimney is undoubtedly responsible for a part of the nuisance but certainly not for as large a part as the domestic fire. If the factory owner and the householder alike were imbued with the desire for a clean atmosphere they would be willing to set aside purely selfish considerations and in the interest of the community as a whole, abandon raw coal, wherever that is possible for the production of heat and power, and substitute one or other of the smokeless fuels including electricity or gas. I am convinced that if this was done the saving in health, as well as in money, would be enormous. Besides which, the attempt now being made to beautify and enrich the city with imposing buildings would not be, as it is in danger of being, entirely frustrated by the disfiguring effect of soot and other products of coal combustion. I particularly hope that in the rebuilding of those parts of the city which are now being demolished in connection with the Corporation's programme of slum clearance the new houses that are to be built to replace those pulled down will be smokeless. If this is not done, we shall have lost the finest opportunity we have ever had of ridding the city of one of its greatest evils—an opportunity which may never recur.

West Riding of Yorkshire Regional Smoke Abatement Committee.—The Executive Committee held 7 meetings during the year and the average attendance was 16. During the year the attention of the Committee was occupied by a variety of subjects in connection with smoke abatement, amongst which the most important were :—

(1) An investigation into the presence of metallic deposits of lead, copper and arsenic in atmospheric dust.

(2) The occurrence of cases of carbon monoxide poisoning in garages.

The Committee's attention was called to the following resolution which was passed at the Annual Conference of the Sanitary Inspectors' Association in September last :—

> " That this Conference is of opinion that the two minute limit for the emission of black smoke in any period of thirty minutes should be the maximum under any byelaw, and that this should be made to apply to the whole country at the earliest opportunity."

The resolution was noted with interest as affording confirmation of the opinion already expressed by the Executive Committee that steps should now be taken to make the time allowance of two minutes in thirty minutes universal throughout the area, and the country as a whole.

The Committee continued to receive the meteorological data respecting the state of the atmosphere from those constituent authorities which possess the necessary appliances. These were tabulated and laid on the table at the meetings of the Executive Committee. In addition to the soot deposit and the amount of daylight, four authorities, including Leeds, are now submitting monthly records of the amount of sulphur in the atmosphere by the lead peroxide method.

The Examination Board met on five occasions during the year and there was an average attendance of eight. During the year courses were held for stokers and boiler attendants at 9 colleges and the total number of students attending was 182 averaging

20 per class. These figures show an appreciable increase as compared with those for the previous year when courses were provided at 6 colleges, attended by 130 students with a class average of 22. Examinations were arranged at 9 centres as compared with 5 last year; 99 students entered of whom 70 or 71 per cent. were successful in obtaining the Committee's certificate. Last year out of 53 entries, 45 or 85 per cent. were successful. In Leeds the course at the College of Technology was attended by 40 of whom 28 entered and 25 passed (89 per cent.).

Further details of the work of the Regional Smoke Abatement Committee will be found in the Annual Report of the Executive Committee, copies of which are to be had from the Secretary of the Committee at 12, Market Buildings, Leeds, 1.

Smoke Gauges.—The table on page 236 shows the monthly deposit of soot and ash in English tons per square mile for the years 1932 and 1933. Increases were recorded at Headingley, York Road, Hunslet (average 11 months), and Templenewsam (average 11 months) stations and at Park Square there was a decrease. The station with the highest monthly average was Park Square (27·31) and that with the lowest Templenewsam (7·42).

Sunlight and Daylight Gauges.—The table on page 237 shows the amount of daylight registered at Headingley, Park Square, York Road, Hunslet and Middleton for the years 1932 and 1933. Increases were recorded at Park Square, York Road and Middleton and decreases at Headingley and Hunslet. The station showing the highest average amount of daylight in 1933 was Middleton (7·24) and the lowest Hunslet (5·44).

Sulphur Pollution of the Atmosphere.—In March a new apparatus for the estimation of sulphur in the atmosphere of the city was set up at Headingley and Park Square. The test depends on the absorption of sulphur dioxide (SO_2) by a prepared surface of lead peroxide and the estimation at the end of each month of the lead sulphate so formed. The apparatus which is of simple form was evolved by the Building Research Station of the Department of Scientific and Industrial Research.

The following table gives the results.

ESTIMATION OF ATMOSPHERIC SULPHUR POLLUTION BY LEAD PEROXIDE METHOD.

Weight of SO_2 calculated per 100 sq. cms. of exposed fabric.

Period.	Stations.	
	Headingley.	Park Square.
	1933.	1933.
January	..	..
February	..	..
March	0·083	0·163
April	0·045	0·090
May	0·039	0·084
June	0·021	0·044
July	0·032	0·071
August	0·035	0·069
September	0·030	0·062
October	0·052	0·125
November	0·069	0·154
December	0·113	0·200
Monthly Average (10 Months) ..	0·052	0·106

The work of the smoke inspectors is given in detail in the subjoined table.

(1)

	1932	1933
Furnaces inspected	1,867	1,774
Observations of chimneys	7,066	6,539
Number of minutes of black smoke during observations	3,463	3,246
Average duration of black smoke per observation	0 mins. 29 secs.	0 mins. 29 secs.
Number of chimneys offending against the byelaw	57	67
Smoke prevention appliances adapted to furnaces	8	2
Furnaces altered or reconstructed	74	47
Firms who have adopted smokeless fuel ..	9	18
Chimneys newly erected	5	10
Furnaces in connection with new chimneys ..	..	10
Number of firms adopting electricity .. .. (Steam boilers discarded)	1	..
Notices served on owners and occupiers ..	55	67
Prosecutions	..	..

SMOKE OBSERVATIONS, 1922-1933.

(2)

Year.	Observations of Chimneys.	No. of Chimneys found offending against the byelaw.	Percentage.
1922	3,853	275	7·1
1923	6,007	202	3·3
1924	6,773	113	1·7
1925	4,373	92	2·1
1926	4,114	63	1·5
1927	4,185	58	1·4
1928	3,492	38	1·1
1929	3,384	77	2·3
1930	4,670	80	1·7
1931	6,397	62	1·0
1932	7,066	57	0·8
1933	6,539	67	1·0

Soot and Ash Gauges.
Monthly Deposit in English Tons per Square Mile.
Years 1932 and 1933.

