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CITY OF LEEDS

REPORT

ON THE

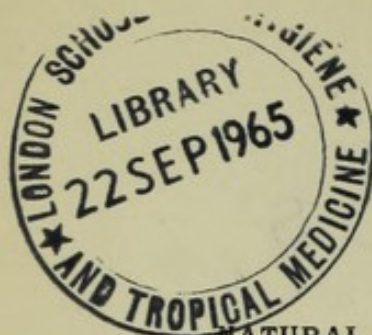
Health & Sanitary
Administration

OF THE CITY

FOR THE YEAR 1931

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

Medical Officer of Health.



62497

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PUBLIC HEALTH COMMITTEE.

LORD MAYOR (Alderman F. B. Simpson).

Chairman : Councillor A. E. WEAVER.

Alderman Dr. C. H. MOORHOUSE,	Councillor D. BEEVERS.
J.P.	" J. W. HEMINGWAY.
Councillor G. RATCLIFFE.	" L. NAYLOR.
" G. BRETT	" B. AINSWORTH.
(<i>Deputy Chairman</i>)	" B. C. IVES.
" GERTRUDE DENNISON.	" J. W. WHITFIELD.
" DOROTHY MURPHY.	

SUB-COMMITTEES.

MATERNITY AND CHILD WELFARE.

Chairman : Councillor A. E. WEAVER.

Councillor G. DENNISON.	Councillor B. AINSWORTH.
" G. BRETT.	" D. BEEVERS.
" DOROTHY MURPHY.	" L. NAYLOR.
" B. C. IVES.	

CO-OPTED MEMBERS.

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Mrs. L. OTTOLINI.	Mrs. AUSTYN BARRAN.

CO-OPTED MEMBERS FOR INFANTS' HOSPITAL, WYTHIER.

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Dr. CLARA STEWART.	Mrs. T. L. E. SPILMONT.

TUBERCULOSIS.

Chairman : Councillor DOROTHY MURPHY.

Councillor G. RATCLIFFE.	Councillor J. W. HEMINGWAY.
Alderman Dr. C. H. MOORHOUSE,	" L. NAYLOR.
J.P.	" B. AINSWORTH.
Councillor A. E. WEAVER.	" G. BRETT.
" J. W. WHITFIELD.	

SEACROFT HOSPITAL.

Chairman : Councillor G. BRETT.

Alderman Dr. C. H. MOORHOUSE,	Councillor G. DENNISON.
J.P.	" A. E. WEAVER.
Councillor G. RATCLIFFE.	" B. C. IVES.
" D. BEEVERS.	" B. AINSWORTH.

JOINT DAY NURSERIES.

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" D. BEEVERS.	Councillor G. HALBOT, J.P.
" GERTRUDE DENNISON.	Mrs. T. E. HARVEY.
	Mrs. C. FIRTH.

Representing Leeds Day Nurseries Association :

Lady W. H. CLARKE.	Mrs. E. S. G. FOWLER.	Councillor B. C. IVES.
--------------------	-----------------------	------------------------

CATTLE DISEASES, MILK AND MEAT.

Chairman : Councillor G. DENNISON.

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Councillor J. W. WHITFIELD.	" D. BEEVERS.
" J. W. HEMINGWAY.	" G. BRETT.
" A. E. WEAVER.	" G. RATCLIFFE.

PUBLIC HEALTH STAFF.

Medical Officer of Health and Chief Tuberculosis Officer.	J. JOHNSTONE JERVIS, M.D., Ch.B., D.P.H.
Chief Assistant Medical Officer of Health	A. B. WILLIAMSON, M.A., B.Sc., M.D., Ch.B., L.R.C.P., 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. CATHERINE M. GRAY, M.B., Ch.B.
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.
Medical Superintendents—	
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, M.B., Ch.B.
Public Vaccinators	E. S. G. FOWLER, M.R.C.S., L.R.C.P.
Do. do.	M. SHERWIN, M.B., Ch.B.
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.	..	..	D. McCANN, L.R.C.P., L.R.C.S.
Do.	do.	..	..	J. W. HOPKINS, M.R.C.S., L.S.A.
Do.	do.	..	..	J. J. REYNOLDS, M.B., Ch.B.
Do.	do.	..	..	W. P. BEAN, L.S.A.
Do.	do.	..	..	J. E. RUSBY, L.M.S.S.A.
Do.	do.	..	..	W. WAY, M.R.C.S., L.R.C.P.
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.	..	..	S. MOORE, M.D.
Do.	do.	..	..	E. A. ROCK, M.R.C.S., L.R.C.P.
Do.	do.	..	..	J. J. CRAWFORD, M.D., Ch.B.
Do.	do.	..	..	B. WAINMAN, M.R.C.S., L.R.C.P.
Do.	do.	..	..	J. A. YOUNG, M.R.C.S., L.R.C.P.
Do.	do.	..	..	J. W. ALEXANDER, M.D., M.R.C.P., L.R.C.P.
Do.	do.	..	..	J. DICK, M.B., Ch.B., D.P.H.
Do.	do.	..	..	I. TAYLOR, M.B., M.R.C.S., L.R.C.P.
Do.	do.	..	..	J. BUCK, M.D., D.P.H., L.R.C.P., L.R.C.S.
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	..	..	..	R. W. SUTTON, B.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 and Workshops	16
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	8
Masseuses	3
Clerical Staff and Almoners.. .. .	44
Removal and Disinfecting Staff	18
City Hospital, Seacroft (3 Assistant Medical Officers, 1 Matron, 2 Assistant Matrons, 1 Sister Tutor, 94 Nurses, 69 Female Servants, 1 Chief Engineer, 1 Steward, 43 Male Servants, including Engineers, Porters, etc., 1 Dispenser, 2 Clerks)	218
Killingbeck Sanatorium (2 Assistant Medical Officers, 1 Matron, 1 Assistant Matron, 1 Dispenser, 2 Clerks, 15 Porters, etc., 7 Sisters, 36 Nurses, 39 Maids, 2 Teachers, 1 Handicrafts Instructor)	107
Gateforth Sanatorium (1 Matron, 1 Sister, 2 Assistant Nurses, 1 Cook, 7 Maids, 1 Working Foreman, 1 Handyman and 1 Gardener)	15
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 Cook, 5 Maids, 2 Laundresses, 1 Handyman, 1 Gardener)	30
Red House Residential Nursery (1 Matron, 1 Sister, 9 Probationer Nurses, 1 Housemaid)	12
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 Depart- ment:—(1 Foreman, 15 Men, 3 Drivers, 6 Travellers). Brush Department:—(1 Foreman, 6 Brushmakers, 1 Traveller). Printing Department:—(1 Foreman, 4 Printers), 1 Gardener, 1 Caretaker and Cook, 1 Assistant Cook	43

CITY OF LEEDS.

To the Chairman and Members of the Health Committee.

Ladies and Gentlemen,

I present to you my Annual Report for the year 1931.

Depressed conditions continued to prevail in commerce and industry and though these were reflected in the unusually high number of persons out of employment and therefore on "short commons," the health of the city as a whole was remarkably good.

The birth-rate by falling to 14.8 broke all previous records. The death-rate on the other hand rose from 12.4—the 1930 figure—to 13.4 and the infant mortality rate also rose 8 points from 68 in 1930 to 76 in 1931. In assessing the value of these mortality figures it must be borne in mind that 1930 was an exceptional year, the like of which we may not see again for a long time. Death curves are influenced by many factors and rise and fall for quite inexplicable reasons. There is nothing obvious to account for the rise in 1931 any more than there was for the fall in 1930.

The position with regard to Tuberculosis again improved. Cases and deaths were fewer than in 1930, though it should be noted that the decrease was in the non-pulmonary group, the pulmonary actually showing a slight increase. The death-rate from all forms of the disease (1.08) was the lowest on record. While on the subject, I should like to emphasize the remarks which appear in the body of the Report on pages 97-113 respecting the need for improved accommodation for women at Killingbeck Sanatorium. The existing wards are in the last stages of decrepitude and should be replaced by new and more up-to-date

ones. I am aware that the present is an inopportune time for adding to our financial commitments, but the matter is pressing and early action is demanded.

One of the disappointments of the year was the maternal mortality rate which rose from 4.23, the figure for 1930, to 5.40 and is the highest rate recorded since 1925. The rise is small and may be temporary, but even so, it comes at a time when we had every reason to expect a fall having regard to the very full facilities which have been provided for the ante-natal, natal and post-natal care of mothers. Unfortunately these facilities are not taken advantage of as they might be. One-third of the mothers who lost their lives in childbirth had had no ante-natal supervision whatever, and out of a total of 7,219 births only 2,467 mothers attended the ante-natal clinics. I do not wish to infer that all those who did not attend the clinics had no ante-natal care, but there must have been a considerable proportion who had not. The obvious conclusion is that the mothers themselves are at fault, though it must be observed that the number of medical practitioners who make use of the clinics is disappointingly small. I am convinced that until doctors, midwives and the public co-operate more closely with the maternity and child welfare authority in the attempt to find a solution to this baffling problem no progress will be made.

An epidemic of measles, the most extensive experienced in the city since the disease became notifiable, occurred during the year. The number of notifications received was over 11,000 as against the usual number of 7,000 or 8,000 in an ordinary epidemic. Happily the mortality was not excessive being below the average of previous epidemic years.

There was also an outbreak of diphtheria of a more than usually severe type, involving about 1,000 cases. The death-rate was the highest recorded since 1913. This emphasizes the need for the community to protect itself against a disease which can

be so dangerous and so deadly. Facilities for this purpose have been provided but the public is slow to take advantage of them.

The mortuary accommodation in the city is inadequate and should be increased and improved. This is a matter to which early and special attention should be directed.

I regret that I cannot write more hopefully about the housing position which is still far from satisfactory and in which progress is still slow. As I have remarked in previous reports, housing and health are so intimately bound up with each other and interact with such unfailing regularity, that unless progress is maintained in the one, the other must necessarily be adversely affected also.

Before closing this letter I wish to pay a humble and heartfelt tribute to the memory of the late Alderman C. H. Moorhouse who for over eleven years was Chairman of the Health Committee and presided over its affairs. Himself a doctor with a large and flourishing practice which made heavy demands on his time and strength, he nevertheless found opportunity, or made it, to serve the city whose interests lay so close to his heart. It was to the Public Health that he gave all his service, often at considerable personal inconvenience, and sacrifice. Under his guidance the Department grew to be one of the most important in the city, and it was a constant source of pride and pleasure to him to feel that he had had a hand in the building of it. By his death the city lost a great servant, the Public Health a devoted supporter, and myself and staff a true friend. Of him it might be said as it was of another great public benefactor, "if you want to see his monument look around you."

My acknowledgments are due to my deputy, Dr. A. B. Williamson, now Deputy Medical Officer of Health of Portsmouth, the Senior Officers in charge of the various sub-departments

who have assisted in the compilation of this report, and to all the members of my staff for the good service they have given during the year.

I also desire to tender my thanks to you, Sir, and to all the members of the Health Committee for their unfailing courtesy and support.

I am,

Ladies and Gentlemen,

Your obedient Servant,

J. JOHNSTONE JERVIS.

Public Health Department,

Leeds,

August, 1932.

SUMMARY.

1931.

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

AVERAGE HEIGHT ABOVE SEA LEVEL 250 feet.

AREA OF CITY	..	..	..	..	..	..	38,106 Acres
POPULATION (Registrar-General's estimate)	..	..	..	..	..	..	486,400
ESTIMATED NUMBER OF HOUSES	..	..	..	..	..	..	130,574
RATEABLE VALUE	..	..	..	..	..	..	£3,085,757
SUM REPRESENTED BY A PENNY RATE	..	..	..	..	..	..	£11,831

						Average.
						1931. 1921-30.
BIRTH RATE (births per 1,000 living)	..	..	..	..	..	14·84 17·62
MARRIAGE RATE (persons married per 1,000 living)	..	..	..	..	..	15·60 16·51
DEATH RATE (deaths per 1,000 living)	..	..	..	..	..	13·38 13·48
NATURAL INCREASE OF POPULATION (Excess of births over deaths in the year)	..	..	..	..	..	713 1,958
INFANT MORTALITY RATE (Deaths under 1 year per 1,000 births)	..	..	..	..	..	76 91
DEATH RATE from Pneumonia and Bronchitis	..	..	..	..	..	1·76 2·14
" " Cancer	..	..	..	..	..	1·52 1·35
" " Diarrhoea and Enteritis (under 2 years)	..	..	..	..	..	
per 1,000 births	..	..	..	..	..	9·42 13·27

					Case-		Death
				Cases.	rate.	Deaths.	rate.
SCARLET FEVER	..	..	..	1,467	3·02	12	0·02
DIPHTHERIA	..	..	..	995	2·05	86	0·18
TYPHOID FEVER	..	..	..	10	0·02	2	0·00
MEASLES	..	..	..	11,056	22·73	56	0·12
PULMONARY TUBERCULOSIS	..	..	..	666	1·37	439	0·90
OTHER FORMS OF TUBERCULOSIS	..	..	..	176	0·36	88	0·18

City of Leeds.

Natural and Social Conditions.

Area.—The area of the city remained the same as in 1930, namely 38,106 acres.

Population.—The Registrar General's estimate of the population at the mid-year of 1931 was 486,400 and the allocation of the population to the 26 wards into which the city is now divided is given on page 19.

Census, 1931.—The population of the city at the 1921 census was 458,232. By the addition of Adel in 1926, and Alwoodley, Eccup, Templenewsam and a portion of Austhorpe in 1928, this was increased to 463,122. After the publication of the 1921 census report, the Registrar General made an adjustment of the population of many of the large towns, the new figure for Leeds being 465,500. The reason for these alterations was the marked discrepancies between the populations of large urban areas and those of country and seaside health resorts revealed by the census figures. The former were obviously understated and the latter overstated, the explanation being that the census was taken at a week-end in the middle of the holiday period during a spell of beautiful weather when the movement of the population was bound to be great. Assuming the revised figure, 465,500, to be correct, with the population of the added areas the total population of the city at the 1921 census became 470,390.

During the year 1931 another census—the fourteenth in the series commencing in 1801—was taken and the preliminary report of the Registrar General gives the population of Leeds as 482,789. This means that in the last 10 years, 1921-1931, the population of the city has increased by 19,677, or 4·2 per cent., as compared with the figure at the 1921 census plus the population of the added areas (463,122). If however the increase of the population is computed on the Registrar General's adjusted figure at the 1921 census plus the population of the added areas the figure becomes 12,399, or 2·6 per cent. In other words the published figure of

the percentage increase of the population of Leeds at the 1931 census has probably been overstated to the extent of the difference between 4.2 and 2.6 per cent. It should be noted that the Registrar General in his published return of the 1931 census has used the original figure of the 1921 census plus the population of the added areas and not the adjusted figure which he seems to have entirely ignored.

LEEDS.

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

Date of Census.	Population.	Increase per cent. on previous Census.		
1801	53,162	..		
1811	62,534	17.63		
1821	83,746	33.92		
1831	119,345	42.51		
1841	152,054	27.41		
1851	172,258	13.29		
1861	207,149	20.26		
1871	259,212	25.13		
1881	309,119	19.25	Population of the area as constituted at the 1931 Census.	Percentage Increase.
1891	367,505	18.89		
1901	428,968	16.72	458,823	0.94
1911	445,550	3.87		
1921	458,232	2.85		
1931	482,789	5.36		
			482,789	4.24

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

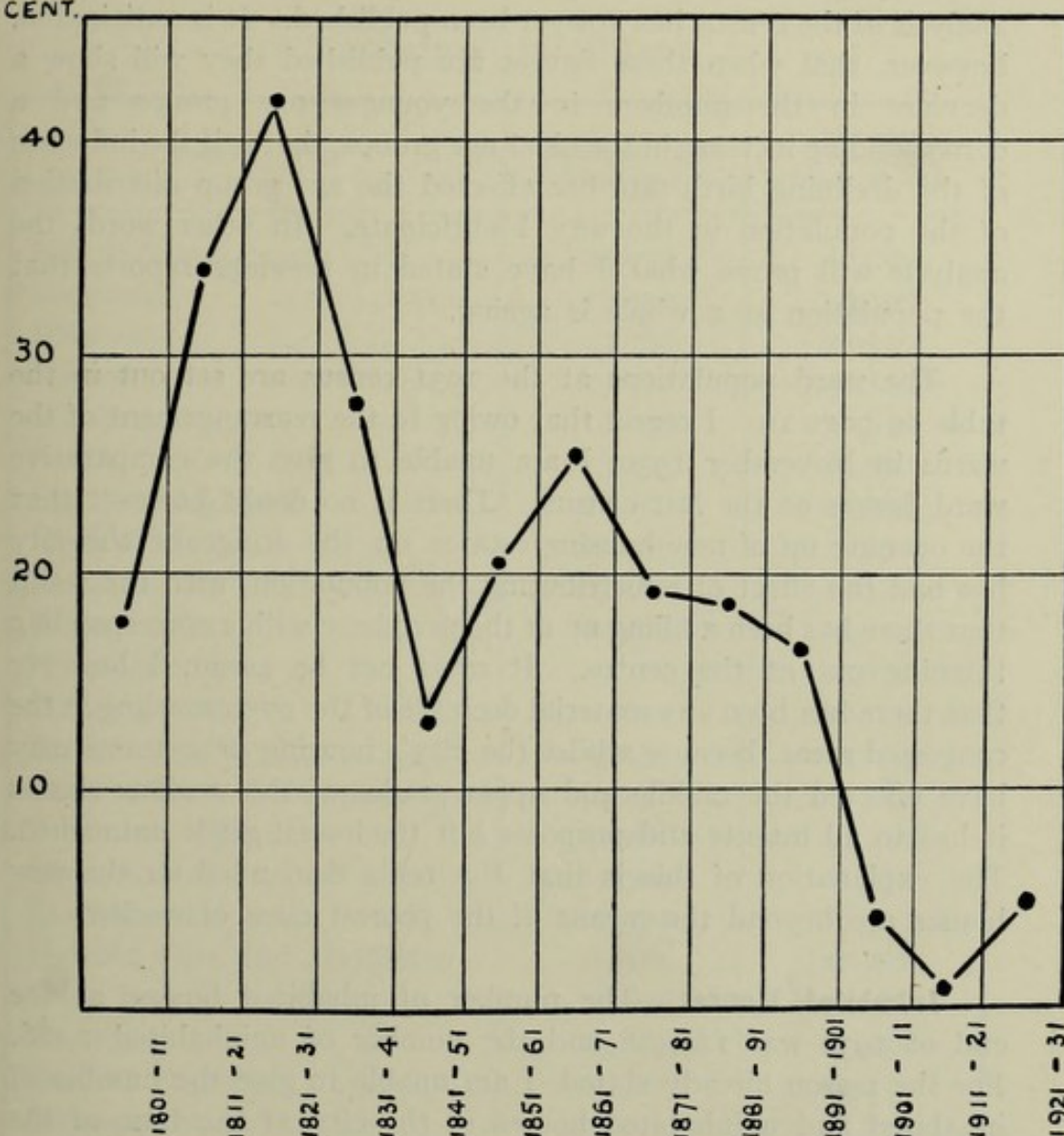
In 1920, Middleton (1911 Census population of 1,207) was added to Leeds.

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.

RATE OF INCREASE OF POPULATION IN EACH INTERCENSAL PERIOD SINCE 1801

INCREASE
PER CENT.



The new census population of 482,789 is made up of 226,069 males and 256,720 females, which give a proportion of 1,000 males to 1,136 females as compared with 1,000 to 1,087 in England and Wales. At the last census the ratio in Leeds was 1,000 males to 1,126 females. The rate of increase in the population has been steadily diminishing since the decennium 1861-1871, and that of the 1921-1931 is one of the smallest on record. The table on page 16 shows the populations at all the previous censuses together with the percentage increase as compared with the previous census. The fluctuations in the rate of increase in the population are set out in the graph on this page.

The grouping of the population in accordance with age and sex distribution cannot be given in this report as the complete analysis of the census has not yet been published. It is anticipated, however, that when those figures are published they will show a decrease in the numbers in the younger age groups and a corresponding increase in the older age groups, that is if the influence of the declining birth-rate has effected the age group distribution of the population in the way I anticipate. In other words the analysis will prove what I have stated in previous reports that the population as a whole is ageing.

The ward populations at the 1931 census are set out in the table on page 19. I regret that owing to the rearrangement of the wards in November 1930, I am unable to give the comparative ward figures at the last census. There is no doubt however that the opening up of new housing estates on the fringe of the city has had the effect of redistributing the population, with the result that there has been a filling up at the periphery with a corresponding thinning out at the centre. It must not be assumed however that there has been any material decrease of the overcrowding in the congested areas, because whilst the city's housing programme may have effected the middle and upper grades of the working-classes it has to all intents and purposes left the lowest grade untouched. The explanation of this is that the rents demanded for the new houses are beyond the means of the poorest class of worker.

Inhabited Houses.—The number of inhabited houses at the end of 1931 was 129,388 and the number of uninhabited 1,186. For the reason already stated, I am unable to give the number of inhabited and uninhabited houses in the city at the time of the census nor the number of separate families occupying the inhabited houses. Nor can I give accurate information as to the degree of overcrowding which exists in the city. This information I hope to be able to give in my next report, provided of course that by the time that becomes due the Registrar General has issued his final report giving complete details of these and other matters.

Rateable Value.—The rateable value of the city in 1931 was £3,085,757 and the estimated product of a penny rate £11,831. The corresponding figures for 1930 were £3,008,412 and £11,571.

POPULATION IN WARDS.

MUNICIPAL WARD.	Census, April 26th, 1931 (Provisional).	Estimated Population middle of 1931.
Mill Hill and South	15,673	15,790
Westfield	19,450	19,596
Blenheim	22,948	23,120
Central	20,972	21,129
Woodhouse	18,690	18,830
North	15,475	15,591
Far Headingley	18,250	18,386
Hyde Park	16,546	16,670
Kirkstall	19,580	19,726
Burmantofts	22,975	23,147
Harehills	19,724	19,872
Potternewton	19,632	19,779
Roundhay	15,151	15,264
Cross Gates and Templenewsam	14,441	14,549
Richmond Hill	24,261	24,442
Osmondthorpe	21,569	21,730
East Hunslet	18,370	18,507
Hunslet Carr and Middleton	19,912	20,061
West Hunslet	18,045	18,180
Beeston	15,219	15,333
Holbeck (South)	14,327	14,434
Holbeck (North)	18,242	18,378
Armley and New Wortley ..	20,172	20,323
Upper Armley	16,952	17,079
Bramley	17,630	17,762
Farnley and Wortley	18,583	18,722
City	482,789	486,400

Principal Industries.—These remained the same as in previous years, no new industry having been started during the year under review.

Unemployment continued to be serious throughout the year, indeed it was worse than in the previous year. The average number of persons registered as unemployed during 1931 was 37,000 as compared with 28,000 for 1930. In January 1931 the number was 38,778, in April it fell to 33,135, rose again in September to 43,628, and in December it stood at 32,763. Notwithstanding this grave state of affairs which to some extent must have affected the comfort and well-being of upwards of 20,000 families, the general health of the population remained good. Whatever effect the economic distress may have had on the standard of life of the working-classes it was not reflected in the vital statistics.

Meteorological Conditions.—The hours of bright sunshine registered in the city during the year was 1,031.83 hours as compared with 1,082.58 for the previous year and an average of 1,226.78 for the previous five years. The sunniest month was August with a daily average of 4.68 hours of bright sunshine and the darkest December with a daily average of 0.64 hours. The daily average for the whole year was 2.83 hours as compared with 2.95 hours for the previous year.

The total rainfall was 32.78 inches as compared with 32.47 inches in 1930 and an average of 29.28 inches for the previous quinquennium. The driest month was October with a total of 1.03 inches and the wettest June with a total of 6.31 inches. Taking the four quarters of the year, the rainfall in the first quarter was 5.06 inches; in the second, 10.49; in the third, 10.57; and in the fourth, 6.66.

The month with the highest average temperature was July with 63.77 degrees and the lowest February with 41.63 degrees. The average temperature for the whole year was 51.50 degrees as compared with 51.70 for the previous year.

National Health Insurance Acts.—The total number of insured persons in the city under the National Health Insurance Acts on December 31st, 1931 was 217,297 as compared with 214,580 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 1,075,132. The corresponding figures for the previous year were 237 and 1,062,023.

VITAL STATISTICS.

Marriages.—The number of marriages which took place in Leeds during the year was 3,793 corresponding to a marriage rate of 15·6 as compared with 16·5 for the previous year and an average of 16·5 for the previous ten years. The marriage rate of England and Wales for 1931 was 15·6 and for 1930, 15·8. The rate though tending to fall remains remarkably steady as will be observed from the graph opposite page 22. Neither economic distress nor housing shortage seems to effect the giving and taking in marriage, though both factors—particularly the former—are generally credited with being responsible for the decline in the birth-rate.

Births.—The births registered during the year numbered 7,557 comprising 3,888 males and 3,669 females. Of these, 233 males and 213 females born to parents not belonging to Leeds were transferred out, whilst 56 males and 52 females born outside the city to Leeds parents were transferred in, making a nett total of 7,219 births comprising 3,711 males and 3,508 females. Compared with the previous year this represents a decrease of 117 males and 232 females or a total decrease of 349.

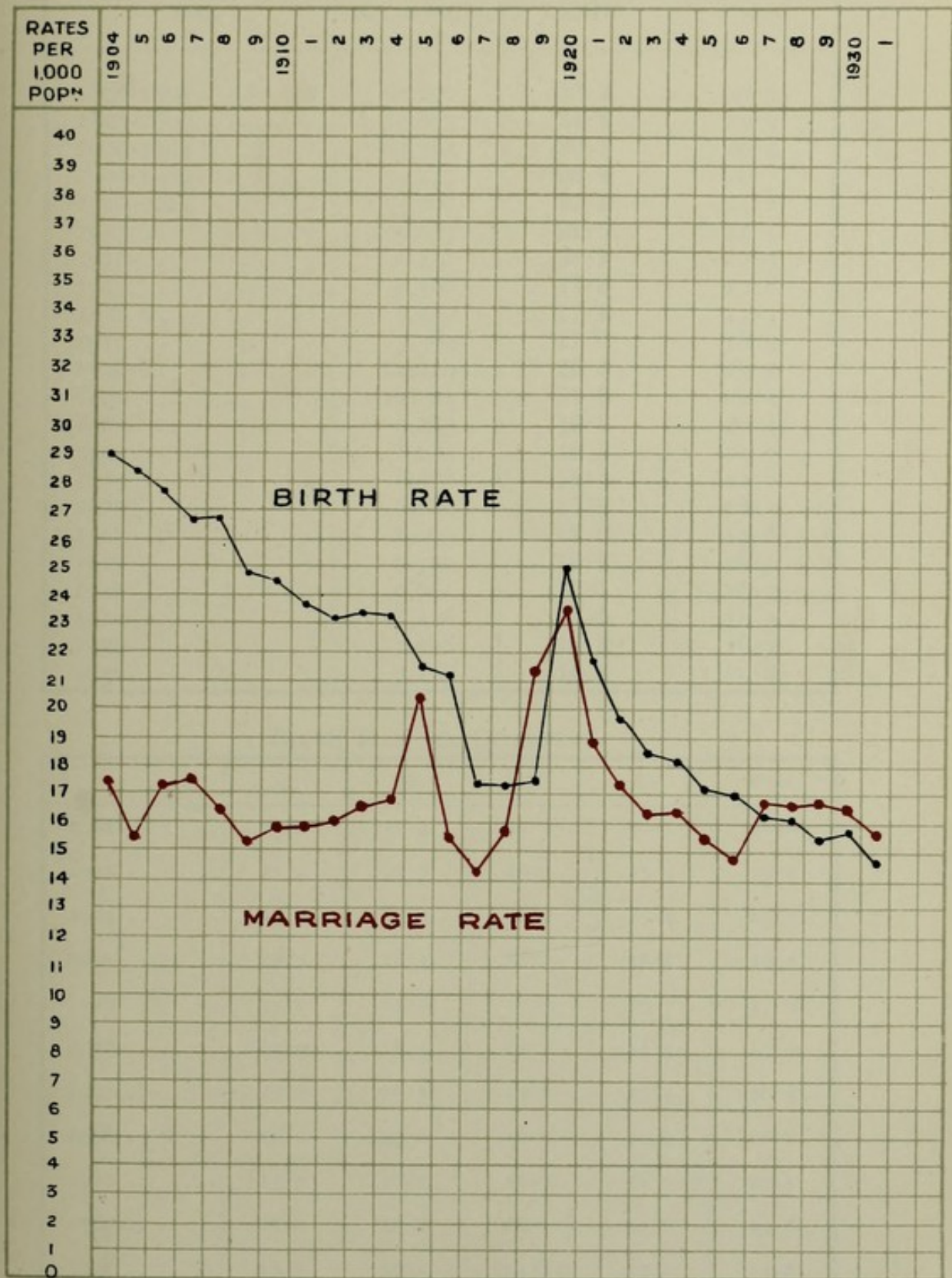
MARRIAGE AND BIRTH-RATES 1911-1931.

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	3,793	15·6	7,219	14·8

The birth-rate was 14.8 as compared with 15.8 for the previous year and an average of 16.2 for the previous five years. This constitutes another new record for the city, the rate being the lowest ever recorded. The table appended gives the marriage and birth-rates for the years 1911-1931 and it will be noticed that there was a decrease in both rates in 1931 but more marked in the latter than in the former.

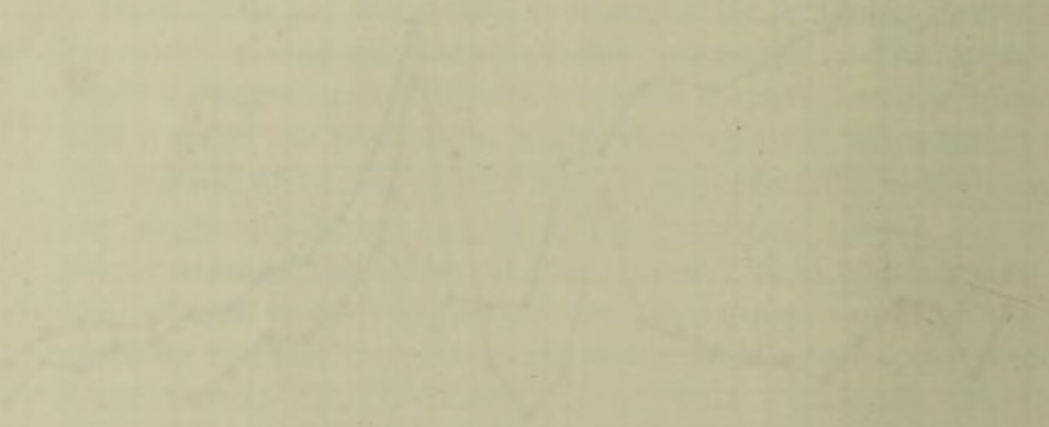
The chart opposite this page shows how the relative positions of the birth and marriage rates have changed. Up to the year 1927, with the exception of 1919, the birth-rate had always been higher than the marriage rate, but since that year the position of the two curves has been reversed. The obvious inference from this is that whilst the number of marriages taking place in the city remains much about the same, the average productivity of each marriage has materially declined. The explanation may be physiological, due to sterility; economic, due to the difficulties of the times; or intentional, due to the deliberate prevention of conception. The last mentioned is undoubtedly becoming increasingly prevalent among all classes of the community. The upper and middle classes have long since ceased to provide their quota of new lives to the population and to-day signs are not wanting that the fashion of having no children or only one child is spreading to the more intelligent section of the working class. A careful examination of the tables on pages 24 and 34 in which are set out the birth-rates and death-rates for the various wards of the city discloses the fact that in certain of the middle and upper working-class wards, *e.g.*, Blenheim, Hyde Park, Kirkstall, Harehills, Potternewton, Beeston and Holbeck (South), the death-rate actually exceeded the birth-rate, which means that in these wards the population lost through death has not been replaced. Where a population fails to make good its death losses it is obviously decadent and this is the state to which the seven wards I have mentioned have been reduced and to which indeed the population of the whole city is rapidly tending. In another year or so if the birth-rate continues its descent and there is no further fall in the death-rate to maintain the balance a state of equilibrium will be reached. Meanwhile the population continues to receive an unduly large proportion of its recruits from the poorest wards where the least desirable stocks are to be found.

BIRTH RATE AND MARRIAGE RATE. 1904 - 1931



BIRTH DATE AND MARRIAGE DATE

DATE



DATE

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	..	..	9,877	21·5	21·9
1916	..	..	9,432	21·1	20·9
1917	..	..	7,566	17·3	17·8
1918	..	..	7,392	17·3	17·7
1919	..	..	7,564	17·6	18·5
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

BIRTH RATE IN QUARTERS.

			I.	II.	III.	IV.	Year.
1921	..	..	21·9	22·4	22·2	20·7	21·8
1922	..	..	21·2	20·7	19·5	17·9	19·8
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

BIRTHS AND BIRTH RATE IN WARDS

MUNICIPAL WARD.	Estimated Population middle of 1931.	Nett births.	Birth- rate.	Illegiti- mate births.	Percentage of illegitimate births to total births.
Mill Hill and South ..	15,790	292	18·49	20	6·8
Westfield	19,596	388	19·80	21	5·4
Blenheim	23,120	292	12·63	45	15·4
Central	21,129	348	16·47	29	8·3
Woodhouse	18,830	276	14·66	14	5·1
North	15,591	233	14·94	9	3·9
Far Headingley	18,386	197	10·71	9	4·6
Hyde Park	16,670	155	9·30	6	3·9
Kirkstall	19,726	269	13·64	8	3·0
Burmantofts	23,147	464	20·05	26	5·6
Harehills	19,872	225	11·32	7	3·1
Potternewton	19,779	207	10·47	15	7·2
Roundhay	15,264	164	10·74	5	3·0
Cross Gates and Temple- newsam	14,549	163	11·20	5	3·1
Richmond Hill	24,442	523	21·40	22	4·2
Osmondthorpe	21,730	355	16·34	10	2·8
East Hunslet	18,507	312	16·86	12	3·8
Hunslet Carr & Middleton	20,061	334	16·65	11	3·3
West Hunslet	18,180	266	14·63	12	4·5
Beeston	15,333	169	11·02	4	2·4
Holbeck (South)	14,434	208	14·41	6	2·9
Holbeck (North)	18,378	320	17·41	16	5·0
Armley and New Wortley	20,323	336	16·53	15	4·5
Upper Armley	17,079	222	13·00	9	4·1
Bramley	17,762	255	14·36	11	4·3
Farnley and Wortley ..	18,722	246	13·14	11	4·5
City	486,400	7,219	14·84	358	5·0

Births in Wards.—The distribution of the births in the various wards of the city is shown in the table on this page. By Section 5 of the Leeds Corporation Act 1930 which came into operation in November of that year the number of wards in the city was increased from 17 to 26 and it should be

pointed out that this is the first occasion on which the vital statistics of these new wards have been published. It may be observed that the new distribution more clearly defines the residential and working-class wards. In eleven of the wards, namely Richmond Hill, Burmantofts, Westfield, Mill Hill and South, Holbeck (North), East Hunslet, Hunslet Carr and Middleton, Armley and New Wortley, Central, Osmondthorpe and North, the birth-rate was higher than for the city as a whole, whilst in the remainder, Woodhouse, West Hunslet, Holbeck (South), Bramley, Kirkstall, Farnley and Wortley, Upper Armley, Blenheim, Harehills, Crossgates and Templenewsam, Beeston, Roundhay, Far Headingley, Potternewton and Hyde Park it was lower. The wards with the highest rates were Richmond Hill, Burmantofts, Westfield and Mill Hill and South, all of which were above 18 and averaged 20.1, whilst those with the lowest were Roundhay, Far Headingley, Potternewton and Hyde Park with a rate of under 11 averaging 10.3. As I have indicated in a previous paragraph the wards with the highest birth-rates were those in the working-class districts whilst those with the lowest were mostly residential in character.

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

Birth-Rate in Quarters.—The highest rate was in the second quarter, 16.2, and the lowest in the fourth, 13.2, whilst in the first and third it was 15.3 and 14.7.

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 713 as compared with 1,638 in 1930 and an average of 1,958 for the previous ten years. For the last 20 years the natural increment to the population as the result of the excess of births over deaths has steadily declined, but the decline has been more pronounced in the last decade than in any other. A natural increment of 713 means that we have arrived at a point when it may be said that the population is stationary. How long it will remain so it is difficult to say, but the probability is that the decline will continue. Had it not been for the fact that the expectation of life has been increased by at least 12 years, which means that there is a larger number of people in the older age groups, the population would have passed the stationary stage some years ago and would now be definitely on the down grade.

For the last six years investigations have been made as to the size of family into which children have been born and the table on page 27 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 1931 rose to 75·2 ; on the other hand, the percentage of births occurring in families of more than six children fell from 6·2 in 1926 to 4·4 in 1931. Patently the day of the large family is over.

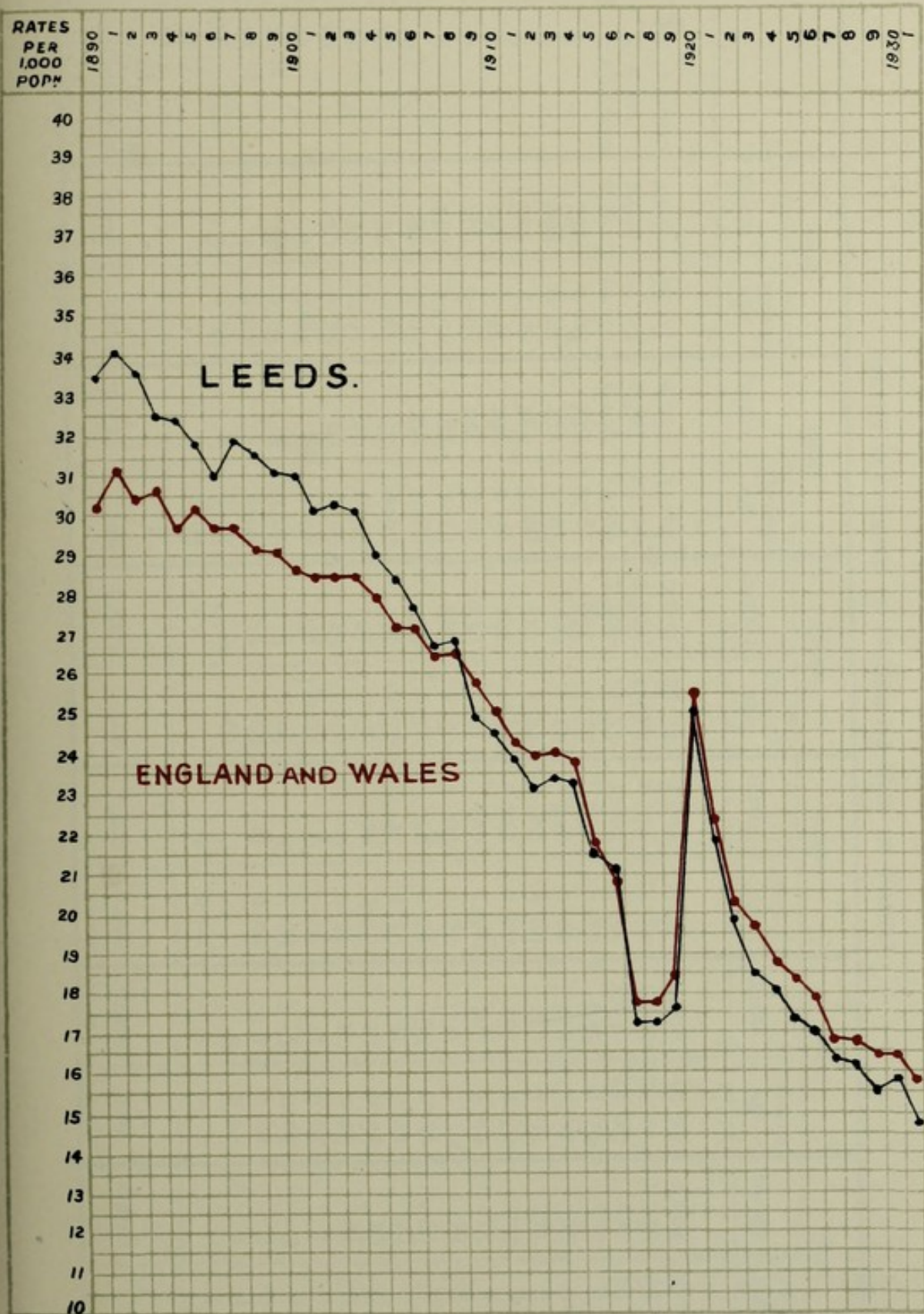
Illegitimate Births.—Of the 7,219 (nett) births registered, 6,861 (3,519 males, 3,342 females) or 95·0 per cent. were legitimate and 358 (192 males, 166 females) or 5·0 per cent. were illegitimate. This is a little less than the average for the previous five years. The ratio of illegitimate to legitimate was 1 to 19, the same as for the previous year.