Period.	Stations.									
	Headingley.		Park Square.		York Road.		Hunslet		Templenewsam.	
	1932.	1933.	1932.	1933.	1932.	1933.	1932.	1933.	1932.	1933.
January	9·2	8·9	35·4	32·4	19·1	21·2	18·1	—*	9·4	—*
February	5·4	11·5	20·1	29·3	19·1	26·0	15·8	23·2	3·6	9·2
March	9·4	9·9	32·2	20·1	25·0	19·1	25·5	22·9	7·9	6·4
April	10·7	8·7	36·5	27·8	26·2	22·4	31·6	31·1	7·6	9·2
May	11·7	11·7	28·3	30·3	26·5	24·2	19·4	20·4	8·4	8·9
June	7·1	5·4	21·4	21·6	20·2	20·7	23·2	32·8	4·6	5·5
July	12·2	9·74	30·1	25·21	29·1	33·61	36·2	32·33	11·0	8·42
August	5·9	9·15	21·7	31·00	21·9	21·48	18·9	25·50	6·9	7·01
September	8·4	7·12	26·0	20·60	19·9	22·90	26·0	21·90	9·2	10·00
October	9·2	8·31	37·2	35·38	24·5	25·45	18·4	26·32	7·9	6·22
November	7·9	9·08	28·3	23·32	17·9	16·85	14·8	19·65	5·6	4·59
December	8·7	8·36	27·5	30·75	15·3	23·94	7·7	20·22	5·4	6·15
Year	105·8	107·86	344.7	327·76	264·7	277·83	255·6	276·32 (11 months)	87·5	81·59 (11 months)
Monthly Average ..	8·8	8·99	28·7	27·31	22·1	23·15	21·3	25·12	7·3	7·42

* Bottle cracked by Frost

Table Showing Amount of Daylight for the Years 1932 and 1933.

(Value expressed as Milligrams of Iodine liberated by the action of daylight on a mixture of dilute Sulphuric Acid and Potassium Iodide Solution).

Period.	Stations.									
	Headingley.		Park Square.		York Road.		Hunslet.		Middleton.	
	1932.	1933.	1932.	1933.	1932.	1933.	1932.	1933.	1932.	1933.
January	3·43	3·00	2·68	2·53	2·67	2·48	3·04	2·90	4·29	4·22
February	5·32	3·87	4·37	4·38	4·00	3·69	3·93	4·19	5·59	5·57
March	6·62	5·70	5·56	6·40	5·08	5·73	5·47	6·05	6·80	8·20
April	8·77	6·14	8·22	7·04	7·18	6·22	7·46	6·18	9·62	7·12
May	8·60	8·37	7·68	8·48	7·85	7·90	7·87	7·76	8·45	9·00
June	10·52	8·94	9·76	9·72	9·60	8·92	9·45	8·24	10·24	9·79
July	8·73	8·84	8·53	9·50	8·23	9·13	7·93	8·44	9·03	10·79
August	8·10	8·03	7·89	8·00	7·73	8·24	7·75	7·80	8·86	9·47
September	6·41	6·60	6·52	7·47	5·54	7·24	6·32	6·76	8·01	8·54
October	5·15	4·84	4·58	5·03	4·71	4·94	4·68	4·35	5·90	6·52
November	2·84	2·88	2·98	2·78	2·86	2·90	3·27	1·76	4·44	4·52
December	2·13	1·80	2·62	1·60	2·42	1·92	2·68	0·80	4·09	3·10
Year (average) ..	6·39	5·75	5·95	6·08	5·65	5·78	5·82	5·44	7·11	7·24

Housing.

HOUSING.

The year 1933 was memorable in that it witnessed the start of the movement towards the better housing of the poorest section of the working classes in the city. Prior to the passing of the Housing Act of 1930 all the energies of the Council had been bent in the direction of providing houses to meet the demand of the general population in the hope that thereby the slum population would ultimately benefit. I have never myself believed in the "filtering up" process as a solution of the slum problem and after an extended trial it has to-day to be admitted that for all the thousands of new houses erected the slum population has not diminished by so much as one family nor have the conditions of the poorest wage earners been ameliorated in the slightest degree. The flank attack having failed the Government decided to try a frontal attack and accordingly the 1930 Act was passed. It also hung fire for a time and progress was slow. Then in April, 1933, came the appeal of the Minister of Health to Local Authorities throughout the country to make an honest and sincere attempt to end the slums once and for all and with that object in view to adopt, each in its own area, a programme of slum clearance to extend over a period of five years and to include all property of an insanitary type. In response to this appeal the Leeds City Council in September agreed to the demolition of 15,000 of the worst of the oldest type of back-to-back houses and informed the Minister of Health accordingly. Very soon thereafter the first three areas comprising a total of 420 houses were represented followed in quick succession by four other areas with a total of 582 houses and a little later still by a single large area of 606 houses. Subsequently the programme itself was revised the total being increased from 15,000 to 30,000 houses and the period, with the consent of the Minister, extended to six years. Since then further details have been worked out but these do not belong to the year under review and will be dealt with in my next report. Suffice it to say that with the possible exception of London no other town has adopted such an extensive programme and if it can be carried through to a successful conclusion it will be a remarkable not to say unique achievement.

Number of Houses.—The total number of houses in the city on December 31st, 1933, was 135,066, made up approximately of 74,020 back-to-back houses and 61,046 through houses.

Empty Houses.—At the same date there were 1,866 unoccupied houses, chiefly of the large old fashioned type.

New Houses.—The number of new houses built during the year was 3,103, of which 164 were back-to-back, 138 cottage flats, 1,743 working class houses mostly of the three bedroom type, and the remainder 1,058 of a larger type. The total number of houses, including flats, built by the City Council since the war is 10,120 and the number built by private enterprise, 14,548.

Housing Shortage.—The number of applicants for new houses standing in the registers at the Housing Department on December 31st, 1933, was 4,029. The building of subsidy houses for occupation by the working classes ceased with the passing of the Housing Act of 1933 since which time Government aid has been available only for the building of houses to replace those demolished under schemes of slum clearance. This reversal of policy, though unfortunate from the point of view of the general population, and particularly of families living under overcrowded conditions in areas not included in the Corporation's slum clearance programme, has had the effect of diverting the money to the object for which it is most urgently required, namely slum clearance.

Overcrowding.—The number of notices served by the Department for overcrowding during the year was 314. Because of the house shortage it has not been possible to enforce all the notices. Some 45 only were abated. By arrangement, all houses found by the inspectors to be overcrowded are reported to the Housing Department each month and in the reletting of such houses as become vacant on any of the estates preference is given to the families named on these lists. Owing to the number of small houses in the city overcrowding is frequent but it is most marked in the unhealthy areas and with the disappearance of these and the provision of the necessary new houses will be correspondingly reduced. Apart from the slum areas it is difficult to estimate the degree of overcrowding in the other parts of the city but it is probably not inconsiderable. I know no circumstance more subversive of

moral and physical health than overcrowding and until this evil is removed or reduced to negligible proportions there can be no real soundness in the population. The question is at present engaging the attention of the Government and legislation to deal with it will, I am informed, shortly be introduced into Parliament.