ILLEGITIMATE BIRTHS.

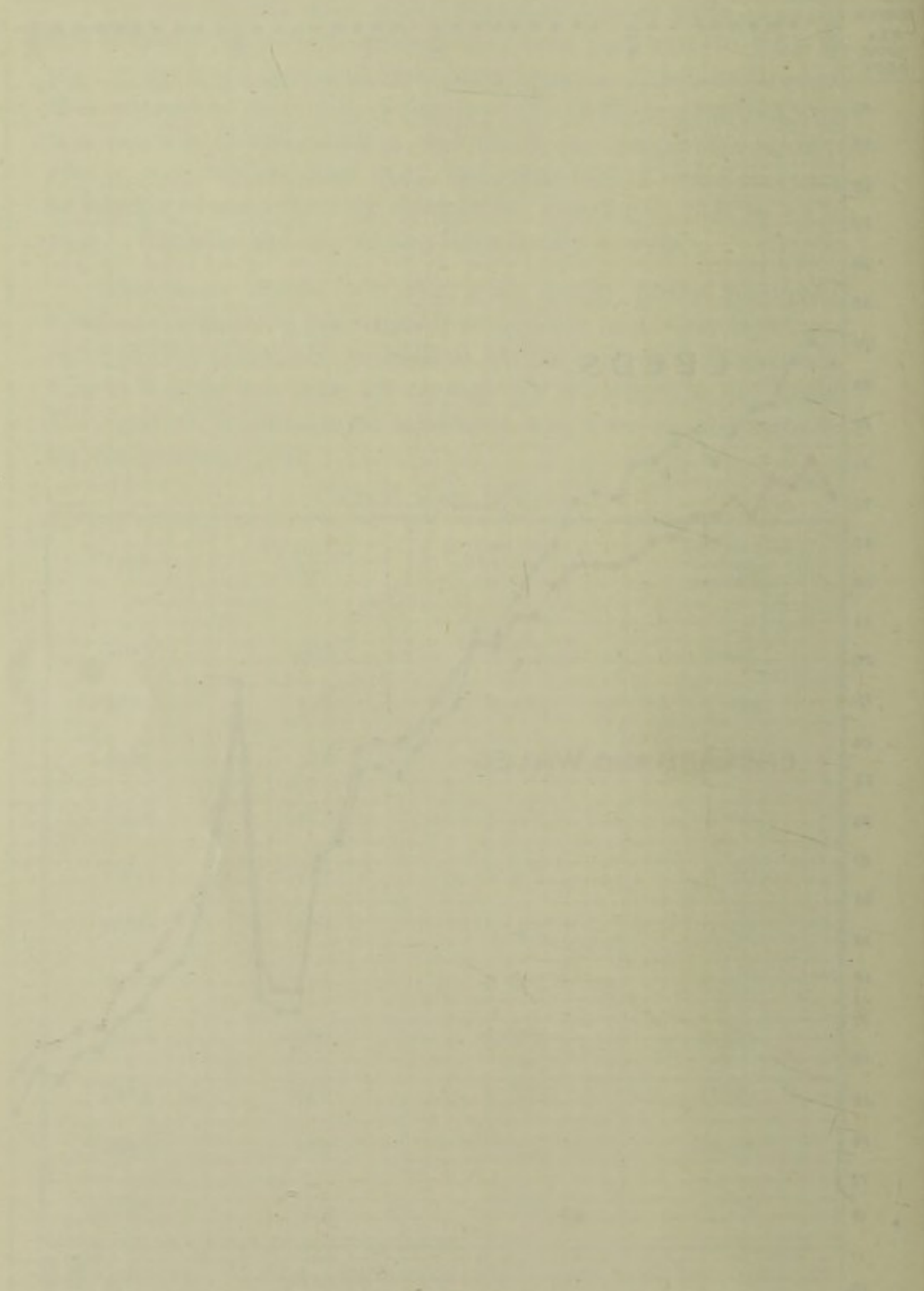
YEAR.	Illegitimate births.	Percentage of nett births registered.	Rate per 1,000 estimated population.
1921 ..	565	5·6%	1·21
1922 ..	511	5·5%	1·09
1923 ..	438	5·0%	0·93
1924 ..	423	4·9%	0·90
1925 ..	422	5·2%	0·89
1926 ..	434	5·4%	0·92
1927 ..	371	4·8%	0·78
1928 ..	390	5·1%	0·82
1929 ..	410	5·5%	0·86
1930 ..	374	4·9%	0·78
1931 ..	358	5·0%	0·74

Reference to the illegitimate death rate will be found on pages 123 and 125.

BIRTH RATE, 1890 - 1931



BIRTH RATE, 1899-1929



BIRTHS OCCURRING IN ORDER OF SIZE OF FAMILY.

	1926.		1927.		1928.		1929.		1930.		1931.	
	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.
No children	2,645	33.03	2,633	34.04	2,673	35.32	2,632	35.47	2,608	35.73	2,604	37.86
1 child	1,924	24.03	1,787	23.11	1,725	22.79	1,771	23.87	1,784	24.44	1,642	23.87
2 children	1,152	14.39	1,148	14.84	1,100	14.53	1,062	14.31	1,039	14.23	927	13.48
3	771	9.63	759	9.81	694	9.17	653	8.80	635	8.70	581	8.45
4	498	6.22	482	6.23	466	6.16	446	6.01	414	5.67	385	5.60
5	325	4.06	314	4.06	313	4.14	289	3.89	287	3.93	271	3.94
6	196	2.45	198	2.56	191	2.52	212	2.86	197	2.70	163	2.37
7	166	2.07	144	1.86	137	1.81	127	1.71	105	1.44	113	1.64
8	122	1.52	88	1.14	103	1.36	90	1.21	95	1.30	72	1.05
9	86	1.07	68	0.88	53	0.70	58	0.78	59	0.81	53	0.77
10	54	0.67	47	0.61	59	0.78	41	0.55	31	0.42	26	0.38
11	35	0.44	29	0.37	27	0.36	20	0.27	25	0.34	16	0.23
12	20	0.25	20	0.26	15	0.20	9	0.12	11	0.15	12	0.17
13	3	0.04	6	0.08	8	0.11	6	0.08	1	0.01	7	0.10
14	4	0.05	4	0.05	3	0.04	2	0.03	5	0.07	3	0.04
15	4	0.05	4	0.05	1	0.01	1	0.01	1	0.01	2	0.03
16	3	0.04	1	0.01	1	0.01	..	..	3	0.04	1	0.01
17	..	..	2	0.03	..	..	1	0.01	..	..	..	..
Total births investigated	8,008	100	7,734	100	7,569	100	7,420	100	7,300	100	6,878	100

Stillbirths.—The number of stillbirths registered during the year was 429, comprising 237 males and 192 females. The inward transfers numbered 7, namely 4 males and 3 females, and the outward transfers 69, namely 47 males and 22 females, which after adjustment leaves a nett total of 367, made up of 194 males and 173 females. The rate per thousand of the population was 0.75 as compared with 0.69 for the previous year. The rate for England and Wales was 0.67. Expressed as a percentage of the nett total births registered the rate was 4.8 as compared with 4.2 for the previous year. Of the 367 (nett) stillbirths, 334, or 91.0 per cent. were legitimate, and 33, or 9.0 per cent. were illegitimate. The ratio of registered "still" to registered "live" births was 1 to 20 as compared with 1 to 23 in 1930.

Details respecting the notification and visitation of births are given on pages 140 and 143.

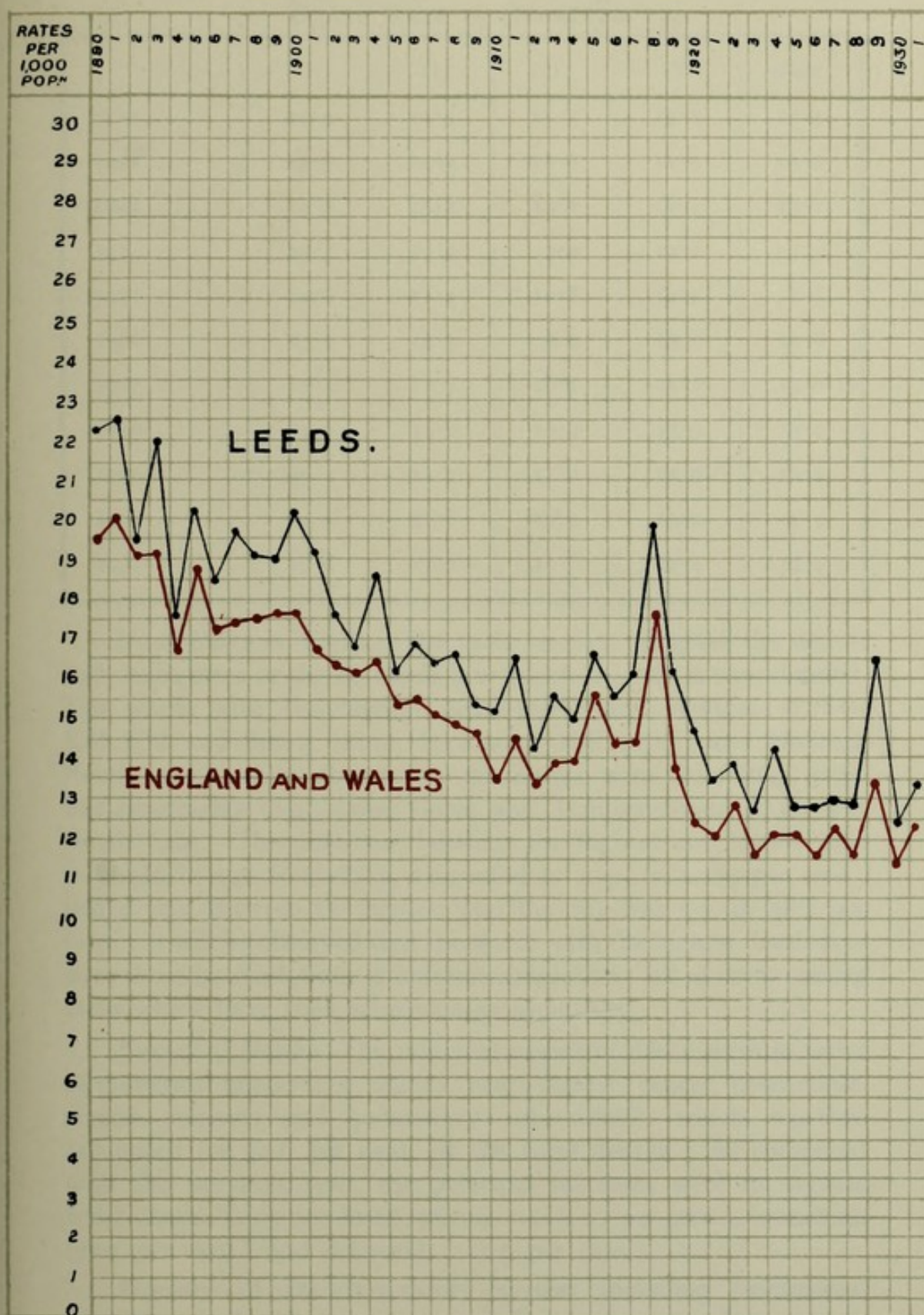
Deaths.—The gross number of deaths registered during the year was 6,810, comprising 3,571 males and 3,239 females, giving a crude death-rate of 14.0 as compared with 13.0 for the previous year and an average of 14.1 for the previous five years. The inward transfers numbered 249, namely 147 males and 102 females, and the outward transfers 553, namely 333 males and 220 females, which after adjustment, leaves a nett total of 6,506 deaths debitable to the city, made up of 3,385 males and 3,121 females. The corresponding nett death-rate was 13.4 as compared with 12.4 for the previous year and an average of 13.5 for the previous five years.

Amongst the thirteen large towns in England and Wales, Leeds occupied eighth place, the towns with lower rates being Sheffield, West Ham, Birmingham, Bristol, London, Stoke-on-Trent and Hull.

The death-rate for England and Wales was 12.3 or 8.2 per cent. less than Leeds.

Death-Rate in Quarters.—The death-rate for the first quarter was 17.4; for the second, 13.1; for the third, 10.6; and for the fourth, 12.5. The reason for the comparatively high death-rate in the first quarter was respiratory diseases. The rates for the second, third and fourth quarters approximate to the average of the last ten years.

DEATH RATE, 1890 - 1931



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DEATH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1921	14.5	12.5	11.3	15.8	13.5
1922	17.5	14.6	10.6	12.9	13.9
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

Death-Rates in Wards.—The table on page 34 gives the deaths and death-rates of the 26 wards into which the city is now divided. The wards with the highest death-rates were Westfield (18.5), Mill Hill and South (18.0), Richmond Hill (17.0), and Holbeck North (17.0), whilst those with the lowest were Roundhay (8.3), Far Headingley (8.9), Cross Gates and Templenewsam (9.1), and North (9.6). The difference between the highest and lowest that is Westfield and Roundhay, amounted to 10.2, or 122.9 per cent., whilst that between the highest and the city was 5.1, or 38.1 per cent. It will be observed that the wards with the highest death-rate were those in which there is extreme congestion; all of them possess areas which have been scheduled as unhealthy.

Causes of Death.—The principal causes of death were in order of numerical importance, organic heart disease, cancer, pneumonia, arterio sclerosis and pulmonary tuberculosis, which together accounted for 51.6 per cent. of the total deaths. As compared with the previous year, the principal increases were in organic heart disease (20.5 per cent.), pneumonia (21.1 per cent.), bronchitis (27.7 per cent.) and influenza (111.9 per cent.).

Diseases of the respiratory system including pneumonia, bronchitis and influenza, but excluding pulmonary tuberculosis,

accounted for 1,047 or 16.1 per cent. of the total deaths from all causes. Last year this group of diseases was responsible for 13.5 per cent. of the total deaths and the percentage for the previous five years was 18.6. The number of children under five years of age who died from respiratory diseases in 1931 was 223, or 26.5 per cent. of the total deaths under five, as compared with 139, or 19.5 per cent. for the previous year and an average of 252 or 25.4 per cent. for the previous five years.

For notes on infantile diarrhoea, bronchitis, pneumonia and tuberculosis see pages 55, 57, 58 and 86.

The table on page 35 sets out the principal causes of death classified according to the manual of the International List of Causes of Death 1926.

Deaths from Street Accidents.—The number of street accidents having a fatal termination during the year was 71 of which 63 or 88.7 per cent. were due to motor vehicles. Last year the number was 75 of which 66, or 88.0 per cent. were due to this cause.

On examining the table appended it will be seen that 26, or 36.6 per cent. of the total deaths were amongst children under 15 years and adults over 65, whilst 45, or 63.4 per cent. were in the age groups between 15 and 65. These figures represent a decrease of 13 in the number of deaths of children and adults over 65 and an increase of 9 in the age groups between 15 and 65 as compared with the previous year.

Housing and Death.—Of the total deaths which occurred in Leeds during the year 3,910, or 60.1 per cent. occurred in back-to-back houses, 2,560, or 39.3 per cent., in throughs, whilst 36, or 0.6 per cent. had no fixed domicile. The ratio of through houses to back-to-back houses in the city in 1931 was 1 to 1.3 and the ratio of deaths in through houses to those in back-to-back houses was 1 to 1.5.

Deaths in Age Groups.—The table on page 37 sets out the deaths according to age groups. The number of deaths of children in the age groups 0-1, 1-2, and 2-5 amounted to 843, or 13.0 per cent. of the total deaths, as compared with 713, or 12.0 per cent. for the previous year, and an average of 992 or 15.4 per cent. for the previous five years. The table also shows that the deaths of persons under 45 years numbered 1,988, or 30.6 per cent. of the total deaths, as compared with 1,789 or 30.2 per cent. for the previous year. Of the remaining deaths 1,902, or 29.2 per cent. occurred in the age group 45-65, whilst 2,616 or 40.2 per cent.

were in the age group 65+. It is interesting to compare the rate of increase in the two last mentioned age groups. In the former it was 1.9 per cent. in the last decade whilst in the latter the increase was 4.0 per cent. in the same period. On the other hand in the age groups under 45 years there has been a continuous and steady decrease amounting to the sum of these two percentages. It must of course be said in explanation of these changes that the number of population living at the age periods under 45 has been undergoing a gradual shrinkage whilst in that over 45 there has been the opposite tendency.

DEATHS FROM VEHICULAR TRAFFIC OF LEEDS PEOPLE IN AGE GROUPS, 1911-1931.

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

COMPARISON OF PERCENTAGES OF DEATHS IN THE VARIOUS AGE GROUPS OF 1931, AS COMPARED WITH THE PREVIOUS DECENNIAL.

Period.	-1	1-2	2-5	5-15	15-25	25-45	45-65	65+
1921—1930 ..	11.9	3.3	2.7	2.7	4.3	11.6	27.3	36.2
Year 1931 ..	8.5	2.1	2.4	2.6	4.2	10.8	29.2	40.2
Decrease -	-3.4	-1.2	-0.3	-0.1	-0.1	-0.8	—	—
Increase +	—	—	—	—	—	—	+1.9	+4.0

Infant Mortality.—The number of deaths of children under one year of age numbered 552, or 8.5 per cent. of the total deaths. The infant mortality rate corresponding was 76 per thousand births or 8 more than for the previous year (68), and 8 less than for the average of the previous five years (84).

This subject is dealt with in detail on page 118.

Cremation.—Out of a total of 6,506 deaths which occurred in the city during 1931, the number of bodies disposed of by cremation was 54, or 0.83 per cent. as compared with 26 or 0.44 per cent. for the previous year. This is the largest number of Leeds people cremated in any one year since the crematorium at Lawnswood was opened in 1905. During the 26 years of its existence the total number of Leeds cremations undertaken have been 471 which works out at the very small percentage of 0.26 of the total deaths. The increase in 1931 is gratifying as showing that greater interest is now being taken by the people generally in this method of disposal, which every one, who gives the question a moment's thought, must admit to be the best and certainly the most desirable from the point of view of the public health. I hope the interest will be maintained and that succeeding years will see a still further increase in the number of cremations until the time arrives when this method of disposal has completely superseded the old and less satisfactory method of earth burial.

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

* 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.	Estimated population middle of 1931.	Nett deaths.	Death- rate.
Mill Hill and South.. ..	15,790	285	18.0
Westfield	19,596	363	18.5
Blenheim	23,120	308	13.3
Central	21,129	340	16.1
Woodhouse	18,830	268	14.2
North	15,591	149	9.6
Far Headingley	18,386	164	8.9
Hyde Park	16,670	188	11.3
Kirkstall	19,726	274	13.9
Burmantofts	23,147	347	15.0
Harehills	19,872	230	11.6
Potternewton	19,779	236	11.9
Roundhay	15,264	127	8.3
Cross Gates and Temple- newsam	14,549	132	9.1
Richmond Hill	24,442	416	17.0
Osmondthorpe	21,730	264	12.1
East Hunslet	18,507	246	13.3
Hunslet Carr and Middleton	20,061	227	11.3
West Hunslet	18,180	265	14.6
Beeston	15,333	174	11.3
Holbeck (South)	14,434	216	15.0
Holbeck (North)	18,378	312	17.0
Armley and New Wortley ..	20,323	296	14.6
Upper Armley	17,079	207	12.1
Bramley	17,762	233	13.1
Farnley and Wortley ..	18,722	239	12.8
City	486,400	6,506	13.4

PRINCIPAL CAUSES OF DEATH.