Verminous Houses.—As indicated in my previous report the subject of the bug infested house has been a cause of serious concern both to the Housing and Health Committees. The degree of infestation of houses in the slum areas was found to be so great as to demand special measures to cope with it, the existing facilities for disinfestation being totally inadequate. Accordingly in consultation with Imperial Chemical Industries Limited a scheme of disinfestation by Hydrocyanic Acid Gas was formulated and presented to the Health Committee in February, 1934. As the houses themselves are to be demolished the scheme is designed to deal with the furniture and bedding only of displaced tenants, the object being to avoid the carrying of bugs or their eggs into the new houses.

The following is a brief resumé of the scheme. When a family is to be removed to a new house the furniture and other effects will be inspected by a sanitary Inspector and if infested a certificate to that effect issued in accordance with Section 45 of the Public Health Act, 1925. On the day of removal the furniture will be taken in metal gas-tight containers to a special fumigation station to be erected on land adjoining the Cleansing and Disinfecting Station at Beckett Street and there exposed to the effects of Hydrocyanic Acid Gas for a period of two hours, thereafter aerated for four hours, and returned to the new house where the family will be in waiting for it, having been supplied with some simple furniture to be going on with until their own is delivered. Meanwhile, the bedding and articles of a like nature will be subjected to disinfection by steam at the adjoining disinfecting station.

The process which is simple and efficacious, if somewhat dangerous to those who have to apply it, is completed in a period of six hours. It is proposed when the scheme is fully developed to deal with the contents of sixteen houses per day. The scheme will involve a capital outlay of £4,250 and a running and maintenance charge of £6,077 annually.

Unfit Houses.—The number of houses inspected and found not to be in all respects reasonably fit for human habitation was 2,079 of which 1,472 were repaired in response to notices served under Section 17 of the Housing Act, 1930.

In addition 23,445 were found to be defective in some respect or other and were repaired. During the year 16 houses were represented as " individual unfit houses " under Sections 19, 20 and 21 of the Housing Act 1930. Demolition Orders were made in 12 cases, while in the 4 remaining undertakings were accepted from the owners that they would not again be let or used for human habitation.

Unhealthy Areas.—For several years a strange lethargy seems to have overhung the city in respect of slum clearance. It has rested on the laurels won in 1896-1901 when the York Street and Quarry Hill areas (2,136 houses) were dealt with. Since then until the year under review two areas only, the West Street Area (222 houses) and the Lupton Fold Area (42 houses) have been represented but the former, though eleven years have passed, is even now not yet completely cleared. The need of the population for new houses to make good the post-war shortage thrust the slums into the background from which they are only now emerging. Year after year in these pages I have had to report " no progress." It is therefore with considerable gratification that I put on record the events mentioned hereunder.

In furtherance of the Corporation's slum clearance programme alluded to in the opening paragraphs of this section three areas namely Cavalier Street, Meadow Lane and Woodhouse Street, details of which are given in the table on page 248 were formally represented by me on January 19th, 1933. Orders for the clearance of these were made by the City Council on February 1st and confirmed by the Minister of Health on 25th August, after a Local Enquiry held in May, 1933, at which objections were heard from the owners of the houses involved. Since then Cavalier Street and Woodhouse Street have been cleared and the houses in Meadow Lane are now in process of demolition.

In February further Representations were made in respect of the following Unhealthy Areas namely Newtown, Isle Lane, Albion Terrace, and Bell's Buildings, particulars of which again are included in the table on page 248.

Another Area—the York Road Unhealthy Area—also included in the table on page 248 was represented in April.

Orders were made by the City Council in respect of all those areas and were the subject of a Local Enquiry held in October by the Minister of Health. All except one—a portion of the York Road Area—have been confirmed ; confirmation of the outstanding order is still awaited.

The clearance of the West Street Area which has been the subject of so many notes in these pages is now all but completed. The fact that it has taken eleven years to reach this stage is a striking commentary on the leisurely pace at which Governments both Central and Local used to move in matters of slum clearance.

Housing Survey.—In 1919, at the instance of the Government, a survey was made of the working class districts of the city and a report prepared—generally spoken of as D 89—showing the areas regarded as unhealthy and in need of treatment. The report was not made public. Nothing practical came of it and it passed into the limbo of things forgotten. At the beginning of the current year it was unearthed but was found, as was to be expected, out of date, and no longer dependable. The Council instructed a fresh survey to be made. This has been done at the cost, be it said, of much time and labour. When completed it was presented to the Housing Committee in the form of a map on which were depicted in Red and Sepia the areas or rather the districts in which are situate the areas to be dealt with in the Corporation's programme of slum clearance. Since then the map has been elaborated and issued to the public at the price of one shilling per copy. The report on the survey as presented to the Housing Committee in April is reproduced hereunder. It is of course largely explanatory of the map and should be read in conjunction with it.

CITY OF LEEDS—HOUSING ACTS, 1925 and 1930.
NEW SURVEY 1934.

In accordance with the instructions of the Chairman of the Housing Committee I have made a survey of the houses in the working class districts of the City which are likely to be dealt with in the Five Years Programme.

For the purpose of this (1934) Survey the City has been divided into FOUR sections by two lines :—

One running North and South, the other East and West.

The NORTH and SOUTH LINE runs from the Northern boundary along Harrogate Road, Chapeltown Road, North Street and Briggate to Leeds Bridge ; thence along Meadow Lane and Dewsbury Road to the Southern boundary.

The EAST and WEST LINE coincides with the River Aire.

The Sections are named NORTH WEST, NORTH EAST, SOUTH WEST, SOUTH EAST.

Each Area is numbered consecutively and is distinguished by a colour as follows :—

GREEN—Areas represented and awaiting clearance.

PINK—Areas for Early representation.

SEPIA—Areas for Later representation.

SMALL GROUPS OF UNFIT HOUSES—Areas too small to be shown on the map.

	AREAS.	HOUSES.
North-West section	33 ..	7,804
North-East section	29 ..	9,466
South-West section	61 ..	8,540
South-East section	38 ..	4,884
TOTAL	161 ..	30,694

The Areas indicated on the map and enumerated in the index do not necessarily mean that the boundaries or totals are definitely fixed, as it is more than probable that such Areas will be increased or decreased at the time of my Official Representation.