Death rate.	Diseases.	No. of deaths in 1931 (nett).	Increase or decrease compared with 1930.	Houses.	
				Through.	Back-to-back.
0.00	Enteric Fever	2	- +	2	..
..	Small-pox	..	- 1	..	..
0.12	Measles	56	+ 54	9	47
0.02	Scarlet Fever	12	- 11	4	8
0.09	Whooping Cough	43	+ 11	7	36
0.18	Diphtheria	86	+ 32	32	54
0.26	Influenza	125	+ 66	49	76
0.05	Erysipelas	22	- 1	8	14
0.90	Pulmonary Tuberculosis ..	439	+ 7	124	309
0.18	Other Tuberculous Diseases	88	- 13	22	66
1.52	Cancer, malignant disease	740	+ 12	329	408
0.06	Rheumatic Fever	29	+ 3	5	24
0.05	Meningitis	22	+ 8	8	14
0.69	Cerebral Hæmorrhage ..	337	- 20	122	215
2.44	Organic Heart Disease ..	1,188	+202	521	659
1.00	Arterio-sclerosis	487	+ 40	208	272
0.73	Bronchitis	355	+ 77	117	237
1.03	Pneumonia (all forms) ..	500	+ 87	166	329
0.14	Other diseases of respiratory organs	67	+ 19	25	40
0.20	Diarrhœa and Enteritis ..	98	+ 41	34	64
0.05	Appendicitis and Typhlitis	26	- 12	13	13
0.03	Cirrhosis of Liver	16	+ 4	8	8
0.36	Nephritis and Bright's Disease	174	- 26	80	94
0.03	Puerperal Fever	17	+ 7	10	7
0.05	Other accidents and diseases of Pregnancy and Parturition	22	- +	10	12
0.40	Congenital Debility and Malformation, including Premature Birth ..	193	- 43	60	133
0.43	Violent Deaths, excluding Suicide	207	- 5	85	122
0.13	Suicide	65	+ 1	22	43
2.23	Other Defined Diseases ..	1,087	+ 35	480	603
0.01	Diseases ill-defined or unknown	3	+ 2	..	3
13.38	Totals	6,506	+576	2,560	3,910

Of the 6,506 deaths, 36 had no home.

CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR, 1931.

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	2	..	..	..	..	..	..	2	..	2
2. Small-pox	..	..	..	..	..	..	..	..	..	..
3. Measles	56	6	19	27	4	..	..	..	..	15
4. Scarlet Fever	12	1	1	3	5	1	1	..	..	13
5. Whooping Cough	43	14	20	8	1	..	..	..	..	24
6. Diphtheria	86	..	8	23	51	1	2	1	..	87
7. Influenza	125	4	1	2	4	5	18	37	54	13
8. Erysipelas	22	4	..	..	..	..	..	10	8	17
9. Pulmonary Tuberculosis ..	439	2	..	1	4	104	171	145	12	207
10. Other Tuberculous Diseases	88	6	11	19	16	19	6	8	3	88
11. Cancer, malignant disease	740	..	2	1	..	4	61	367	305	354
12. Rheumatic Fever	29	..	..	..	7	4	6	7	5	8
13. Meningitis	22	6	2	3	3	1	1	6	..	21
14. Cerebral Hæmorrhage, &c...	337	..	..	..	..	3	9	107	218	121
15. Organic Heart Disease ..	1,188	..	..	..	7	15	64	419	683	332
16. Arterio-sclerosis	487	..	..	..	..	1	1	77	408	213
17. Bronchitis	355	22	3	2	2	..	15	96	215	71
18. Pneumonia (all forms) ..	500	104	46	31	12	20	68	112	107	210
19. Other diseases of respiratory organs	67	3	2	3	3	5	5	26	20	36
20. Diarrhœa and Enteritis ..	98	61	7	2	2	2	9	6	9	63
21. Appendicitis and Typhlitis	26	..	..	3	7	1	4	7	4	37
22. Cirrhosis of Liver	16	..	..	..	2	..	2	9	3	10
23. Nephritis and Bright's Disease	174	..	..	2	1	8	29	68	66	85
24. Puerperal Fever	17	..	..	..	..	6	11	..	..	20
25. Other accidents and diseases of Pregnancy and Parturition	22	..	..	..	..	2	20	..	..	21
26. Congenital Debility and Malformation, including Premature Birth ..	193	186	1	1	3	2	..	..	..	119
27. Violent Deaths, excluding Suicide	207	14	3	9	17	26	37	45	56	165
28. Suicide	65	..	..	..	..	2	18	36	9	15
29. Other Defined Diseases ..	1,087	117	10	14	18	43	143	311	431	632
30. Diseases ill-defined or unknown	3	2	1	..	..	..	..	..	..	4
Totals	6,506	552	137	154	169	275	701	1,902	2,616	3,003

DEATHS IN AGE GROUPS (NETT), 1921-1931.

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.
1921	997 <i>15.9%</i>	278 <i>4.4%</i>	130 <i>2.1%</i>	202 <i>3.2%</i>	297 <i>4.7%</i>	765 <i>12.2%</i>	1,562 <i>24.9%</i>	2,054 <i>32.7%</i>	6,285
1922	935 <i>14.4%</i>	283 <i>4.4%</i>	211 <i>3.3%</i>	198 <i>3.1%</i>	282 <i>4.4%</i>	766 <i>11.8%</i>	1,661 <i>25.6%</i>	2,143 <i>33.1%</i>	6,479
1923	773 <i>12.9%</i>	189 <i>3.2%</i>	153 <i>2.6%</i>	166 <i>2.8%</i>	277 <i>4.6%</i>	751 <i>12.5%</i>	1,620 <i>27.1%</i>	2,057 <i>34.4%</i>	5,986
1924	921 <i>13.7%</i>	270 <i>4.0%</i>	202 <i>3.0%</i>	173 <i>2.6%</i>	275 <i>4.1%</i>	786 <i>11.6%</i>	1,804 <i>26.7%</i>	2,316 <i>34.3%</i>	6,747
1925	748 <i>12.4%</i>	177 <i>2.9%</i>	161 <i>2.7%</i>	159 <i>2.6%</i>	297 <i>4.9%</i>	709 <i>11.7%</i>	1,657 <i>27.4%</i>	2,129 <i>35.3%</i>	6,037
1926	748 <i>12.3%</i>	206 <i>3.4%</i>	190 <i>3.1%</i>	158 <i>2.6%</i>	251 <i>4.1%</i>	676 <i>11.2%</i>	1,658 <i>27.4%</i>	2,175 <i>35.9%</i>	6,062
1927	629 <i>10.1%</i>	204 <i>3.3%</i>	160 <i>2.6%</i>	183 <i>3.0%</i>	246 <i>4.0%</i>	714 <i>11.5%</i>	1,711 <i>27.6%</i>	2,351 <i>37.9%</i>	6,198
1928	606 <i>9.9%</i>	122 <i>2.0%</i>	113 <i>1.8%</i>	155 <i>2.5%</i>	230 <i>3.8%</i>	725 <i>11.8%</i>	1,792 <i>29.2%</i>	2,390 <i>39.0%</i>	6,133
1929	722 <i>9.1%</i>	291 <i>3.7%</i>	258 <i>3.3%</i>	160 <i>2.0%</i>	349 <i>4.4%</i>	851 <i>10.8%</i>	2,113 <i>26.8%</i>	3,154 <i>39.9%</i>	7,898
1930	512 <i>8.6%</i>	84 <i>1.4%</i>	117 <i>2.0%</i>	156 <i>2.6%</i>	253 <i>4.3%</i>	667 <i>11.2%</i>	1,813 <i>30.6%</i>	2,328 <i>39.3%</i>	5,930
1931	552 <i>8.5%</i>	137 <i>2.1%</i>	154 <i>2.4%</i>	169 <i>2.6%</i>	275 <i>4.2%</i>	701 <i>10.8%</i>	1,902 <i>29.2%</i>	2,616 <i>40.2%</i>	6,506

CREMATIONS IN LEEDS, 1905-1931.

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	5,985	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
Total	..	..	..	471	184,340	0·26

Comparative Statistics of the larger English Cities, 1931.

	RATE PER 1,000 POPULATION.					DEATH RATE PER 1,000 BIRTHS.	
	Population.	Birth Rate.	Death Rate.	Phthisis. Death Rate.	Other Tuberculosis. Rate.	Deaths under One Year.	Diarrhoea and Enteritis under 2.
London ..	4,374,300 4,363,800	15·0	12·4	0·90	0·13	65	9·71
Birmingham ..	1,011,300	16·9	11·7	0·92	0·14	71	8·6
Liverpool ..	856,483	21·7	14·3	1·15	0·19	93	14·5
Manchester ..	766,333	16·0	13·9	1·12	0·17	84	11·9
Sheffield ..	517,300	15·0	11·3	0·67	0·14	69	5·9
Leeds ..	486,400	14·8	13·4	0·90	0·18	76	9·4
Bristol ..	399,900 399,600	15·1	11·8	0·90	0·12	51	2·98
Hull ..	315,200	19·2	13·2	1·1	0·2	80	8·1
Bradford ..	300,900	13·6	14·2	0·79	0·14	71	5·88
West Ham ..	296,700	17·7	11·4	0·85	0·14	63	7·7
Newcastle ..	283,600	17·8	13·4	1·07	0·33	92	10·3
Stoke-on-Trent	276,619	18·8	13·1	0·97	0·18	100	17·9
Nottingham ..	270,900	17·2	13·6	0·93	0·19	82	11·19

Infectious and Other Diseases

BY

A. B. WILLIAMSON, M.A., M.D., B.Sc., D.P.H., *Chief Assistant
Medical Officer of Health.*

Following immediately upon a year of exceptionally low incidence and mortality in respect of most of the infectious diseases, it was hardly to be expected that 1931 would be a record breaking year. And so it proved. The outstanding features were the reappearance in the city, after a long absence, of a severe type of diphtheria; a measles epidemic involving 11,000 children with a remarkably low case mortality, and an ever-increasing toll of life exacted by cancer.

Cerebro-spinal meningitis and typhoid fever showed an appreciable increase in incidence, while that of scarlet fever and smallpox continued to decline.

Another small outbreak of epidemic catarrhal jaundice occurred. The origin of this disease is still in doubt.

A complete summary of all cases of notifiable infectious diseases notified to this Department during 1931 will be found in the Appendix (Table II.).

Smallpox.—Only five cases of smallpox were reported in the city during 1931, as compared with 24 and 42 for 1929 and 1930 respectively.

This reduced incidence, the lowest since 1926, was shared by England and Wales as a whole where 5,665 cases were reported as against 11,839 during 1930.

Vaccinal State.—Four of the five cases were vaccinated and one case was unvaccinated. Of the vaccinated cases no person was under 40 years of age nor was any re-vaccinated person of any age affected.

Isolation or Observation of Contacts.—Five contacts were admitted to the isolation cottages at Seacroft for detention during the quarantine period. None of these developed the infection. During the year 156 contacts were kept under observation for 21 days in their homes or workplaces; these include five Leeds persons who had been in contact with smallpox in other towns.

Cases referred for second opinion.—During 1931, 24 cases were referred as “doubtful smallpox” by general medical practitioners for the opinion of the Department as compared with 87 during 1930. The cases included smallpox 5; dermatitis 7; erythema 5; urticaria 2; clothing rash 1; herpes zoster and chickenpox 2; serum rash 1; papular syphilide 1.

In addition, the writer examined 313 cases with the following results:—scarlet fever 49; diphtheria 19; measles 5; pneumonia 4; epidemic catarrhal jaundice 3; other conditions 233.

Vaccination.—During 1930, the last year for which statistics are available, 7,902 births were registered, of whom 4,275 or 54 per cent. were successfully vaccinated; fifty-four cases were found to be insusceptible to vaccination and 2,558 statutory exemptions were issued on account of conscientious objections by parents or guardians.

The following 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.

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

*Quite an appreciable number of these children may be vaccinated in 1931

The increase in the number of primary vaccinations during 1930 though small, is welcome, the percentage vaccinated comparing very favourably with that of other cities in England and Wales.

Chickenpox.—There were 2,135 cases of this disease notified during the year, all of which were visited and reported upon by a member of the staff. The writer examined 15 selected cases.

In view of the low incidence of smallpox it was decided to allow the Order making chickenpox a notifiable disease in the city to lapse as from December 31st, 1931.

Diphtheria.—This disease continued to cause much anxiety. Although the number of cases notified was 995, only one more than that of the previous year, the deaths numbered 86, equivalent to a death rate of 0.18, the highest recorded in the city since the year 1913 when 89 deaths occurred. This increased mortality was due to the appearance in the city of a virulent form of the infection. Other areas in the Midlands and North of England were similarly affected and report a similar rise in the death-rate.

The most disquieting feature about this type of the disease lies in the fact that it does not respond to treatment with anti-toxin in the same way as the ordinary type; in many of the very severe cases anti-toxin seemed to have little or no effect. The opportunity was therefore taken to press once more for the active immunisation of all children against diphtheria as the only certain method of protecting them from the disease and lowering the death-rate. To this end, the general practitioners in the city were circularised, the facts laid before them, and the facilities at their disposal again brought to their notice, namely, the free issue of Schick-testing and immunising material for private patients and the arrangements made at the Central Clinic for the free immunisation of children. There was a good response and material sufficient to immunise 400 children was despatched to private practitioners during the latter half of the year. In addition, popular leaflets were prepared and distributed through the Infant Welfare Clinics, urging parents to protect their children without delay against the disease.

With the co-operation of the School Medical Department a similar campaign was instituted in certain schools where the incidence and death-rates had been high.

At the beginning of the year 1932, sessions were being held twice weekly at the Central Infant Welfare and School Clinics where members of the public health staff were immunising children at the rate of 150 per week.

For details of the work of the Immunisation Clinic see page 154.

DIPHTHERIA AND MEMBRANOUS CROUP.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1921	665	1.43	38	0.08	0.13
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

Diphtheria Outbreaks.—Outbreaks occurred in no fewer than five institutions in the city involving 63 cases. In two of these, the origin was traced to convalescent patients. In one hospital the outbreak was definitely attributed to a "carrier" nurse. Prompt Schicking of close contacts followed by the administration of 2,000 units of diphtheria anti-toxin to non-immune cases was found to be the most effective method of bringing the outbreaks to an end. The nursing and domestic staffs were invariably included in the "comb-out."

In four schools small outbreaks occurred, involving in one school alone as many as eight deaths.

Experience with these outbreaks convinced the writer that a child returning from hospital after suffering from diphtheria should

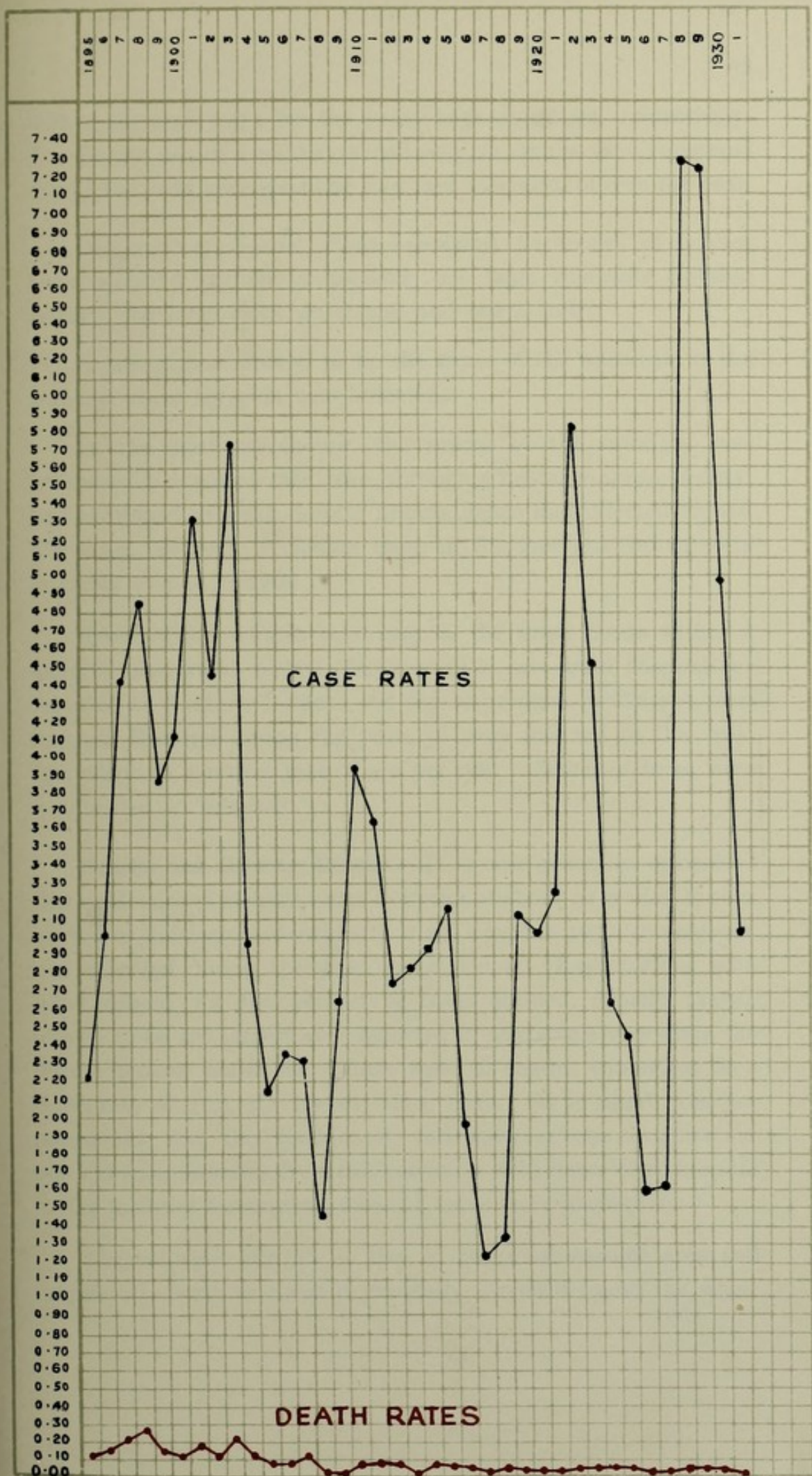
never be allowed to return to school or be re-admitted to an institution without being swabbed twice with negative results during the period of 14 days after discharge. It is well known that a patient may give two negative swabs a few days before discharge from hospital and be declared free from infection and yet a few days after returning home, may become infective again. During November an experiment was carried out whereby all convalescent cases of diphtheria were examined at the Health Department within a fortnight after discharge from the hospital, and of 12 cases no fewer than six gave a positive nasal swab.

SCARLET FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1921	1,526	3·28	14	0·03	0·03
1922	2,722	5·83	33	0·07	0·04
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

Scarlet Fever.—The year 1931 saw a welcome decrease in the number of scarlet fever cases notified, namely, 1,467 as compared

SCARLET FEVER CASE AND DEATH RATES 1895 - 1931



with 2,383 and 3,473 for the years 1930 and 1929, respectively. The disease was of a mild type and only 12 deaths were registered during the year, corresponding to a case mortality of 0.82 per cent.

Outbreaks of Scarlet Fever.—Isolated outbreaks of scarlet fever occurred in four institutions, one large wholesale clothing factory, one large cloth warehouse and one laundry.

A missed case proved to be the cause of the outbreak in the laundry where six girls were infected.

In the cloth warehouse, the source of the infection was undoubtedly a missed case, who, through a mistaken sense of duty, had continued at work despite peeling hands and infected throat. The other outbreaks including those in the four institutions were probably due to carriers.

Return Cases.—Cases occurring in the same house within a limit of four weeks of the discharge of a case from hospital are regarded as "return" cases. Of the 1,392 cases discharged from Seacroft Hospital during the year, 56 were infected in this way, equivalent to a return rate of 4.0 per cent. Seven of these were re-admitted to hospital.

Measles and German Measles.—It is now generally recognised that epidemics of measles occur in cycles of about 92 weeks, so that in view of the decreased incidence (1,256 cases) in 1930, an epidemic was expected during the year under review. Expectations were fully realised, for the number of cases notified, namely 11,056, proved to be the largest ever reported in any single year since the disease became notifiable. There were 56 deaths, equivalent to a death-rate of 0.12, the highest since 1929. As is usual broncho-pneumonia was the commonest and most severe complication and 172 cases suffering from this condition were removed to hospital as the facilities for nursing them at home were inadequate.

The epidemic started in May in the south-eastern area and despite all efforts to check it gradually travelled round the whole

city terminating in August in the ward where it commenced, having literally burned itself out. The death-rate considering the large number of cases was comparatively low which in some measure was due to the type which was mild and to the fact that the epidemic was at its worst during the late spring and early summer.