Visit of the Minister of Health.—In September, Sir E. Hilton Young, P.C., G.B.E., D.S.O., D.S.C., the Minister of Health, visited Leeds in connection with his tour of the Country in support of the National Slum Clearance Campaign.

TABLE SHEWING THE NUMBER OF HOUSES ERECTED IN LEEDS DURING THE LAST THIRTY-TWO YEARS, ENDED 31st MARCH, 1934.

Year.	By Private Enterprise.	By Leeds City Council.	Total.
1903	2,572	..	2,572
1904	2,923	..	2,923
1905	2,442	..	2,442
1906	1,748	..	1,748
1907	1,135	..	1,135
1908	919	..	919
1909	836	..	836
1910	584	..	584
1911	505	..	505
1912	350	..	350
1913	220	..	220
1914	287	..	287
1915	228	..	228
1916	146	..	146
1917	51	..	51
1918	5	..	5
1919	4	..	4
1920	7	..	7
1921	104	92	196
1922	118	930	1,048
1923	108	1,810	1,918
1924	354	264	618
1925	593	358	951
1926	1,044	332	1,376
1927	1,522	856	2,378
1928	1,553	830	2,383
1929	1,254	618	1,872
1930	1,696	976	2,672
1931	913	738	1,651
1932	1,439	1,195	2,634
1933	1,758	689	2,447
1934	2,990	710	3,700
Totals	30,408	10,398	40,806

Table shewing the Total Amount of Housing Work Done by the Leeds City Council to 31st March, 1934.

Assisted Schemes. (1919 Act).

Name of Estate.	Sewers laid. Length in yds.	Roads formed, pitched and ashed. Length in yds.	No. of Houses and Flats for which Contracts have been signed.	No. of Houses and Flats completed	No. of Houses and Flats on which work has been commenced including those in previous column.
Hawksworth Wood ..	4,436	5,109	402	402	402
Wyther House ..	3,857	4,048	492	492	492
Meanwood	4,394	5,931	800	800	800
Crossgates	4,510	6,063	488	488	488
Middleton	4,239	5,477	697	697	697
Ivy House	Existing	Existing	46	46	46
Section 12/3 Houses	do.	do.	398	398	398
Demonstration Houses, Meanwood	included	above.	6	6	6
Totals	21,436	26,628	3,329	3,329	3,329

Other than Assisted Schemes (including 1923, 1924 and 1930 Acts).

Wyther House ..	1,058	1,595	184	184	184
Meanwood	3,387	3,761	584	584	584
Crossgates	included	in A.S.	176	176	176
Middleton	10,492	11,604	2,031	1,878	2,023
Hollin Park	2,647	2,396	345	345	345
York Road	7,904	9,805	1,759	1,700	1,741
Harehills	690	787	112	112	112
Hawksworth	639	541	206	206	206
Greenthorpe	1,161	1,290	216	216	216
Southfield	465	539	98	98	98
Dewsbury Road ..	1,567	1,536	336	336	336
Westfield	3,082	2,709	440	440	440
Potternewton	2,783	3,025	710	294	572
East End Park (purchased for re-housing)	Existing	Existing	192	192	192
Sandford House ..	2,772	..	36	36	36
Torre	1,963	1,864	478	272	414
Hillidge Road	44	..	32	..	6
Gipton	..	..	120	..	..
Totals	40,654	41,452	8,055	7,069	7,681
Grand Totals ..	62,090	68,080	†11,384	10,398	11,010

†Includes 1,572 Flats (All completed).

Since 1st April, 1928, the Halton Housing Estate comprising 118 (Assisted Scheme) Houses and 22 (1923 Act) Houses has been taken over by the Leeds City Council but is not incorporated in the above statements.

Official Representations made under Section 1 of the Housing Act, 1930, with Details of Houses, Population and Dates of Representation.

Area.	Scheme.	Number of Houses.	Other Buildings.	Population.	Date of Representation.
West Street	Compulsory Purchase	222	3	768	3rd Sept., 1931.
Cavalier Street	Compulsory Purchase	103	1	381	19th Jan., 1933.
Woodhouse Street	Clearance	83	2	276	
*Meadow Lane	Compulsory Purchase	234	7	977	
Newtown	Compulsory Purchase	246	9	864	
Isle Lane, Holbeck	2 Areas Compulsory Purchase 1 Area Clearance	231	21	894	15th Feb., 1933.
Albion Terrace, Hunslet ..	Clearance	64	6	203	
Bell's Buildings, Hunslet ..	Clearance	41	1	156	
York Road	2 Areas Compulsory Purchase 1 Area Clearance	606	35	2,272	24th April, 1933.
Marsh Lane	5 Areas Compulsory Purchase 1 Area Clearance	1,214	70	4,308	7th Feb., 1934.
Marlborough Street and Little Queen Street ..	8 Areas Compulsory Purchase ..	871	41	2,975	19th April, 1934.
Cromwell Street, Burmantofts	Compulsory Purchase	622	12	2,116	13th June, 1934.
Water Lane, Holbeck ..	Compulsory Purchase	134	5	488	
Camp Field, Holbeck ..	Compulsory Purchase	141	..	525	
Hunslet Hall Road	Compulsory Purchase	42	10	116	
Land Court, Water Lane ..	Part Clearance	46	4	139	
	Part Compulsory Purchase				
Cottage Street, York Road	Compulsory Purchase	109	3	375	
	Totals	5,009	230	17,833	

*These figures include Blezard Fold Clearance Area.

Vital Statistics of Unhealthy Areas Represented from 1923 to 1934 with Comparative Figures for a Healthy Area and the City.