MEASLES.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1921	240	0.52	5	0.01	0.06
1922	10,078	21.59	152	0.33	0.15
1923	5,224	11.12	50	0.11	0.14
1924	7,037	14.92	46	0.10	0.12
1925	5,301	11.21	39	0.08	0.14
1926	7,702	16.27	20	0.04	0.09
1927	8,664	18.14	117	0.24	0.09
1928	3,679	7.75	21	0.04	0.11
1929	10,742	22.45	102	0.21	0.09
1930	1,256	2.62	2	0.00	0.11
1931	11,056	22.73	56	0.12	0.08

AGES AT DEATH FROM MEASLES.

1931	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total
No. of Deaths ..	6	19	11	9	7	4	-	56

Whooping Cough.—Coincident with the outbreak of measles there was a corresponding increase in the number of cases of whooping cough. As whooping cough is not notifiable in Leeds the actual number of cases which occurred could not be ascertained. The number of deaths, however, was 43, equivalent to a death-rate of 0·09. Eight cases complicated with broncho-pneumonia were removed to hospital.

WHOOPING COUGH

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1921	72	0·15	0·12
1922	115	0·25	0·17
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

AGES AT DEATH FROM WHOOPING COUGH.

1931	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of deaths	14	20	2	3	3	1	..	43

ERYSIPELAS.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate.	Death-rate England and Wales.
1921	183	0·39	10	0·02	0·02
1922	228	0·49	11	0·02	0·02
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	

Erysipelas.—Although it is pleasing to record a decrease in this disease—317 cases as compared with 423 during 1930—the mortality rate was the same viz., 0·05. There were 22 deaths. Of the 317 cases, 140 were removed to hospital. The close association between erysipelas, puerperal fever and scarlet fever, mentioned in last year's report, as regards seasonal incidence, fluctuations of attack rate and death-rate was again evidenced.

Encephalitis Lethargica.—Three cases were notified during the year as compared with one during 1930. Deaths numbered 7, equivalent to a death-rate of 0·01.

Acute Anterior Poliomyelitis.—During 1931 one case only occurred which proved fatal.

Cerebro Spinal Meningitis.—The year 1931 was remarkable for a recurrence of an outbreak of cerebro spinal meningitis throughout the country, especially in the northern and midland counties. Many Local Authorities within a comparatively short distance of the city suffered badly but, fortunately though quite inexplicably. Leeds escaped with only 16 cases, equivalent to a case-rate of 0.03. Six cases were removed to hospital. The number of deaths was 14, corresponding to a death-rate of 0.03.

Malaria and Dysentery.—One case of malaria was notified, the patient being an ex-service man who contracted the disease in Italy in 1918. Of the five cases of dysentery notified, three were notified from a large institution in the city. There were no deaths reported from these two diseases.

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	
	1930	1931	1930	1931	1930	1931	1930	1931
Puerperal Fever ..	51	65	0.11	0.13	10	17	0.02	0.03
Puerperal Pyrexia ..	46	76	0.10	0.16	..	..	..	..

Of the 65 cases of puerperal fever 43 (66.2 per cent.) occurred in institutions, 9 (13.8 per cent.) in doctors' practices and 13 (20.0 per cent.) in the practice of midwives. Twelve (18.5 per cent.) were treated in Seacroft hospital.

The cases of puerperal pyrexia were distributed as follows :— 45 (59.2 per cent.) in institutions, 10 (13.2 per cent.) in doctors' practices, and 21 (27.6 per cent.) in midwives' practices. As compared with 1930, an increase of 14 cases of puerperal fever and an increase of 30 cases of puerperal pyrexia is recorded.

This subject is further dealt with in the section on Maternity and Child Welfare on page 130.

PUERPERAL FEVER.

Year.	Cases.	Case-rate per 1,000 population.	Deaths.	Death-rate per 1,000 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

Ophthalmia Neonatorum.—Fifty-three cases were notified during 1931, an increase of four cases over the previous year.

The arrangements for dealing with cases of this disease remained the same. Of the 53 cases notified, 33 were treated at home and 20 in hospital, namely, nine in the Maternity Hospital, nine in the Leeds Infirmary, and two in St. James's Hospital. Thirteen (24·5 per cent.) occurred in institutions, 18 (34·0 per cent.) in doctors' practices and 22 (41·5 per cent.) in the practices of midwives.

DAY OF ONSET FROM BIRTH.

1931.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	1	1	-	2	2	2	7	2	2	5	21	4	4

The results of treatment were as follows :—

Recovery apparently perfect	..	..	47
Died (one from pneumonia, one from marasmus and cleft palate, and one from marasmus and syphilis)	..	..	3
Recovery not perfect	..	..	1
Result not known	..	..	2

This subject is further dealt with in the section on Maternity and Child Welfare on page 130.

Enteric Fever.—There were ten cases of typhoid fever notified during the year. Of these five were due to infection by B Typhosus and five by Para Typhoid B. The ages of the patients ranged from 15 to 55, the average being 30. Two of the Para Typhoid cases died. With one exception the cases were unconnected with each other and in no instance was the precise source of the infection ascertained. Two of the Para Typhoid cases were probably infected while on holiday in France.

Of the 10 cases, seven were removed to hospital. One of them, a young girl of 15, became a persistent typhoid carrier and was still under supervision at the end of the year.

ENTERIC FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1921	24	0·05	2	0·00	0·02
1922	14	0·03	7	0·01	0·01
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

CASES OF ENTERIC FEVER MONTH BY MONTH.

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

Influenza.—Predictions of an epidemic of influenza to take place in the first quarter of 1931 proved false. The number of deaths, however (125) although higher than that of the previous year (59), is lower than the average number of deaths for the past 10 years. From the following table it will be seen that during the

last decade serious epidemics have occurred at intervals of five years, namely, 1919, 1924, and 1929, with minor fluctuations between, so that on this basis an epidemic may be expected in 1934.

Of the deaths 16 occurred in persons under 25, 18 between 25-45, 37 between 45-65 and 54 over 65, from which it is evident that the mortality increases with the advance of age.

INFLUENZA.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1920	170	0.38	0.28
1921	164	0.35	0.24
1922	169	0.36	0.56
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

AGES AT DEATH FROM INFLUENZA.

1931	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	4	1	2	4	5	18	37	54	125

DEATHS FROM DIARRHŒA AND ENTERITIS UNDER TWO YEARS AND METEOROLOGICAL CONDITIONS
IN EACH MONTH OF THE YEAR.

1931.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths	7	7	3	..	..	6	6	4	8	9	7	11	68
Barom. (inches) ..	29.78	29.70	29.86	29.76	29.76	29.85	29.71	29.82	30.04	30.04	29.55	30.07	29.84
Attached Ther. °F. ..	52.40	51.69	54.84	56.12	61.27	64.43	66.60	64.62	61.82	57.75	56.44	53.70	58.50
Dry Bulb	41.90	41.63	41.98	49.06	55.96	61.77	63.77	60.10	57.03	50.63	48.98	44.95	51.50
Wet Bulb	39.79	39.69	39.13	46.23	52.48	57.22	58.87	57.25	53.72	47.54	47.04	42.83	48.49
Humidity	83.35	84.87	78.23	81.58	78.88	74.71	73.23	82.56	79.63	79.58	86.33	84.02	80.49
Mn. of highest reading ..	45.54	44.61	47.00	53.28	61.57	67.69	69.29	65.75	62.03	56.14	52.00	48.74	56.16
„ lowest „ ..	33.11	34.93	32.40	41.21	44.71	50.60	53.86	51.57	47.86	41.25	42.14	36.54	42.46
„ daily range ..	12.43	9.68	14.60	12.07	16.86	17.09	15.43	14.18	14.17	14.89	9.86	12.20	13.70
Total rainfall (inches) ..	1.89	2.01	1.16	2.60	1.58	6.31	2.60	3.93	4.04	1.03	4.42	1.21	32.78
Sunshine (hours) ..	42.50	41.75	116.92	102.00	142.75	111.33	113.92	145.00	71.42	97.00	27.25	20.00	1031.83

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.
1921	184	18·1	16·1
1922	92	9·9	6·6
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	6·0

Epidemic (Summer) Diarrhœa and Enteritis.—During the year 68 children under two years of age died from these diseases, equal to a death-rate of 9·4 per 1,000 births as compared with 4·5 during 1930. Although the death-rate is thus more than double that of the previous year and exceeds the death-rate of England and Wales by 3·4, it is still well below the average (13·27) for the city for the past 10 years.

Epidemic Catarrhal Jaundice.—Another small outbreak of this disease occurred during the year, but no connection between it and the previous one could be found. Three members of one family were involved. A girl, aged 11, fell ill on the third week of July with symptoms resembling those of gastric influenza, namely, shivering, pains in the back, vomiting and severe abdominal pains. On the

third day after onset, jaundice appeared and the patient felt much better. An uneventful recovery followed.

At the beginning of October, her brother aged five who slept with her developed similar symptoms. On October 8th the elder brother fell a victim to the disease but his attack was comparatively mild. Bacteriological tests were negative. No clue as to the source of infection was found.

PNEUMONIA (ALL FORMS).

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1921	562	1.21	0.92
1922	502	1.08	1.07
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	

AGES AT DEATH FROM PNEUMONIA.

1931	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total
No. of Deaths	104	46	31	12	20	68	112	107	500

BRONCHITIS.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1921	556	1.19	0.89
1922	596	1.28	1.07
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	

AGES AT DEATH FROM BRONCHITIS.

1931	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Tot. l.
No. of Deaths	22	3	2	2	-	15	96	215	355

Pneumonia.—The number of notifications received during the year was 832 primary, and 145 acute influenzal, the majority of which were referable to the first quarter of the year. The attack rate for the two varieties of pneumonia based on the notifications received was 1.71 and 0.30 respectively, as compared with 1.35 and 0.14 for the previous year and 1.99 and 0.43, the average of the previous five years.

The death-rate was low (1.03) as compared with (1.12) the average of the past five years, although it was 0.17 higher than that of the previous year, which was the lowest on record. As usual the greatest number of deaths occurred during the first and fourth quarters of the year. The distribution of the deaths in age groups is given in the table on page 56 and it will be noted that no fewer than 181 were among children under five years of age whilst 219 or 43.8 per cent. were over 45. As compared with the year 1930 these figures represent an increase of 78 in the group under five years of age and a decrease of seven in the age groups over 45. It should be noted that the figures given above relate to all forms of pneumonia.

Bronchitis.—The exceptionally low death-rate from bronchitis recorded in 1930 was not maintained during the year under review, the increase in the number of deaths being 77. As usual, more than half the deaths occurred in the age group 65 and over. A comparison of the tables on pages 56 and 57 dealing with bronchitis and pneumonia illustrates how closely the fluctuations in the death-rate of these two diseases correspond.

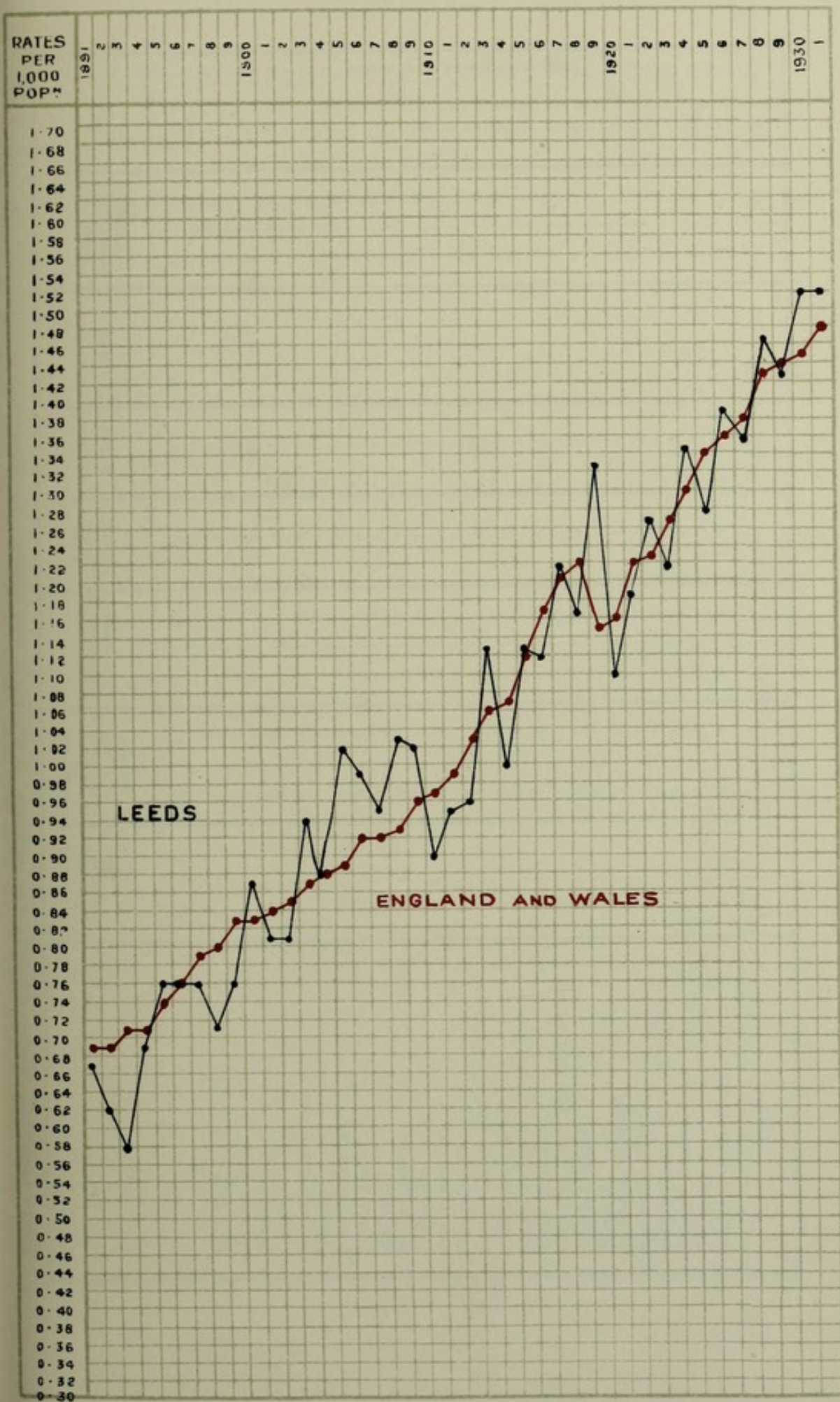
Cancer.—For the second year in succession the mortality from cancer shows an increase, and a glance at the table on page 60, affords indisputable evidence that cancer is gradually gaining ground in Leeds.

The deaths during 1931 numbered 740, of which 354 were males and 386 females, an increase of 26 males and a decrease of 14 females as compared with last year. The increase amongst males was chiefly in the age group 45-65.

The decrease in the female deaths was mainly attributable to a reduction in the number of women dying from cancer of the breast.

Although the real cause of cancer has not yet been discovered, we now know that chronic irritation is a contributory factor in several forms of the disease, *e.g.*, lip, tongue and skin. The enlightenment of the people regarding the true nature of the disease is therefore a matter of importance. Accordingly cancer received a prominent place in the 1931 programme of health propaganda, including a public lecture delivered during Health Week with the co-operation of the Yorkshire Branch of the British Empire Cancer Campaign.

CANCER DEATH RATE. — 1891 - 1931



The first part of the chapter discusses the early history of the region, from the time of the first settlers to the present day. It covers the various tribes that lived in the area, the early European explorers, and the development of the region as a colony. The second part of the chapter focuses on the economic development of the region, particularly the role of the fur trade and the establishment of the first settlements. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The third part of the chapter deals with the political and social development of the region, including the establishment of the first government and the role of the various tribes. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The fourth part of the chapter discusses the cultural development of the region, including the role of the various tribes and the impact of the American Revolution. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The fifth part of the chapter discusses the economic development of the region, particularly the role of the fur trade and the establishment of the first settlements. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The sixth part of the chapter deals with the political and social development of the region, including the establishment of the first government and the role of the various tribes. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The seventh part of the chapter discusses the cultural development of the region, including the role of the various tribes and the impact of the American Revolution. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The eighth part of the chapter discusses the economic development of the region, particularly the role of the fur trade and the establishment of the first settlements. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The ninth part of the chapter deals with the political and social development of the region, including the establishment of the first government and the role of the various tribes. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict. The tenth part of the chapter discusses the cultural development of the region, including the role of the various tribes and the impact of the American Revolution. It also discusses the impact of the American Revolution on the region and the subsequent years of conflict.

1931.—DEATHS FROM CANCER IN WARDS CLASSIFIED ACCORDING TO ANATOMICAL SITE OF THE DISEASE.

Ward.	Buccal cavity.		Pharynx, esophagus, stomach, liver and annexa.		Peritoneum, intestines and rectum.		Female genital organs.		Breast.		Skin.		Other or unspecified organs.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Mill Hill and South	2	..	3	1	4	4	2	1	..	..	..	..	3	2	12	10
Westfield ..	3	..	10	6	5	1	4	3	..	..	..	..	5	3	23	17
Blenheim ..	6	..	8	3	3	1	7	3	..	..	..	..	3	3	20	17
Central ..	1	..	8	6	4	..	3	2	..	..	..	..	4	1	18	12
Woodhouse ..	1	..	2	4	4	5	4	4	..	..	..	..	4	4	11	22
North ..	1	..	..	1	4	4	1	2	..	..	..	..	2	1	8	9
Far Headingley ..	1	..	4	4	5	7	2	1	..	..	..	..	4	3	14	17
Hyde Park ..	1	..	3	3	3	4	4	5	..	..	..	..	6	7	13	23
Kirkstall ..	1	..	8	3	5	7	2	2	..	..	..	..	9	2	23	16
Burmantofts ..	1	..	4	6	3	3	1	1	..	..	..	..	7	2	16	15
Harehills ..	2	..	5	2	3	5	4	1	..	..	..	..	6	2	16	14
Potternewton ..	1	..	7	5	6	6	1	5	..	..	..	..	4	2	18	19
Roundhay ..	1	..	5	..	2	1	2	..	..	..	..	..	3	..	11	3
Cross Gates and Templenewsam	..	1	1	1	2	1	4	..	..	..	..	..	2	3	5	12
Richmond Hill ..	2	..	5	2	1	2	5	2	..	..	..	..	3	5	13	16
Osmondthorpe ..	..	..	6	2	5	6	3	..	..	..	..	..	5	2	16	14
East Hunslet ..	..	..	7	4	..	3	4	..	..	..	..	..	3	3	11	17
Hunslet Carr and Middleton	..	..	1	2	4	6	7	3	..	..	..	..	2	2	7	20
West Hunslet ..	2	..	3	3	3	7	2	3	..	..	..	..	2	1	10	16
Beeston ..	..	..	2	3	..	5	..	2	..	..	..	..	4	1	6	11
Holbeck (South) ..	..	..	2	1	5	4	3	2	..	..	..	..	4	..	12	10
Holbeck (North) ..	3	..	5	4	6	1	3	5	..	..	..	..	6	1	20	14
Armley and New Wortley	4	..	1	7	7	1	4	2	..	..	..	..	5	2	18	16
Upper Armley ..	1	..	1	3	3	2	5	2	..	..	..	..	2	..	7	12
Bramley ..	1	..	5	8	4	5	1	5	..	..	..	..	2	1	12	21
Farnley and Wortley ..	..	..	4	2	6	4	4	1	..	..	..	..	5	1	15	12
City ..	35	2	110	86	97	95	82	62	8	4	105	54	355	385		

CANCER.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1921	554	1.19	1.22
1922	595	1.27	1.23
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

AGES AT DEATH FROM CANCER.

1931.	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
Males	..	1	1	..	4	33	175	140	354
Females	..	1	..	..	..	28	192	165	386
Total	..	2	1	..	4	61	367	305	740

Food Poisoning.—During 1931 only five cases of suspected food poisoning were notified under Section 45 of the Leeds Corporation Act, 1930. After full investigation by the writer of all the circumstances and examination of faeces and blood obtained

where possible from the patient, it was found that no case came within the statutory definition of food poisoning, namely, "illness of whatever severity, due to, or suspected to be due, to the ingestion of food which has been contaminated with the bacilli of the salmonella or botulinus groups or their toxins or with metallic poisons, *e.g.*, lead, arsenic and antimony." The articles suspected were pork, tinned herrings, cows' udder, milk and minced pies.

In the last named case an examination of the faeces revealed the presence of *B. Flexner* and the diagnosis of bacillary dysentery was made.

Handling of Food, etc. by Infected Persons.—The powers conferred by Section 42 of the Leeds Corporation Act, 1930, were invoked on only six occasions during 1931 when six persons engaged in the cooking, preparation or handling of food intended for consumption were found to be suffering from an infectious disease and were removed to hospital for isolation.

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

	Year 1920.	Year 1921.	Year 1922.	Year 1923.	Year 1924.	Year 1925.	Year 1926.	Year 1927.	Year 1928.	Year 1929.	Year 1930.
London ..	1.25	1.33	1.33	1.39	1.42	1.44	1.46	1.49	1.52	1.55	1.57
Birmingham..	1.11	1.10	1.16	1.18	1.31	1.29	1.31	1.39	1.37	1.37	1.42
Liverpool ..	1.07	1.10	1.06	1.13	1.13	1.21	1.18	1.16	1.33	1.34	1.27
Manchester ..	1.28	1.28	1.29	1.41	1.40	1.40	1.49	1.45	1.49	1.56	1.52
Sheffield ..	1.08	1.17	1.18	1.19	1.26	1.33	1.19	1.39	1.37	1.42	1.45
Leeds ..	1.09	1.19	1.29	1.24	1.37	1.28	1.41	1.37	1.46	1.44	1.52
Bristol ..	1.15	1.26	1.21	1.32	1.28	1.32	1.26	1.43	1.45	1.39	1.50
Hull ..	0.97	1.21	1.21	1.04	1.29	1.20	1.46	1.45	1.47	1.40	1.36
Bradford ..	1.28	1.39	1.49	1.33	1.56	1.42	1.63	1.59	1.55	1.58	1.61
Newcastle ..	0.94	1.10	1.08	1.16	1.24	1.32	1.19	1.20	1.54	1.38	1.39
Nottingham ..	1.36	1.43	1.23	1.46	1.40	1.25	1.38	1.49	1.44	1.52	1.43
England and Wales ..	1.16	1.22	1.23	1.27	1.30	1.34	1.36	1.38	1.42	1.44	1.45

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

LEEDS CITY HOSPITAL

(Seacroft).

**REPORT FOR THE YEAR ENDING
DECEMBER 31st, 1931**

BY

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

Admissions.—Patients admitted during the year numbered 2,879, this number being exclusive of four persons admitted to the quarantine cottages for observation for smallpox. A marked decrease occurred in the number of admissions compared with the previous year when the figure was 3,596.

Direct admissions from outside the city's boundaries numbered 13, consisting largely of patients suffering from puerperal conditions. During the year 166 patients were admitted from the Leeds General Infirmary, and 162 from other medical institutions in Leeds.

The daily average number of patients in Seacroft Hospital was 261·4 compared with 342·8 during the previous year. The greatest daily number of patients was 360 and the lowest 169.

The average length of stay in hospital for 2,771 patients whose treatment was completed, was 35·1 days, as compared with 36·1 days in 1930.

Smallpox Hospital.—Patients admitted during the year numbered five as against 42 in the previous annual period. The average stay in hospital for discharged patients was 25·4 days.

Quarantine Cottages.—It was not found necessary to admit for observation more than one family of four persons during the year.

Death-rates.—The case mortality for all cases was 4·9 per cent. as against 2·7 per cent. in 1930. Diphtheria was the chief contributor to this increase.

Meteorological Records.—These continue to be kept in Seacroft Hospital. Worthy of record was an extraordinary rainfall of 2·75 inches on September 5th.

Diphtheria.—During the year, 984 patients were admitted as compared with 950 in 1930. This is the largest number since 1911. From a study of the trend of the disease in Leeds, it is expected that 1931 will constitute the peak of what appears to be an epidemic of modest proportions. The number of patients discharged on completion of treatment was 889, in respect of whom the average stay in hospital was 39·9 days.

Death-rate.—During the year, 82 deaths were attributed to diphtheria, giving a death-rate of 8·4 per cent., as compared with 5·4 per cent. in 1930, and 4·0 per cent. in 1929. Of the deaths, seven 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 been confirmed. As this aspect has been dealt with at length in publications in medical journals, further reference need not be made to it in this report.

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

Site of Disease.	Number of Cases.	Percentage of Total Cases.	Deaths.
Fauces and naso-pharynx ..	856	88·1	76
Fauces and larynx ..	24	2·5	4
Larynx	22	2·3	2
Nose	23	2·4	..
Skin	1	0·1	..
Miscellaneous, bacteriological	45	4·6	..
Total	971	100·0	82

Treatment.—No change has been made in the routine treatment of the disease, and the dosage of antitoxin has not been restricted in any way. During the period under review, 14 patients were treated with glucose solution and antitoxin intravenously, accompanied by the intramuscular injection of insulin. All were of the most severe type, so that two recoveries must not be regarded as negligible. Both recovered cases had severe paralytic complications as also had three of the fatal cases. The average duration of the disease on admission in these cases was 3·4 days, the average duration of the fatal cases was 10·6 days, and the recovered cases were under treatment 88 and 117 days. The largest amount of antitoxin administered in these cases was 110,000 units and the smallest 40,000 units. Up to the end of 1930, 16 patients in all received this treatment, with three recoveries. Since then, many more patients have received treatment with glucose and insulin with a somewhat similar percentage of recoveries. The later cases included one severe case of the haemorrhagic type which responded to treatment in a remarkable manner during the first few weeks, only to succumb on the 52nd day to paralytic sequelae. The results are not striking, but in view of the severity of the disease, it is felt that even a recovery rate of approximately 20 per cent. is encouraging.

Intravenous antitoxin was administered in other severe cases when possible, the largest dosage in a single case being 160,000 units.

Diphtheria Carriers.—Apart from ordinary lines of treatment, removal of tonsils and adenoids was carried out in 36 cases during the year, and the antrum was washed out in one case. As far as could be ascertained, the average duration of the carrier condition before operation was 73 days, and the average stay in hospital after operation was 17 days. Cure was effected in every case.

Complications.—A list is given of the principal complications. It may be observed that there is a slightly increased incidence of the principal complications. The figures do not include instances of cardiac involvement unaccompanied by paralytic manifestations. One fatal case developed hemiplegia.

	Number of patients.	Percentage of total patients.
All complications	176	18·1
Paralysis :		
All types	164	16·9
Eye	134	13·8
Palate	101	10·4
Pharynx	26	2·7
Other types	4	0·4

Laryngeal Diphtheria.—Intubation was not performed on any patient during the year. Details of patients treated by tracheotomy are as follows :—

Type of Disease.	Number of patients.	Deaths.	Mortality per cent.
Laryngeal	5	1	20·0
Faucial and laryngeal ..	14	6	42·8
All types	19	7	36·8

Return Cases.—These numbered seven during the year, the rate accordingly being 0·7 per cent. In addition four discharged patients were found to be infectious again after their return home and were accordingly re-admitted.

Cross Infection.—There were 27 cases of cross infection in the diphtheria wards during the year. This figure includes 10 in whom the secondary disease was in the stage of incubation on admission. Most of the cases were the result of one outbreak each of measles and chickenpox. Of patients who completed treatment, 2·7 per cent. developed an additional infection, or 1·7 per cent. if the number in the stage of incubation on admission is excluded.

Scarlet Fever.—During the year, 1,366 patients were admitted as compared with 2,223 in 1930 and 1,392 patients were discharged. The average stay in hospital was 37·4 days, the same as in the previous year.

Return Cases.—These numbered 49, or 3·5 per cent. of patients discharged, as compared with 3·9 per cent. in the previous annual period.

Case Mortality.—Fourteen deaths were recorded during the year, the mortality rate being 1 per cent. as compared with 0·8 per cent. in 1930. The disease continues to be mild.

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

Type.	Cases.	Deaths.
Septic	44	8
Toxic	1	1
Surgical	31	2
Puerperal ..	1	—

Complications.—The percentage incidence of the principal complications remains comparatively low, but shows a tendency to rise. The details are given in the following table :—

SCARLET FEVER.
PERCENTAGE INCIDENCE OF PRINCIPAL COMPLICATIONS.

Principal complications.	Total number of cases.	Percentage incidence.
Adenitis (suppurative in 12 cases) ..	106	7·5
Albuminuria and nephritis	41	2·9
Otorrhœa	106	7·5
Rheumatism	49	3·4
Rhinitis in convalescence	92	6·5

Scarlatinal Antitoxin.—Owing to the mildness of the disease, the use of antitoxin was restricted as in former years. A total of 166 patients received this treatment, this number including four of the 14 patients whose deaths were attributed to scarlet fever. Almost all of the acute cases received antitoxin. In the older patients, recourse was had to the intravenous route, while in very young children, the serum was given intramuscularly. The apparently unfavourable results from the use of intramuscular serum is explained by this age distribution. Apart from occasional rigors, no disagreeable or untoward results followed the employment of intravenous antitoxin. The details are as follows :—

	Total.	Deaths.	Average Number of Days in Hospital.
Non-serum cases	1,240	10	37·6
Serum cases—			
Intravenous route ..	81	2	29·3
Intramuscular route ..	85	2	40·4
All cases	1,406	14	37·4

Treatment by Intravenous Antitoxin :—

Total cases 81

Details of desquamation observed :—

Nil	..	..	..	25
Slight	..	..	..	33
Moderate	..	..	..	10
Marked	..	..	..	7
No record	..	..	..	6

COMPLICATIONS.

	Number of Cases.	Percentage.
Adenitis	3	3·7 (7·5)
Albuminuria and nephritis.. ..	2	2·4 (2·9)
Otorrhœa	2	2·4 (7·5)
Rheumatism	1	1·2 (3·4)
Rhinitis in convalescence	1	1·2 (6·5)

NOTE.—Percentage incidence for all cases given in brackets.

Treatment of Ear, Nose and Throat Conditions.—Statistics are given below regarding the 108 patients who developed ear and other conditions. The average stay in hospital of ear cases was 61·7 days, a slight increase compared with last year when the figure was 59·9 days. This increase probably results from the closure of the ear ward, the number of patients having scarcely justified its continued use. The services of Mr. W. Maxwell Munby, F.R.C.S., continue to be available in dealing with ear, nose and throat conditions.

Number of patients	108
Deaths	4
Average duration of treatment (discharged cases only)	61·7
Operations :—	
Mastoid antrotomy	14
Paracentesis tympani	1
Removal of tonsils and adenoids :—	
(a) Otorrhœa cured	3
(b) Otorrhœa unaffected	1
Transillumination	2
Otorrhœa present on discharge (including six chronic before admission)	11

Cross Infection.—There were 44 cases of cross infection, including 13 in whom the disease was in process of incubation on admission. Cross infection was mainly due to measles which occurred in epidemic form in Leeds during the year. Of patients who completed treatment, 3.1 per cent. developed an additional infection, or 2.2 per cent. if the number in the stage of incubation on admission is excluded.

Measles.—During the year, an extensive epidemic in the city necessitated the opening of a ward for the reception of cases of measles. Admissions numbered 165 and the mortality rate was 6.1 per cent. A dearth of suitable donors made it impossible to obtain a supply of convalescent serum for prophylactic purposes.

Enteric Fever.—Seven patients were admitted as compared with one in 1930. Two deaths were recorded, one resulting from severe toxæmia and the other from general peritonitis of unknown origin arising in convalescence and in whom laparotomy was performed.

Cerebro-Spinal Fever.—Although cerebro-spinal fever was epidemic in some parts of the West Riding of Yorkshire, only six cases were admitted to the City Hospitals. The four fatal cases received an average of 40 cubic centimetres of serum mainly by intrathecal administration, but occasionally intravenous and in one case intraperitoneal. These were all infants and the outlook was more or less hopeless on admission. Of the two recovered cases, one, an infant, received only 27 cubic centimetres, while the other, an adult, received 227 cubic centimetres.

In addition to the clinical cases, two carriers from military camps were dealt with.

Dysentery.—Four cases were admitted during the year, all of a sub-acute nature. In all a Flexner organism was isolated.

Puerperal Fever.—During the year, 34 patients completed treatment as compared with 33 in 1930. The death rate was 8·8 per cent. The patients were classified as follows :—

Type of disease.	Number.	Deaths.
1. Local uterine infection	12	..
2. Pelvic or general peritonitis ..	3	1
3. Pelvic cellulitis	4	..
4. General blood stream infections ..	2	1
5. Miscellaneous infections	13	1
Total	34	3

The miscellaneous group includes cases of infection following abortion, mastitis and phlegmasia alba dolens, and the death recorded followed renal infection and uraemia. In addition to several minor operations, laparotomy was performed on three occasions. Staphylococci were isolated from the blood of the fatal septicaemia case.

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

Smallpox.—Except for the first two months of the year, smallpox was absent from Leeds. Five cases of alastrim or minor smallpox were admitted to hospital, and seven cases were discharged. Of the discharged patients, the ages were 21, 21 (both unvaccinated), 42, 48, 50, 53 and 75 (all vaccinated). In one case admitted for observation, a male aged 29 years, the diagnosis was amended to chickenpox. No deaths occurred.

Miscellaneous Diseases.—Patients admitted suffering from miscellaneous diseases to which reference has not been made were classified as follows :—

Disease.	Total number of cases.	Deaths.
Infectious Diseases :—		
Erysipelas	148	15
Chickenpox	13	..
German Measles	9	..
Mumps	3	..
Whooping Cough	11	1
Pulmonary Diseases :—		
Bronchitis	1	..
Neoplasm of Lung	1	1
Pulmonary Tuberculosis	1	..
Diseases of the Nose and Throat :—		
Tonsillitis, &c.	45	1
Retro-pharyngeal abscess	3	..
Laryngitis	2	..
Diseases of the Skin :—		
Erythema multiforme	1	..
Erythema of food origin	1	..
Dermatitis	2	..
Herpes (5th nerve)	1	..
Pemphigus	1	..
Pityriasis rosea	1	..
Urticaria	3	..
Other Diseases :—		
Adenitis	2	..
Albuminuria	1	..
Cavernous sinus thrombosis	1	1
Cellulitis	3	1
Conjunctivitis	2	..
Disseminated sclerosis	1	..
Gastro-enteritis	3	..
Glossitis ulcerative	1	..
Meningitis tuberculous	3	3
Meningitis streptococcal	1	1
Otitis externa	1	..
Parotitis suppurative	1	..
Syphilis	1	..
Rheumatism sub-acute	1	..
Teething	1	..
Vaginitis	1	..
Wounds, injuries	2	..
Observation and quarantine	15	..
Admitted with mother	1	..
Born in hospital	1	1
Total	290	25

Sickness of Staff.—The health of the staff remained good throughout the whole 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.	Medical.	Nursing.	Domestic.	Medical.
Scarlet fever	1	1	..	35	34	..
Diphtheria	2	..	..	58	..	..
Diphtheria carrier ..	1	..	..	25	..	..
Erythema simplex ..	2	..	..	30	..	..
Measles	1	..	1	13	..	12
Tonsillitis	5	..	..	69	..	..
Otitis externa	1	..	..	5	..	..
Albuminuria	1	..	..	21	..	..
Fracture of fibula ..	..	..	1	..	..	88
Lacerated wounds ..	..	1	..	..	2	..
Pulmonary tuberculosis	1	..	..	90	..	..
Sub-acute rheumatism	..	1	..	..	13	..
Cervical adenitis ..	1	..	..	6	..	..
Total	16	3	2	352	49	100

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 first three months

of the year, diphtheria toxoid was employed in nine individuals. Subsequently, 19 nurses received a course of injections of diphtheria toxin-antitoxin floccules. The latter material has given remarkably mild reactions, and in all probability results in the more rapid development of immunity.

Two nurses developed undoubted mild clinical attacks of diphtheria during the year. One received a course of toxoid fifteen months previously and the Schick test was still weakly positive at the onset of the illness. The other received a course of toxoid five months previously and was still Schick positive when she reported sick. Another nurse reported a slight sore throat fifteen days after the third injection of toxin-antitoxin floccules. No membrane was observed and the Schick test was negative. As a swab was reported positive, it is possible that this was an extremely mild infection which would in other circumstances have been missed. As she had been nursing in a diphtheria ward for a fortnight, it is doubtful if the attack could be properly classed as clinical diphtheria.

Result of Schick Test.		Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+	20	28 (62·2%)	..	20	28
Ps +	2		..	2	
±	6		..	6	
Ps ±	-		..	..	
-	9	..	17 (37·8%)	..	..
Ps -	8	..		..	..

± = weakly positive reaction.

+ = positive reaction.

- = negative reaction.

Scarlet Fever.—Statistics are given below showing 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.

Only one nurse developed scarlet fever during the year. The onset occurred within a few days of her joining the staff. The Dick test was strongly positive, as was also the Schick test.

The statistics regarding immunisation are as follows :—

Result of Dick Test.			Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+	11	..	14 (33·3%)	..	10	12
Ps +	-	..		..	..	
±	3	..		..	2	
Ps ±	-	..		..	..	
-	28	..	..	28 (66·7%)	..	..
Ps -	-	..	..		..	..

± = weakly positive reaction

+ = positive reaction.

- = negative reaction.

Laboratory.—For diagnostic and discharging purposes 6,980 throat, nose, ear and skin swabs were examined for diphtheria bacilli.

The following additional examinations were made :—

Cerebro-spinal fluid	..	..	..	..	11
Fæces (for enterica organisms)	..	..	..	..	16
Urine (for enterica organisms)	..	..	..	..	10
Urine (chemical and bacteriological examinations)	..	..	..	..	25
Fæces (for dysentery organisms)	..	..	..	..	6
Blood counts	..	..	..	..	2
Blood sugars	..	..	..	..	37
Sputum	..	..	..	..	4
Other pathological discharges	..	..	..	..	13

Publications.—The following contributions to medical literature have emanated from the department during the year :—

“Gangrene of the Skin, of Diphtheritic Origin.”—*British Medical Journal*, October 31st, 1931.

“On the Existence of Two Forms of Diphtheria Bacillus,” (with McLeod and others),—*Journal of Pathology and Bacteriology*, Vol. XXXIV., 1931.

LEEDS CITY HOSPITALS, SEACROFT, LEEDS.

YEAR 1931.

ABSTRACT FROM REGISTERS.

	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Pneumonia.	Infantile Diarrhoea.	(Other Diseases.	For Quarantine Cottages).	TOTAL.
Patients remaining in Hospitals and Isolation Cottages, on Wednesday, December 31st, 1930 ..	2	..	194	135	..	1	..	21	..	353
Admitted from January 1st, 1931, to December 31st, 1931 ..	5	165	1,366	984	7	20	..	332	4	2,883
Total treated ..	7	165	1,560	1,119	7	21	..	353	4	3,236
Discharged ..	7	154	1,392	889	4	17	..	304	4	2,771
Died ..	..	10	14	82	2	2	..	32	..	142
Mortality per cent. ..	..	6.1	1	8.4	33.3	10.5	..	9.5	..	4.9
Patients remaining in Hospitals and Isolation Cottages, on Thursday, December 31st, 1931 ..	..	1	154	148	1	2	..	17	..	323
Average stay in Hospital for recovered patients ..	25.4	20.8	37.4	39.9	47.2	22.8	..	19.2	8.7	35.1

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.	Tuber- culosis.				
1912-13	1,995	*98	..	2,093	104	2,197
1913-14	2,383	*528	..	2,911	52	2,963
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

*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.

(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).