	West Street.	Cavalier Street.	Wood-house Street.	Meadow Lane.	Newtown.	Isle Lane.	York Road.	Marl-borough Street.	Marsh Lane.	Cromwell Street.	Burley Hill Healthy Area.	City.
	1922-1931.				1923-1932				1924-1933.			
Population	694	381	276	977	864	894	2,272	2,975	4,308	2,116	1,753	—
Number of Houses ..	222	103	83	229	245	229	603	871	1,214	622	475	—
Density of Houses per Acre on site ..	65	78	44	65	77	63	76	65	61	68	42	3·54
Persons per Acre ..	202	288	145	280	260	217	286	220	217	232	175	12·73
Persons per House ..	3·1	3·7	3·3	4·3	3·5	3·9	3·8	3·4	3·5	3·4	3·7	—
Rooms per House ..	2·2	2·4	2·8	2·5	2·4	2·4	2·3	—	2·3	2·5	3·0	—
Persons per Bedroom	2·44	2·70	1·85	2·82	2·57	2·73	2·84	—	2·65	2·28	1·85	—
Death-rate	23·6	21·8	13·0	23·6	18·2	21·4	20·3	21·8	23·5	19·6	9·2	13·5
Birth-rate	35·3	30·4	25·4	26·5	32·1	29·1	29·5	26·8	33·3	28·2	9·2	15·9
Infant Mortality Rate	176	147	86	158	141	131	116	112	134	156	74	86
Death-rates from :—												
Measles	0·14	1·05	..	0·20	1·16	0·67	0·57	0·20	0·51	0·43	0·11	0·10
Whooping Cough ..	0·86	0·79	0·36	0·82	0·69	0·56	0·48	0·37	0·63	0·47	—	0·12
Influenza	0·58	0·26	0·36	0·30	0·58	0·45	0·92	0·47	0·91	0·95	0·17	0·43
Phthisis	3·31	2·10	0·36	1·43	1·50	2·13	1·89	2·35	2·81	2·32	0·29	0·96
Other Tuberculous Diseases	0·29	0·79	1·09	0·20	0·46	0·56	0·62	0·44	0·49	0·43	0·11	0·21
Cancer	2·16	1·05	0·72	2·15	1·50	1·19	1·41	1·78	1·46	1·56	1·08	1·44
Heart Diseases ..	2·31	1·51	2·90	5·12	1·27	2·35	2·42	3·60	2·92	2·50	1·60	2·11
Respiratory Diseases	4·90	4·99	2·17	4·20	3·24	5·03	4·62	4·20	4·90	3·21	1·31	2·12
Diarrhœa	0·86	1·84	0·36	0·92	1·97	0·89	0·84	0·74	1·14	0·85	0·17	0·26
Nephritis and Bright's Disease	0·86	0·26	0·36	1·02	0·23	0·45	0·26	0·57	0·26	0·38	0·17	0·38
Accidents and Violence	1·01	0·52	0·36	0·82	0·93	1·01	0·40	0·64	0·95	0·24	0·46	0·42
Other Diseases ..	6·34	6·56	3·98	6·45	4·63	6·15	5·85	6·42	6·50	6·24	3·76	4·96

HOUSING ACT, 1930.

Table shewing the number of houses examined by the Medical Officer of Health as part of the general survey of the town during the year ending December 31st, 1933, and the numbers represented or otherwise dealt with, pursuant to the Housing Acts, with the corresponding figures for 1931 and 1932.

	1931.	1932.	1933.
Number of new houses erected during the year ..	2,239	2,516	3,103
(i) By the Local Authority	1,014	814	576
(ii) By other bodies and persons	1,225	1,702	2,527
1. *Inspection of dwelling-houses during the year.*			
(1) Total number of dwelling-houses inspected for housing defects under Public Health or Housing Acts and the number of inspections made	12,855	12,269	14,931
(2) Number of dwelling-houses (included under Sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925, and the number of inspections made	1,381	409	83
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	223	642	1,188
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	2,007	1,837	1,612
2. *Remedy of Defects during the year without Service of Formal Notices.*			
Number of defective dwelling-houses rendered fit in consequence of informal action taken by the Local Authority or their Officers	1,247	1,236	1,081
3. *Action under Statutory Powers during the year.*			
A.—Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930.			
(1) Number of dwelling-houses in respect of which notices were served requiring repairs ..	702	736	467
(2) Number of dwelling-houses which were rendered fit after service of Formal Notices :—			
(*a*) By owners	664	735	391
(*b*) By Local Authority in default of owners	..	3	..
B.—Proceedings under the Public Health Acts.			
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	27,430	24,477	24,058
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—			
(*a*) By owners	25,828	24,871	23,445
(*b*) By Local Authority in default of owners	..	..	..
C.—Proceedings under Sections 19, 20 and 21 of the Housing Act, 1930.			
(1) Number of dwelling-houses in respect of which Demolition or Closing Orders were made ..	1	17	16
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	1	..	17

Health Education and Propaganda.

Staff Changes.

HEALTH EDUCATION AND PROPAGANDA

BY

E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H.,

Deputy Medical Officer of Health.

" For, first, a nation survives by its human life being well born, because heredity is more than environment ; secondly, by its citizens being saved from premature death, whether rich or poor, learned or unlearned, at all times and in all places, quite irrespective of selection by quality—for the life is more than the meat and the body than raiment ; and thirdly, by the improvement of its people, by physical nurture, by social conditions favourable to virility, and by cultivating mental and moral education." Sir GEORGE NEWMAN.

Popular teaching in the art of healthy living, which has been such a marked feature of public health activity in Leeds in the past, was continued during 1933. In this teaching, emphasis is always laid on the prevention of disease ; lectures on treatment should form no part of a scheme of popular health education.

Health Week.—Health week was held in the city from October 8th to 14th, and was undoubtedly the most successful of all the Leeds Health Weeks. Due acknowledgment must be made to the various Corporation Departments and the Leeds Insurance Committee for much assistance, which contributed in no small degree to the general success of the event.

The main features of the week may be summarised as follows :—

1. During the week, 10 special film addresses were given in various cinemas to audiences of selected school children, and in addition numerous short films and lantern slides dealing with health subjects were exhibited in many of the cinemas.

2. The advertising scheme was greatly extended ; 1,066 posters were displayed at points of vantage throughout the city, and 108,036 leaflets and booklets were distributed at the various meetings and lectures.

3. The competitions held in the previous year, the most important of which were the poster competition, the essay competition for school children, and the slogan competition, were repeated this year.

4. During the week 51 lectures were given on health subjects at certain large factories and religious associations in the city. The total attendances at these meetings was estimated at 19,615. These figures compare with a total of 41 lectures and attendances of 11,802 persons in 1932.

5. The number of health talks given to mothers attending the various Babies' Welcomes was increased.

6. Through the kindness and courtesy of the Leeds and District Branch of the Cinematograph Exhibitors' Association of Great Britain and Ireland, 32 films and 87 lantern slides were exhibited in several cinemas.

7. As in the previous year, valuable help was given by ministers of religion in the city. A special circular letter was addressed to them, giving its main activities and explaining exactly what Health Week meant. Stress was laid on the part played by the individual in furthering the health of the community.

8. Through the kindness of the City Librarian and the Libraries and Arts Committee, 50,500 bookmarks were distributed.

9. Special articles amounting in all to 498 column inches appeared in the newspapers circulating in the city. The assistance of the Press is invaluable in such a campaign.

10. A very important innovation in connection with this Health Week was the engagement of the interest of the leaders of the Boy Scout and Girl Guide movements. Through the courtesy of these ladies and gentlemen, a special circular letter explaining the benefits of Health Week and the methods by which individual boys and girls could help in making the city healthier was distributed

to the leaders of the various troops, and arrangements were made whereby nearly all troops held a special evening devoted to health matters and the maintenance of a sound body. In addition, 3 special demonstrations were held; two of these were for Girl Guides and took place at the Infant Welfare Centres; the third was at Knostrop Sewage Works especially for the Rover Scouts.

Acknowledgment of their co-operation is gratefully made to the Education, Tramways, Libraries, and Baths Departments of the Corporation, to the Leeds National Health Insurance Committee, to the Leeds and District Branch of the Cinema Exhibitors' Association, to the Press, Ministers of Religion, and others who helped to make the Week a success.

Parents' Conferences.—With the co-operation of the Education Department, eight conferences for parents were held in February, the subject dealt with being tuberculosis and its prevention. There was an average attendance at each meeting of 183, and the meetings were remarkable because of the interest which was shown by the audiences. During the same week, 8 dinner-hour talks were also given in various factories in the city. The attendance was good, and the total number of persons addressed was 7,744. In one factory alone, with the help of loud speakers, an audience of approximately 3,000 was addressed.

Wayside Pulpits.—The display of slogans, conveying messages to the people, was continued on the 11 existing wayside pulpits. This is one of the most popular and certainly one of the most effective methods of health propaganda.

Leeds Committee for Social Hygiene and Health Publicity.—During the year, four meetings were held. The Committee continued to be responsible for the general supervision of health publicity in the city. In so doing it is rendering a valuable public service which merits recognition and the warmest thanks, not only of the Council, but of the citizens as a whole.

The total number of addresses given on health subjects during 1933, was 94 and the total attendance at these approximately 32,715.

STAFF CHANGES.

H. J. Partington, M.B., Ch.B., M.R.C.S., L.R.C.P., appointed Senior Assistant Resident Medical Officer at Killingbeck Sanatorium, March 1933, in place of N. F. Pearson, M.R.C.S., L.R.C.P., D.P.H., resigned February 1933.

J. Q. Mountain, M.B., Ch.B., appointed Assistant Resident Medical Officer at Seacroft Hospital, April 1933, in place of R. B. Becker, M.B., Ch.B., D.P.H., M.R.C.S., L.R.C.P., resigned April, 1933.

W. H. Bean, B.A., M.B., Ch.B., appointed Public Vaccinator for No. 12 Vaccination District, May 1933, in place of W. P. Bean, L.S.A., resigned March 1933.

A. Houlbrooke, M.Sc., F.I.C., appointed Assistant City Analyst, May 1933, in place of R. W. Sutton, B.Sc., F.I.C., resigned March 1933.

J. Fielding, M.B., Ch.B., appointed Public Vaccinator at St. Mary's Infirmary, May 1933, in place of J. W. Alexander, D.S.O., M.D., M.R.C.P., L.R.C.S., resigned March 1933.

Margaret S. M. Reid, M.D., D.P.H., appointed Assistant Medical Officer for Maternity and Child Welfare, October 1933, in place of Catherine M. Gray, M.B., Ch.B., resigned September 1933.

Bessie Brown, M.B., Ch.B., appointed Assistant Resident Medical Officer at Seacroft Hospital, October 1933, in place of G. P. Holderness, M.B., Ch.B.

T. Ross, M.B., Ch.B., D.P.H., appointed Assistant Resident Medical Officer at Killingbeck Sanatorium for 12 months, October 1933, in place of J. F. Galpine, M.D., D.P.H., M.R.C.S., L.R.C.P., resigned September 1933.

H. F. Hollis, M.B., Ch.B., appointed Public Vaccinator for No. 20 Vaccination District, November 1933, in place of J. J. Crawford, B.A., M.D., B.A.O., resigned November 1933.

Appendices.

MINISTRY OF HEALTH TABLES.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1933 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 Year of Age.		At all Ages.	
			Number.	Rate.	Number.	Rate.	Of Non-residents registered in the District.	Of Residents not registered in the District.	Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1923	469,900	8,991	8,684	18·5	6,128	13·0	451	309	773	89	5,986	12·7
1924	471,600	8,862	8,558	18·1	6,824	14·5	435	358	921	108	6,747	14·3
1925	472,900	8,518	8,180	17·3	6,286	13·3	570	321	748	91	6,037	12·8
1926	473,400	8,437	8,065	17·0	6,285	13·3	531	308	748	93	6,062	12·8
1927	477,600	8,075	7,790	16·3	6,438	13·5	578	338	629	81	6,198	13·0
1928	474,800*	7,978	7,665	16·1	6,419	13·5	545	259	606	79	6,133	12·9
1929	478,500	7,725	7,426	15·5	8,289	17·3	657	266	722	97	7,898	16·5
1930	478,500	7,905	7,568	15·8	6,235	13·0	544	239	512	68	5,930	12.4
1931	486,400	7,557	7,219	14·8	6,810	14·0	553	249	552	76	6,506	13·4
1932	484,900	7,368	7,004	14·4	6,771	14·0	550	248	617	88	6,469	13·3
1933	485,000	7,070	6,643	13·7	6,851	14·1	538	261	537	81	6,574	13·6

Area of District in acres (land and inland water) } 38,105

Total population at all ages at the 1931 Census 482,809

* Population adjusted to allow for change in boundary during the year. The mid-year population after the change is 476,500.

APPENDIX 1.

TABLE II. Cases of Infectious Diseases notified during the Calendar Year 1933

Notifiable Disease.	Number of Cases Notified.								Total Cases removed to Hospital.
	At all Ages.	At Ages—Years.							
		Under 1.	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
Small-pox	..	..	..	..	..	..	..	..	..
Cholera (C.) Plague (P.)	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup)	1,057	17	193	724	90	32	1	..	1,042
Erysipelas	353	7	15	14	24	116	136	41	175
Scarlet Fever	1,906	9	456	1,163	177	92	8	1	1,742
Measles	3,973	149	1,975	1,809	28	11	1	..	64
German Measles	119	6	32	70	8	3	..	..	6
Typhus Fever	..	..	..	..	..	..	..	..	..
Enteric Fever	10	..	1	1	5	2	1	..	8
Relapsing Fever (R.) Continued Fever (C.)	..	..	..	..	..	..	..	..	..
Puerperal Fever	39	..	..	..	11	28	..	..	10
Puerperal Pyrexia	115	..	..	..	43	72	..	..	7
Cerebro-Spinal Meningitis	38	5	11	9	8	3	2	..	13
Poliomyelitis	3	..	..	3	..	..	..	..	..
Ophthalmia Neonatorum	44	44	..	..	..	..	..	..	..
Encephalitis Lethargica	2	..	1	..	1	..	..	..	..
Malaria	..	..	..	..	..	..	..	..	..
Dysentry	..	..	..	..	..	..	..	..	..
Other Diseases	277	11	69	108	45	34	7	3	277
Pulmonary Tuberculosis	632	2	8	64	168	243	128	19	372
Other forms of Tuberculosis	151	1	30	50	29	33	5	3	16
Pneumonia (Acute Primary)	824	45	211	137	97	148	116	70	12
,, (Acute Influenzal)	187	2	23	11	23	65	45	18	..
Totals	9,730	298	3,025	4,163	757	882	450	155	3,744