1931.	*BARO. METER, 9-30 a.m.	TEMPERATURE.					RAINFALL.			WIND—No. of Observations.																
		Shade—Minimum and Maximum.				No. of days on which "or" or more fell	Total Inches.	Max. in 24 hrs.	Date.	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.	
		Mean.	Min.	Date.	Max.																					Date.
January	29.817	37.3	22	3	51	6-17	1.98	0.40	31	17	1	1	1	—	—	—	2	—	—	1	8	1	9	3	4	
February	29.807	37.7	21	28	55	20	1.92	0.30	9	22	1	2	1	1	—	2	—	1	—	6	5	—	4	1	4	
March ..	29.976	36.4	17	2-9	66	27	0.24	0.13	9	6	1	5	4	3	1	6	4	1	—	1	1	1	1	—	2	
April ..	29.851	45.2	29	17	66	8	3.46	1.08	17	15	—	3	4	—	—	1	2	1	—	2	6	—	6	3	—	
May ..	29.845	50.9	29	20-21	73	27	2.71	0.55	24	13	—	3	10	—	—	2	2	—	2	6	1	—	1	3	1	
June ..	29.972	55.1	38	24-26	73	26-27	5.79	1.03	1	16	—	1	5	2	—	1	2	1	—	2	5	4	1	1	4	
July ..	29.723	58.5	41	20	75	22	2.43	0.65	12	15	—	4	1	—	—	1	1	2	—	1	4	9	1	5	2	
August ..	29.903	56.0	37	22	72	1	3.80	0.80	14	15	—	5	8	3	—	1	—	1	—	—	3	—	3	3	3	
September	30.149	51.4	34	7-12	72	15	4.58	2.75	4	8	—	8	2	—	—	—	1	—	—	3	4	—	—	4	8	
October	30.113	46.1	20	26	65	2-4	0.85	0.23	27	9	—	4	1	—	—	1	2	—	—	5	6	—	2	8	2	
November	29.770	43.7	24	21	61	3	4.62	0.88	18	16	—	—	2	1	—	1	4	5	—	4	8	—	—	—	1	
December	30.207	40.5	20	17-30	55	3-5	0.84	0.20	2	14	—	—	3	—	—	—	2	—	—	3	4	4	9	2	4	
Year ..	29.928	46.5	17	Mar. 2 and 9	75	July 22	33.22	2.75	Sept. 4	166	3	36	42	10	1	11	18	20	1	12	40	59	8	41	30	33

* Corrected to temperature and mean sea level at Liverpool.

W = 61.8%.

E = 38.2%.

METEOROLOGICAL RECORD.

1931.	SUN- SHINE. Total, hr. min.	SUNSHINE.			*WIND—FORCE.			EARTH TEMPERATURE. (4' 0" below surface).		
		Max. in 24 hrs. hr. min.	Date.	No. of days no Sunshine.	Daily Average, miles per hour.	Max. in 24 hrs. miles per hour.	Max.	Date.	Min.	Date
January	.. 61.15	6.10	6	11	..	..	41.5	1-3	38.5	21-23
February	.. 50.20	6.20	14	10	..	..	39.0	1-17	37.5	19-25
March ..	.. 183.50	11.30	31	..	..	..	39.0	29-31	36.5	19-20
April ..	.. 153.40	12.10	5	2	..	..	43.0	30	38.5	4
May ..	.. 208.20	12.40	25	1	..	..	48.0	30-31	43.0	1-2
June ..	.. 165.50	13.30	29	4	..	..	52.5	26-30	49.0	1-6
July ..	.. 168.40	12.40	30	..	..	..	56.0	27-31	52.5	1-2
August	.. 201.45	11.50	30	2	..	..	57.0	9-10	55.0	31
September	.. 125.50	10.50	6-7	3	..	..	55.5	3-5	53.5	16-30
October	.. 157.00	9.30	13	1	..	..	53.5	1-10	47.5	31
November	.. 49.30	5.10	13	14	..	..	48.0	1-6	44.0	28
December	.. 51.40	5.30	30	8	..	..	45.5	2	42.0	25-31
Year	.. 1577.40	13.30	June 29	56	..	..	57.0	Aug. 9 & 10	36.5	Mar. 19 & 20

* Anemometer out of order

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	3,212
Virulence Tests	29
Scarlet—	
Swabs for haemolytic streptococci	32
Tuberculosis—	
Sputum for tubercle bacillus	1,607
Sputum for tubercle bacillus (concentration tests) ..	2
Typhoid—	
Faeces for typhoid group of organisms	29
Agglutination (Widal) Test for typhoid group ..	31
Other—	
Sputum for organisms	5
Chest fluid for organisms	13
Pus for organisms	2
Urine for organisms and T.B.	16
Blood for organisms	6
Guinea Pig Inoculations—	
Pathological Fluids	11
Milk for guinea pig inoculation	173
Food Investigations—	
Milk for bacterial count	12
Examinations of dried milk	6
Examinations of Shellfish	4
Water Investigations—	
Water bacteriological examinations	49
Miscellaneous Examinations—	
Throat swabs for organisms	16
Faeces for organisms	1
Cerebro-spinal fluid	12
Agglutination Test for undulant fever	2
Total	5,270

AMBULANCE WORK AND DISINFECTION.

Ambulance Work.—During the year under review 3,732 cases were removed by the ambulances to Seacroft Hospital, Killingbeck Sanatorium and other hospitals or lying-in institutions. Two puerperal cases were conveyed to Seacroft on behalf of the West Riding County Council. Over and above these, 395 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	5
Scarlet Fever	1,392
Diphtheria	1,041
Typhoid	12
Measles	152
Tuberculosis	210
Other Diseases	227
Maternity	693
TOTAL	3,732

(As compared with 4,647 in 1930).

The total mileage run by the ambulances was 35,517, compared with 43,584 during 1930.

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

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

Houses disinfected	3,128
Rooms	6,720
Beds and Mattresses	3,970
Articles of bed linen	26,145
Articles of clothing	33,801
Other articles	4,510

Disinfectant baths were provided and disinfection of clothing carried out in respect of 455 infectious disease contacts.

The total mileage run by the disinfection and bedding vans was 19,866.

Verminous Persons.—The number of verminous persons dealt with at the cleansing station was 518, while 194 rooms in 68 houses, and 15,278 articles of clothing and bedding were disinfested.

Venereal Diseases.

The number of deaths certified as due to syphilis during the year was 26, which is equal to a death-rate of 0.05 per thousand of the population. Of these, six were children under one year of age—three males and three females; 20 adults—one male and one female between 15 and 25; six males between 25 and 45; eight males between 45 and 65; and three males and one female over 65. The number of deaths in 1931 shows an increase of eight as compared with the previous year.

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 during the year was 2,014. Increases were recorded in syphilis, male 143, female 105; in gonorrhœa, male 12; and other diseases not venereal, female 49; and decreases in gonorrhœa female 7, and other diseases not venereal, male 95. There was, therefore, a total increase of all types of 207 cases as compared with the figure for the previous year.

Turning to Leeds cases the total number of new cases registered was 1,563, comprising 351 males and 183 females suffering from syphilis, 470 males and 93 females suffering from gonorrhœa, and 328 males and 138 females suffering from other diseases not venereal. As compared with the previous year these figures represent in the case of syphilis an increase of 108 males and 81 females, in gonorrhœa a decrease of 11 males and 12 females, and in other diseases not venereal a decrease of 85 males and an increase of 41 females.

The total attendances of all Leeds cases was 62,683 a decrease of 3,692 on the figure for the previous year.

The number of cases ceasing to attend before completion of treatment or final tests of cure was 493 as compared with 411 for the previous year. The increase in the number of defaulters is to be regretted as each case remains a potential source of infection to the rest of the community.

The number of in-patients treated at the Leeds General Infirmary was nine as compared with seven for the previous year, and the corresponding number of in-patient days were 309 and 119.

Institutions.—*Maternity Hospital.*—The number of new cases admitted as in-patients to the Leeds Maternity Hospital increased from 12 in 1930 to 28 in 1931, namely 16 syphilis, 11 gonorrhœa and one syphilis and gonorrhœa. The corresponding number of in-patient days increased from 137 to 436.

The Hope Hospital.—The chief function of the Hope Hospital is to deal with women and girls of the rescue class suffering from venereal diseases. The number of cases treated was 56 as against 51 for the previous year, whilst the number of new admissions increased from 31 in 1930 to 36. The number of in-patient days was 6,369 as against 6,635 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 institution continues to play a very important role, both in the treatment and prevention of venereal diseases. Its influence is not restricted to Leeds, inasmuch as cases are admitted from all over Yorkshire and beyond. For the size of hospital it is administered in a most efficient manner and shows as good, if not better, return for the money expended than any other institution to which the Corporation subscribes. The building itself is not all that one would desire. There are many respects in which it could be improved and a scheme for improvement involving the erection of a new labour ward and the extension of the children's nursery was under consideration during the year. Owing to the financial crisis, and to other factors over which the Corporation had no control, the negotiations broke down, and, though not entirely abandoned, they were in abeyance at the end of the year. Though at its inauguration this hospital was looked upon as purely a temporary expedient to meet the need which arose at the end of the War, time has proved it to be a necessity and to-day the demand for beds in it is no less than it was ten years ago. It is hoped, therefore, that the much needed improvements adumbrated in the scheme above referred to will materialize at no distant date in order that the work may be carried out with the utmost efficiency.

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 85.

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 154.

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 50. The amount of salvarsan substitutes distributed to practitioners was 1,189 doses as compared with 1,151 for 1930.

LEEDS GENERAL INFIRMARY (LOCAL TREATMENT CENTRE).

Cases on the register on January 1st, 1931 ..	2,092
Old cases re-admitted	47
New cases admitted (including 71 known to have received treatment at other centres) ..	2,014
Cases ceased to attend	493
Transferred to other centres	185
Discharged on completion of treatment ..	1,238
Cases on the register on January 1st, 1932 ..	2,237

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	46
for practitioners	3
for institutions	1
For detection of gonococci—	
for treatment centre	2,040
for practitioners	205
for institutions	280
For Wassermann reaction—	
for treatment centre	3,155
for practitioners	312
for institutions	3,221
Other examinations—	
for treatment centre	1,468
for practitioners	21
for institutions	86
TOTAL	10,838

PERSONS TREATED AT THE GENERAL INFIRMARY, LEEDS.
(LOCAL TREATMENT CENTRE).

				Year 1930.		Year 1931.		Increase or decrease.	
				M.	F.	M.	F.	M.	F.
Syphilis ..	first cases	..	312	150	455	255	+143	+105	
Soft chancre	"	..	..	..	..	..	..	..	
Gonorrhœa	"	..	580	146	592	139	+ 12	- 7	
Other diseases									
not Venereal	"	..	498	121	403	170	- 95	+ 49	
Total	..	..	1,390	417	1,450	564	+ 60	+147	
Total attendances of all cases				79,163		76,249		- 2,914	
Aggregate No. of In-patient days				119		309		+ 190	
No. of doses of Salvarsan substitutes				16,483		18,484		+ 2,001	
Pathological specimens examined :—									
Spirochetes				66		55		- 11	
Gonococci				4,653		4,305		- 348	
Other organisms				2		..		- 2	
Blood—Wassermann reaction				3,551		3,953		+ 402	

LEEDS PATIENTS.

	Year 1930.		Year 1931		Increase or decrease.	
	M.	F.	M.	F.	M.	F.
Syphilis first cases	243	102	351	183	+108	+ 81
Soft chancre	..	..	..	..		
Gonorrhœa	481	105	470	93	- 11	- 12
Other diseases, not Venereal	413	97	328	138	- 85	+ 41
Total	1,137	304	1,149	414	+ 12	+110
Total attendances of all cases	66,375		62,683		- 3,692	
Aggregate No. of In-patient days	33		191		+ 158	
No. of doses of Salvarsan sub- stitutes	12,534		14,060		+ 1,526	
Pathological specimens examined :—						
Spirochetes	56		46		- 10	
Gonococci	3,804		3,508		- 296	
Other organisms	..		..		..	
Blood—Wassermann re- action	2,835		3,155		+ 320	

MATERNITY HOSPITAL, 42, HYDE TERRACE.

	Cases in residence on Jan. 3rd, 1931.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 2nd, 1932.
Syphilis	2	16	18	..
Gonorrhœa	2	11	11	2
Syphilis and Gonorrhœa	..	1	1	..
Other disease	..	..	..	..
Total	4	28	30	2

Total days in residence 436

No. of doses of Salvarsan substitute .. 43

Pathological specimens examined :—

Spirochetes	16
Gonococci	11
Other organisms	1
Blood—Wassermann reaction.. ..	28

HOPE HOSPITAL, 126, CHAPELTOWN ROAD.

	Cases in residence on Jan. 3rd, 1931.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 2nd, 1932.
Syphilis	4(+4)	10(+ 3)	11(+6)	3(+1)
Gonorrhœa	12(+3)	23(+10)	28(+9)	7(+4)
Syphilis and Gonorrhœa	4	3	4	3
Other disease	..	..	..	..
Total	20(+7)	36(+13)	43(+15)	13(+5)

Total days in residence 6,369(+2,058)

No. of doses of Salvarsan substitute .. 169

Pathological specimens examined :—

Spirochetes	—
Gonococci.. ..	104
Other organisms	..
Blood—Wassermann reaction.. ..	47

Of the 36 women admitted, 13 had babies, shown in the above table in brackets.

Tuberculosis.

The total number of names on the tuberculosis register on December 31st, 1931, was 4,109, as compared with 5,248 at the corresponding period of last year, a decrease of 1,139.

There were added to the register during the year on account of fresh notifications and inward transfers 842 names and removed from the register on account of cancellations owing to death, removal from the city, and cure or change in diagnosis, 1,981 names.

The stream of notifications has been falling in volume since 1925. In that year the number received was 1,869, three years later it had declined to 924, and in 1931 it was 842. The total decrease for the whole period, 1925-1931, being 1,027, or 54.9 per cent. This is a remarkable and very gratifying reduction and proves that the work done and the money expended in ante-tuberculosis measures has not been in vain. Should the figure decline at the same rate in the next ten years we shall be well within sight of our goal which is the complete eradication of the disease from the city. It is too much to expect, however, that the curve will continue to descend at the same rate in succeeding years as it has done in the past decade; indeed there is every likelihood that it will tend to flatten out and become more or less stationary, because as long as the housing conditions in the city are such as they are, it is obviously impossible completely to overcome a disease which is social in character and closely bound up with such things as overcrowding, lack of hygiene and poverty. As with the notifications so with the mortality, that has declined also though not with the same rapidity or to the same extent.

Statistics.—*Notifications.*—During the year, 666 cases of pulmonary and 176 of non-pulmonary tuberculosis were notified, making a total of 842 cases of which 480 were males and 362 females. Compared with the previous year this is an increase of 24 in the notifications of pulmonary and a decrease of 75 in non-pulmonary tuberculosis, and compared with the average of the previous five years a decrease of 186 pulmonary, the number of non-pulmonary remaining the same. Of the total cases notified 711 were by medical

practitioners and 131 came from institutions. The former figure is in excess of the corresponding figure of last year by 35, and the latter is less than last year's figure by 86.

Of the total cases of pulmonary tuberculosis notified during the year 13.4 per cent. were children under 15 years of age and 86.6 per cent. persons over 15 years, the corresponding figures for the previous year being 11.4 per cent. and 88.6 per cent. respectively. As regards the non-pulmonary type of the disease 61.4 per cent. were children under 15 years and 38.6 per cent. persons over 15 years. The corresponding figures for the previous year were 49.8 per cent. and 50.2 per cent. respectively.

The number of cases of pulmonary tuberculosis not heard of until the time of death was 31 and the number of non-pulmonary 35. In addition there were two posthumous notifications of pulmonary tuberculosis and five of non-pulmonary. There was, therefore, a total of 73 cases of all forms not heard of until after death, an increase of eight on the figure for the previous year.

The table on page 95 gives the deaths from all forms of tuberculosis with the year of notification. Out of a total of 527 deaths from tuberculosis of all forms, 172, or 32.6 per cent. were notified in the same year as death occurred, 30, or 5.7 per cent. in the same month, and 52, or 9.9 per cent. in the same week. In the previous year there were 198, or 37.1 per cent. notified in the same year as death occurred, 105, or 19.7 per cent. in the same month, and 60, or 11.3 per cent. in the same week.

An analysis of the notifications in age groups will be found in the table on page 89.

Deaths.—The total deaths from tuberculosis of all types during the year numbered 527 of which 306 were males and 221 females. In the previous year the total was 533, comprising 311 males and 222 females. Of the total, pulmonary tuberculosis accounted for 439, or 83.3 per cent., and non-pulmonary 88, or 16.7 per cent. The death-rate from pulmonary tuberculosis was 0.90, and from non-pulmonary 0.18, making a total death-rate from all forms of the disease of 1.08 as compared with 0.90, 0.21 and 1.11 respectively for the previous year. Set against the average rates of the previous five years, they represent a decrease of 0.08 and 0.03 in the pulmonary and non-pulmonary rates respectively, and on the total

a decrease of 0.11. The death-rates from non-pulmonary (0.18) and from tuberculosis of all forms (1.08) were the lowest on record, whilst the death-rate from pulmonary tuberculosis (0.90) was the same as the lowest figure previously recorded in 1930.

The provisional death-rates for England and Wales for the year were, for pulmonary tuberculosis 0.74, for non-pulmonary 0.15, making a total death-rate for all forms of 0.89. Comparing these rates with Leeds, it will be noted that the Leeds rates were higher by 21.6 per cent. in the case of pulmonary tuberculosis, by 20.0 per cent. in non-pulmonary, and by 21.3 per cent. in all forms of the disease.

With reference to the death-rate for pulmonary tuberculosis it will be noticed on referring to the table on page 39 that among the large towns in England and Wales, Leeds occupied sixth place, the towns with lower rates being Sheffield, Bradford, West Ham, London and Bristol, and with higher, Liverpool, Manchester, Hull, Newcastle, Stoke-on-Trent, Nottingham and Birmingham.

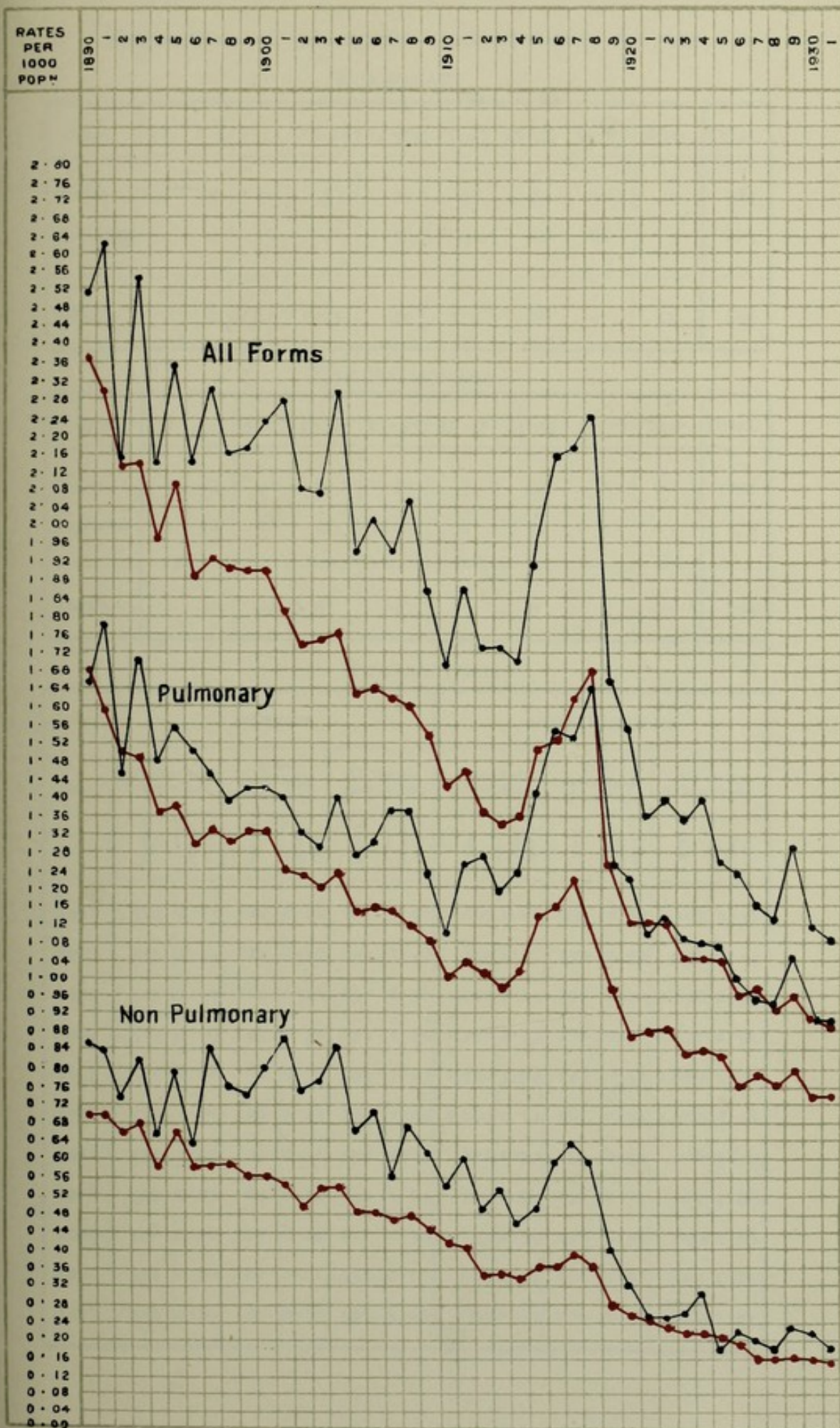
Deaths-rates in Wards.—The wards with the highest death-rates from pulmonary tuberculosis were Richmond Hill (2.17), Holbeck (North) (1.85), Burmantofts (1.34) and Mill Hill and South (1.33) whilst those with the lowest were Cross Gates and Templenewsam (0.21), Roundhay (0.26), Far Headingley (0.27) and North (0.32).