Isolation Hospital or Hospitals, Sanatoria, &c. :—City Fever Hospital, Seacroft and Killingbeck.

In addition to the 372 Pulmonary Tuberculosis and 16 Tuberculosis (Other Forms), removed, 22 Pulmonary Tuberculosis and 13 Tuberculosis (Other Forms), were admitted to "The Hollies," Weetwood Lane, and 83 Pulmonary Tuberculosis and 1 Tuberculosis (Other Forms), were admitted to Gateforth Sanatorium which is outside the City. They are included in the 632 and 151 notified.

TABLE II. (*continued*).

Notifiable Disease.	Total Cases Notified in each Locality, (*e.g.*, Parish or Ward) of the District.																									
	Mill Hill and South.	Westfield.	Blenheim.	Central.	Woodhouse.	North.	Far Headingley.	Hyde Park.	Kirkstall.	Burmantofts.	Harehills.	Potternewton.	Roundhay.	Cross Gates and Templenewsam.	Richmond Hill.	Osmondthorpe.	East Hunslet.	Hunslet Carr and Middleton.	West Hunslet.	Beeston.	Holbeck (South).	Holbeck (North).	Armley and New Wortley.	Upper Armley.	Bramley.	Farnley and Wortley.	City.
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera (C) Plague (P)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup)	93	20	38	33	53	12	24	25	44	103	25	12	17	27	34	46	95	51	38	50	65	37	39	18	38	20	1,057
Erysipelas	28	17	20	19	19	9	5	10	14	21	17	14	3	5	18	20	19	12	8	9	8	16	8	12	9	13	353
Scarlet Fever	59	56	83	87	91	33	58	40	67	76	131	65	51	55	73	122	74	131	56	83	76	92	58	78	52	59	1,906
Measles	53	182	151	95	35	62	54	122	386	249	44	33	176	87	299	129	30	61	49	25	73	82	363	332	459	342	3,973
German Measles	4	3	5	4	2	8	7	3	2	..	11	..	6	2	1	1	9	13	8	1	1	5	8	6	2	7	119
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	2	..	..	..	..	..	..	2	1	..	..	1	..	..	..	..	2	..	..	1	..	..	..	1	..	..	10
Relapsing fever (R) Continued fever (C)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	1	1	14	..	3	..	..	..	1	3	..	1	2	..	2	2	1	1	..	1	1	2	1	..	..	2	39
Puerperal Pyrexia	3	2	41	4	2	1	1	1	2	13	1	2	1	2	5	9	3	7	4	1	..	2	1	4	..	3	115
Cerebro-Spinal Meningitis	9	2	2	..	1	1	1	..	2	4	1	1	..	..	3	1	3	..	2	..	2	..	2	..	..	1	38
Poliomyelitis	..	..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Ophthalmia Neonatorum	..	4	7	2	1	1	..	..	..	6	1	1	..	..	4	3	1	2	1	3	2	3	1	..	..	1	44
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases	15	13	14	11	9	5	1	8	11	9	9	5	4	18	9	12	10	15	17	9	19	19	6	13	9	7	277
Pulmonary Tuberculosis	30	34	32	32	14	12	20	11	29	43	24	25	7	17	51	36	31	26	33	16	19	30	18	7	18	17	632
Other Forms of Tuberculosis	9	9	7	13	2	3	..	4	5	8	5	5	4	5	13	11	2	14	5	3	4	6	5	4	4	1	151
Pneumonia (Acute primary)	44	43	21	40	41	17	9	13	26	40	14	16	9	18	84	26	55	46	36	32	35	61	38	15	15	30	824
Do. (Acute Influenzal)	12	7	4	4	9	4	2	2	8	30	5	10	3	3	15	16	3	5	7	3	9	7	1	3	8	7	187
Totals	362	393	439	344	282	168	183	241	598	605	288	192	284	239	611	434	340	384	264	237	314	362	549	493	614	510	9,730

APPENDIX 3.

Causes of, and Ages at Death during the Calendar Year 1933

REGISTRAR GENERAL'S FIGURES.

Causes of Death.	Sex.	All Ages.	0-	1-	2-	5-	15-	25-	35-	45-	55-	65-	75-
All Causes	M.	3,319	295	52	63	95	135	157	214	384	626	758	540
	F.	3,254	241	53	67	89	151	154	177	306	508	750	758
1. Typhoid and Para-typhoid Fevers	M.	..	..	..	..	..	..	..	..	..	..	..	..
	F.	1	..	..	..	..	1	..	..	..	..	..	..
2. Measles	M.	10	2	3	3	2	..	..	..	..	..	..	..
	F.	11	2	2	5	2	..	..	..	..	..	..	..
3. Scarlet Fever	M.	1	..	..	..	1	..	..	..	..	..	..	..
	F.	7	..	1	2	3	..	1	..	..	..	..	..
4. Whooping Cough ..	M.	8	4	1	2	1	..	..	..	..	..	..	..
	F.	21	6	6	9	..	..	..	..	..	..	..	..
5. Diphtheria	M.	42	1	2	6	33	..	..	..	..	..	..	..
	F.	45	1	2	11	30	1	..	..	..	..	..	..
6. Influenza	M.	114	3	3	2	..	6	4	11	25	21	19	20
	F.	136	3	1	1	3	2	7	19	23	20	28	29
7. Encephalitis Lethargica	M.	6	..	..	..	..	..	2	2	..	1	1	..
	F.	7	..	..	..	1	1	..	2	1	1	1	..
8. Cerebro-spinal Fever ..	M.	13	3	1	1	1	2	3	..	1	1	..	..
	F.	12	1	3	3	1	3	1	..	..	..	..	..
9. Tuberculosis of respiratory system	M.	236	2	2	4	..	36	47	45	56	34	10	..
	F.	183	1	1	1	7	72	41	28	11	15	5	1
10. Other Tuberculous Diseases	M.	48	6	4	1	9	11	8	3	..	4	2	..
	F.	38	1	6	6	4	7	5	4	2	1	2	..
11. Syphilis	M.	12	3	1	..	..	..	..	..	2	3	3	..
	F.	10	2	..	..	..	..	1	1	4	1	1	..
12. General Paralysis of the insane—tabes dorsalis	M.	27	..	..	..	..	..	..	8	9	9	1	..
	F.	12	..	..	..	..	..	1	3	3	4	1	..
13. Cancer, malignant disease	M.	357	..	..	..	..	2	9	14	51	115	129	37
	F.	361	..	..	..	..	1	2	23	72	114	108	41
14. Diabetes	M.	32	..	..	..	..	..	1	2	1	12	10	6
	F.	46	..	..	..	1	..	2	..	2	13	23	5
15. Cerebral Hæmorrhage, &c.	M.	176	..	..	1	..	..	2	6	17	40	70	40
	F.	208	..	..	..	..	1	3	4	20	49	78	53
16. Heart Disease	M.	631	..	..	1	2	19	7	25	69	137	219	152
	F.	692	..	..	..	6	12	24	23	56	110	205	256
17. Aneurysm	M.	18	..	..	..	..	..	2	1	3	5	5	2
	F.	9	..	..	..	..	1	..	..	..	3	3	2
18. Other circulatory diseases	M.	250	..	..	..	..	..	..	2	11	31	80	126
	F.	262	..	..	..	..	..	..	..	6	26	83	147
19. Bronchitis	M.	179	11	4	2	2	1	3	9	24	37	48	38
	F.	155	2	1	..	1	2	2	1	8	23	43	72
20. Pneumonia (all forms)..	M.	276	37	22	20	6	8	17	32	36	45	34	19
	F.	208	38	19	14	7	6	7	16	24	24	33	20
21. Other respiratory diseases	M.	32	2	3	..	..	..	2	3	7	6	7	2
	F.	19	..	..	..	1	1	2	..	4	4	3	4
22. Peptic Ulcer	M.	39	..	..	..	..	..	5	5	9	14	4	2
	F.	19	..	..	..	..	1	1	2	3	4	6	2
23. Diarrhœa, &c.	M.	72	57	2	2	1	..	1	2	2	2	1	2
	F.	49	37	5	..	1	..	..	1	1	..	2	2
24. Appendicitis	M.	21	..	..	..	4	..	1	2	2	5	5	2
	F.	12	1	..	..	1	..	..	1	4	3	2	..
25. Cirrhosis of Liver ..	M.	4	..	..	..	..	..	..	..	1	3	..	..
	F.	4	..	..	..	..	..	..	..	1	2	..	1
26. Other diseases of Liver, &c.	M.	12	..	..	..	..	..	..	3	3	3	2	1
	F.	24	..	..	..	..	..	..	1	2	9	7	5
27. Other digestive diseases	M.	36	2	..	..	4	2	3	1	2	9	6	7
	F.	53	3	..	5	4	2	5	3	3	10	11	7
28. Acute and Chronic Nephritis ..	M.	72	..	..	..	..	4	7	4	12	18	18	9
	F.	90	..	..	..	1	3	6	6	13	17	33	11
29. Puerperal Sepsis ..	F.	14	..	..	..	..	5	5	4	..	..	..	..
30. Other puerperal causes	F.	11	..	..	..	..	2	6	2	1	..	..	..
31. Congenital debility Malformation, and premature birth	M.	129	128	..	..	1	..	..	..	..	..	..	..
	F.	111	107	1	1	..	1	..	..	..	1	..	..
32. Senility	M.	38	..	..	..	..	..	..	..	..	1	9	28
	F.	71	..	..	..	..	..	..	..	..	..	5	66
33. Suicide	M.	39	..	..	..	..	6	3	5	5	13	6	1
	F.	25	..	..	..	..	3	4	5	3	3	5	2
34. Other Violence ..	M.	135	5	3	13	12	21	15	10	16	14	16	10
	F.	73	13	1	2	1	4	5	..	5	16	11	15
35. Other defined diseases	M.	252	29	..	5	16	17	15	19	20	43	52	36
	F.	253	23	4	7	14	19	23	27	34	35	50	17
36. Causes ill-defined or unknown	M.	2	..	1	..	..	..	..	..	..	..	1	..
	F.	2	..	..	..	..	..	..	1	..	..	1	..

APPENDIX 4.

INFANT MORTALITY. CALENDAR YEAR 1933. NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.	Under 1 day.	1-7 days.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
Small-pox	..	..	..	..	..	..	..	..	..	..	..
Chicken pox	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	1	..	1	2	4
Scarlet fever	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	..	..	..	1	2	1	6	10
Diphtheria	..	..	..	..	..	..	1	1	..	..	2
Influenza	..	..	..	..	..	..	2	1	2	1	6
Erysipelas	..	..	..	..	1	1	3	1	..	..	5
Tuberculous Meningitis	..	..	..	..	..	..	..	2	1	2	5
Abdominal Tuberculosis	..	..	..	..	..	..	..	..	..	..	..
Other Tuberculous Diseases	..	..	..	..	..	..	..	2	3	..	5
Meningitis (not Tuberculous)	..	..	..	..	..	..	..	2	1	1	4
Convulsions	..	5	..	..	1	6	2	3	1	3	15
Bronchitis	..	..	..	1	..	1	6	4	2	2	15
Pneumonia (all forms)	1	4	1	4	2	12	13	16	17	17	75
Other diseases of respiratory organs	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa / Enteritis	..	..	..	1	1	2	34	31	21	9	97
Gastritis	..	..	..	..	..	..	..	..	..	..	..
Syphilis	1	..	..	..	..	1	3	1	..	..	5
Rickets	..	..	..	..	..	..	..	..	..	1	1
Suffocation, including overlying	1	5	..	..	..	6	3	1	..	..	10
Injury at birth	7	5	..	..	..	12	..	..	..	..	12
Atelectasis	8	8	..	..	..	16	..	..	..	..	16
Congenital Malformations	5	5	3	2	3	18	12	4	1	3	38
Premature birth	59	40	15	7	5	126	7	1	..	..	134
Atrophy, Debility and Marasmus	2	7	2	5	4	20	3	1	..	2	26
Other Causes	5	7	7	2	1	22	8	7	6	9	52
Totals	89	86	28	22	18	243	99	80	57	58	537