In my remarks at the beginning of this section of the report I stated that social conditions played an important part in the incidence of tuberculosis. The ward figures confirm that statement because in every case without exception the highest death-rates from pulmonary tuberculosis were in wards where the greatest amount of overcrowding and insanitary property exist; in other words the slum districts of the city. On the other side of the picture we have the residential wards such as Cross Gates and Templenewsam, Roundhay, Far Headingley and North where the housing conditions are unimpeachable with the lowest death-rates from the disease.

The tables on pages 90 and 91 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 96.

TUBERCULOSIS DEATH RATE. - 1890 - 1931



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 ..	..	5	42	77	74	70	71	37	7	383
Females ..	..	4	38	98	70	43	15	10	5	283
Totals ..	..	9	80	175	144	113	86	47	12	666

NON-PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	1	24	42	14	7	3	3	2	1	97
Females ..	1	12	28	21	10	2	2	3	..	79
Totals ..	2	36	70	35	17	5	5	5	1	176

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.
1921	519	1.11	122	0.26	641	1.37	867	1.86	234	0.50	1,101	2.36
1922	533	1.14	120	0.26	653	1.40	824	1.77	172	0.37	996	2.14
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

PULMONARY TUBERCULOSIS.

AGES AT DEATH.

1931.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	3	..	2	17	31	91	110	5	259
Females	..	..	2	30	26	80	35	7	180
TOTALS	3	..	4	47	57	171	145	12	439
Average 10 years 1921-1930	14	6	10	49	58	199	136	20	492

NON-PULMONARY TUBERCULOSIS. DEATHS.

1931.	Tubercular meningitis.	Abdomin- al.	Bones and Joints.	Other tuber- culosis.	Total.
Males ..	20	5	5	17	47
Females	21	6	1	13	41
Totals ..	41	11	6	30	88

AGES AT DEATH.

1931	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	19	9	1	7	3	2	4	2	47
Females	17	4	2	5	4	4	4	1	41
Totals ..	36	13	3	12	7	6	8	3	88
Average 10 years 1921-1930	47	12	7	11	7	13	11	3	111

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..	21	1.33	5	0.32	26	1.65
Westfield	22	1.12	5	0.26	27	1.38
Blenheim	18	0.78	4	0.17	22	0.95
Central	24	1.14	8	0.38	32	1.51
Woodhouse	17	0.90	4	0.21	21	1.12
North	5	0.32	..	..	5	0.32
Far Headingley ..	5	0.27	..	..	5	0.27
Hyde Park	8	0.48	1	0.06	9	0.54
Kirkstall	16	0.81	1	0.05	17	0.86
Burmantofts ..	31	1.34	4	0.17	35	1.51
Harehills	13	0.65	2	0.10	15	0.75
Potternewton ..	16	0.81	2	0.10	18	0.91
Roundhay	4	0.26	2	0.13	6	0.39
Cross Gates and Templenewsam ..	3	0.21	5	0.34	8	0.55
Richmond Hill ..	53	2.17	7	0.29	60	2.45
Osmondthorpe ..	24	1.10	2	0.09	26	1.20
East Hunslet ..	18	0.97	2	0.11	20	1.08
Hunslet Carr and Middleton	16	0.80	5	0.25	21	1.05
West Hunslet ..	19	1.05	4	0.22	23	1.27
Beeston	10	0.65	3	0.20	13	0.85
Holbeck (South) ..	17	1.18	..	..	17	1.18
Holbeck (North) ..	34	1.85	9	0.49	43	2.34
Armley and New Wortley	14	0.69	6	0.30	20	0.98
Upper Armley ..	10	0.59	5	0.29	15	0.88
Bramley	10	0.56	1	0.06	11	0.62
Farnley and Wortley	11	0.59	1	0.05	12	0.64
City	439	0.90	88	0.18	527	1.08

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 191 were occupied by pulmonary cases during the year, whilst the latter has 50 beds devoted to the treatment of adult pulmonary and non-pulmonary cases as they arise, of which an average of 43 was occupied during the year.

Early pulmonary tuberculosis in children is treated in the children's sanatorium at "The Hollies" which possesses 40 beds.

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 ten during the year 1931. In cases of need the Corporation have also a call on a certain number of beds at Shropshire Orthopædic Hospital, Oswestry and Liverpool Open-Air Hospital for children, Leasowe.

In previous reports I drew attention to the need for increased and better accommodation for cases of non-pulmonary or surgical tuberculosis. It was hoped that this deficiency in the Corporation's scheme would be made good by the erection of a new hospital on the estate at Elmet Hall. Plans and estimates for the building of this hospital were prepared but for financial reasons never materialized. The proposal is now definitely abandoned and the estate which has been held by the Health Committee for five years, and in that time has cost the Committee a considerable amount of money which might well have been devoted to better purposes, will be transferred to another Committee and sold or made use of in some other way. The effect of this change of policy has been to leave us where we were, dependent on the goodwill of outside bodies to supply what accommodation we require for the treatment of surgical tuberculosis. Fortunately the number of cases requiring

hospital treatment has fallen considerably in recent months so that the lack of this accommodation is not so much felt as it was three or four years ago.

I should like once more to call attention to the need for improved and increased accommodation for women patients suffering from pulmonary tuberculosis at Killingbeck Sanatorium. The wards at Old Killingbeck in which they are housed have long ago outlived their usefulness and are no longer an asset but a liability, and a liability that is increasing with each succeeding year. They were built 36 years ago to receive cases of smallpox and were never intended to be used for sanatorium purposes. They are of temporary construction, out-of-date in design, and only by constant repair at a considerable annual cost can they be maintained in a habitable condition. Their replacement by modern buildings has become a matter of urgency which I hope will receive the attention of the Council at no distant date.

In this connection I would draw attention to the remarks of the Chief Clinical Tuberculosis Officer and the Tuberculosis Officer of Killingbeck Sanatorium which appear on pages 97 and 113.

For further details with respect to institutional treatment see pages 110, 112 and 116.

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

The housing conditions of 807 of the 842 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	..	..	2	0.4	0.2
2 rooms	5	1.8	124	23.2	16.0
3 rooms	24	8.8	214	40.1	29.5
4 rooms	90	33.0	153	28.7	30.1
5 rooms	60	22.0	29	5.4	11.0
6 rooms	55	20.1	11	2.1	8.2
7 or more rooms	39	14.3	1	0.2	5.0
Total	273	100.0	534	100.0	100.0

In addition to the 273 through houses and 534 back-to-back houses, there were 35 cases notified from common lodging houses, etc., making a total of 842 cases of all forms of tuberculosis notified during the year.

The sub-joined table indicates the type of house occupied by 172 persons who were notified during 1931 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	..	..	..	..	..
2 rooms	..	..	31	26.5	19.1
3 rooms	3	6.7	49	41.9	32.1
4 rooms	13	28.9	29	24.8	25.9
5 rooms	14	31.1	4	3.4	11.1
6 rooms	7	15.6	3	2.6	6.2
7 or more rooms	8	17.8	1	0.9	5.6
Total	45	100.0	117	100.0	100.0

In addition to 45 through houses and 117 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 1931 WITH YEAR
OF NOTIFICATION.

Year of Notification.			No. dying in 1931.	Percentage of total deaths.
1913	..	..	1	0.2
1914	..	..	2	0.4
1915	..	..	—	—
1916	..	..	—	—
1917	..	..	6	1.1
1918	..	..	5	0.9
1919	..	..	4	0.8
1920	..	..	2	0.4
1921	..	..	3	0.6
1922	..	..	—	—
1923	..	..	3	0.6
1924	..	..	9	1.7
1925	..	..	15	2.8
1926	..	..	17	3.2
1927	..	..	23	4.4
1928	..	..	31	5.9
1929	..	..	51	9.7
1930	..	..	88	16.7
1931	..	..	172	32.6
Not notified	..		73	13.9
Died outside City			22	4.2
Total	..		527	100.0

NOTIFICATIONS AND DEATHS FROM ALL FORMS OF TUBERCULOSIS
OCCURRING IN 1931 CLASSIFIED ACCORDING TO OCCUPATION.

Occupation.	Notifications.		Deaths.	
	Number.	Percentage of total Notifications.	Number.	Percentage of total deaths.
Textile Workers ..	144	17·1	71	13·5
Leather „ ..	20	2·4	10	1·9
Metal „ ..	82	9·7	39	7·5
Coal „ ..	17	2·0	15	2·8
Stone „ ..	8	1·0	7	1·3
Wood „ ..	9	1·1	11	2·1
Other dusty Trades ..	26	3·1	21	4·0
Printers	14	1·7	6	1·1
Clerks, Typists, etc. ..	39	4·6	25	4·7
House Workers ..	125	14·8	117	22·2
Nurses	8	1·0	2	0·4
Food Trades, etc. ..	19	2·3	16	3·0
Labourers	46	5·5	60	11·4
Out-door Workers ..	53	6·3	35	6·6
Various	29	3·4	17	3·2
School Age	148	17·6	26	4·9
Infants	43	5·1	36	6·8
No Occupation ..	12	1·4	13	2·5
No Trace	..	..	..	..
Total ..	842	100·0	527	100·0

REPORT ON THE WORK OF THE TUBERCULOSIS DISPENSARY AND SANTORIA

BY

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

General.—It has been claimed that the great increase in deaths from tuberculosis during the war period was an index of defective nutrition. If this is so it is extremely satisfactory to be able to show another low record in a year of universal depression and hardship.

Present conditions unfortunately do not lend themselves to the carrying out of the crying improvements to which attention has been called in former reports, but no financial stringency can justify a great city like Leeds in continuing to accommodate its women tuberculous patients in the deplorable buildings of old Killingbeck.

Most of our women patients come direct from the cares of family life under bad domestic conditions. Rest is undoubtedly the most important part of their treatment, but prolonged rest in depressing huts must be nearly as hard to endure as the attempt to rest in a small house surrounded by daily domestic distractions and worries.

Not only would the results of treatment improve under better conditions, but patients would accept treatment who now refuse it and fewer of them would take their discharge against medical advice. At both Killingbeck and Gateforth Sanatoria modern lines of treatment are being carried out more efficiently than ever before, and it is earnestly hoped that a way will be found so to improve the amenities of the institutions as to make them more worthy of the keen and progressive spirit which characterises their administration.

Central Tuberculosis Dispensary.—Statistical details of the work of the Dispensary for 1931 are given on pages 101 and 102.

During the year 1,265 new patients (excluding contacts) were referred to the Dispensary as definite or doubtful cases, an increase of 84 on the previous year. Of these 573 were found to be suffering

from tuberculosis, 617 were not considered to be definite cases of disease and 75 were still under observation with the diagnosis not completed at the end of the year.

Home visits by the medical staff totalled 821 of which no fewer than 78 were for the carrying out of Pneumothorax treatment. Further reference to these cases appears under the heading of "treatment."

Every effort is still being made to get into touch with old and "lost sight of" cases who have not attended the Dispensary for long periods. In many of these cases it is found that the patients have remained free from evidence of active disease for long periods and when further examination reveals no present evidence of disease they are marked off as "recovered." In other cases the former diagnosis cannot be confirmed by clinical or X-Ray examination and the original notification is cancelled. This continued revision has resulted in a further slight reduction in the number of cases on the Dispensary register.

Analysis of the cases diagnosed during the year yields some points worthy of comment. Of the total new cases diagnosed as definite pulmonary disease rather more than one half were proved positive by sputum tests and rather less than one half were not proved bacteriologically. Many of this group had no available sputum, nearly one third of them was children—but in every case falling under the sputum-negative heading definite confirmation of the diagnosis was obtained by X-Ray examination combined with general clinical findings. It is surprising how often quite extensive disease is shown by X-Ray, which can be seen in serial films to be steadily extending, whilst sputum remains absent or negative for many months.

Attention was called last year to the improvement in the stage at which cases first come under treatment. This can be shown clearly only in the sputum positive cases, though it applies equally to the whole. The Ministry of Health classifies such cases into Groups 1, 2 and 3 which roughly represent slight, moderate, and very advanced disease.

The following table shows that in the last three years there has been a marked reduction in the number of those cases which were

very advanced when first seen, with a corresponding increase in the number of those falling into the earlier categories :—

Year.	Classification of Sputum Positive Cases.		
	Group 1.	Group 2.	Group 3.
1929 ..	7 (2·3%)	219 (72·5%)	76 (25·1%)
1930 ..	14 (4·9%)	235 (82·7%)	35 (12·3%)
1931 ..	16 (5·4%)	259 (86·6%)	24 (8·0%)

The table gives clear evidence of increasing keenness on the part of practitioners to bring cases to our notice as early as possible. It is not likely that there can be much further move to the left in this table as the majority of cases of pulmonary disease do not produce sputum whilst the disease is limited to the small area of lung required to bring them within the limits laid down for Group 1, and most of the really early cases therefore come under the sputum-negative classification.

Treatment.—"Collapse Therapy" in its various forms is still the most powerful weapon we possess for cases which have not progressed beyond the limits of its application. Artificial Pneumothorax is the most usual form in which this enforced rest of the lung is carried out. After 20 years personal experience of this method its value to-day is more apparent than ever. It gives results. Cases going steadily to the bad recover and return to useful work, patients with copious infectious sputum become sputum-free, haemorrhage is controlled, and even in cases which eventually relapse there is often marked improvement and increased comfort.

Last year mention was made of a number of cases in which pneumothorax treatment was started in the patients' homes, as a means of checking the active progress of disease, when the long waiting list for Sanatorium prevented immediate admission. In several other cases this treatment was started at home for patients who could not or would not consent to Sanatorium treatment. Such cases have remained in bed at home for two or three months,

whilst the pneumothorax was induced and maintained by regular visits from the Dispensary. When sufficiently improved they attend the Dispensary for their refills. The results have been completely satisfactory and several of them are now back at work or fit for it without having had any Sanatorium treatment at all. No other method can produce such results. It is unfortunately impossible with the present staff to extend such facilities indefinitely but I am convinced as to the absolute safety and practicability of the operation even in the patients' homes.

During 1931 the number of inductions and refills carried out was 511, of which 433 were done at the Dispensary and 78 by domiciliary visits. The total represents an increase of over 80 per cent. on the number for the previous year and nearly six times the number for 1929.

The operation of Phrenic Evulsion was done in several cases at the General Infirmary through the kindness of the Consulting staff. Owing to the difficulty of obtaining beds at the Infirmary in only a few cases has this operation been done. Negotiations are now in progress with the Public Assistance Committee for beds at St. James's Hospital for patients requiring surgical treatment including Phrenic Evulsion and Thoracoplasty.

Treatment by Artificial Sunlight has been carried on as in previous years. During the year 163 patients were so treated, the total attendances being, 6224. Again the most satisfactory results have been seen in cases of abdominal and glandular disease.

Sanocrysin (Gold treatment) has been given to a number of patients at the Dispensary, and has been extensively tried at Killingbeck. It is of undoubted value as an adjuvant to Pneumothorax in checking the spread of disease in the better lung, and in others it reduces the amount of sputum. Some particularly striking results by this method have been obtained at Killingbeck, but benefit is often only temporary. There is, however, no doubt that in a number of cases no improvement took place until "gold" treatment was tried and its administration was followed by a dramatic change for the better.

A considerable number of patients suffering from non-pulmonary tuberculosis attended for the application of splints or plaster, aspiration of abscesses, etc. Dental treatment is dealt with under a separate heading.

EXTRACTS FROM THE MINISTRY OF HEALTH ANNUAL RETURN. FORM T/145. (Table A.) FOR THE YEAR ENDED 31st DECEMBER, 1931. SHOWING UNDER HEADINGS A. AND B. THE STATE OF DIAGNOSIS AT THE END OF THE YEAR.*

A. New Cases examined during the year (excluding contacts).	PULMONARY.			NON-PULMONARY.			TOTAL.		
	Adults.		Children.	Adults.		Children.	Adults.		Children.
	M.	F.		M.	F.		M.	F.	
Definitely Tuberculous	257	180	13	16	19	27	276	200	43
Doubtfully Tuberculous	..	..	..	..	..	..	30	18	14
Non-Tuberculous	..	..	..	..	..	..	254	200	80
TOTALS	257	180	13	16	19	27	560	418	137
B. New Contacts examined during the year:—									
Definitely Tuberculous	13	12	28	25	..	..	13	12	25
Doubtfully Tuberculous	..	..	..	..	..	..	3	1	26
Non-Tuberculous	..	..	..	..	..	..	81	177	145
TOTALS	13	12	28	25	..	..	97	190	196
C. Cases written off Dispensary Register:—	178	187	27	16	14	8	192	203	24
Cured	..	..	..	..	..	..	..	..	..
Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error)							379	430	243
TOTALS	..	..	..	..	..	..	571	633	267
Number of Persons on Dispensary Register:—									
Diagnosis completed	..	..	..	..	..	..	..	..	3,525
Diagnosis not completed	..	..	..	..	..	..	..	..	129
TOTAL	..	..	..	..	..	..	..	..	3,654

* Previous returns 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, 1931 TO DECEMBER 31st, 1931.

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	475	274	..	..	131	81	..	..	84	48	..	..	233	132	..	..	27	13	..	..	198	76	..	..
	66	124	109	110	32	34	1	1	10	17	12	15	21	68	83	80	3	5	13	14	16	23	25	12

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	15	11	..	..	4	2	..	..	2	6	..	..	5	..	..	..	4	3	..	..	2	..	..	..
Non-Insured	4	9	41	27	1	1	11	4	1	4	6	6	1	2	2	..	1	2	22	17	..	..	11	6

Total attendances at Central Tuberculosis Dispensary for—

(a) Light treatment	..	..	6,224
(b) Other special treatments	..	..	1,280
(c) Ordinary clinics:	..	..	8,746
(d) X-ray ..	..	..	1,809
			<u>18,059</u>

Total Number of Clinical Examinations

(included in attendances)	..	..	7,123
Number of cases making the clinical attendances (excluding Light and Special treatments)			4,148

Contacts.—The examination of contacts is rightly regarded as a very important part of Dispensary work. It is true that the proportion of contacts who show no evidence of disease is very high and to find the small number of definite cases entails considerable work. But those discovered are either the early cases or cases previously unsuspected; both are of great importance.

A notable increase (25 per cent.) in the contacts examined was recorded during the year. The findings are set out in the following table.

"CONTACTS" FIRST EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY FROM JANUARY 1ST, 1931 to DECEMBER 31ST, 1931.

	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	97	5	8	..	81	3	4
Females	190	5	7	..	177	1	6
Boys	196	..	28	5	139	24	40
Girls	196	1	24	..	145	26	39
Total	679	11	67	5	542	54	89

29 cases remaining under observation on December 31st, 1930, were re-examined, with the following results:—

Definitely diagnosed as tubercular 7

Marked off as non-tubercular, died, lost sight of, etc. 22

Remaining under observation nil.

Total examinations made = 1143 (714 cases).

From the table it will be seen that out of 679 contacts examined definite evidence of disease was found in 83 (12.2 per cent.). This is a slightly higher proportion of definite findings than in the previous year and is probably due to the increasing use of X-Rays in diagnosis.

Tuberculous Meningitis.—*Home or Milk Infection?*—The investigations of deaths from tuberculous meningitis or other forms of acute tuberculosis in young children is closely allied to contact work. These deaths occur after a very short illness and the cases are rarely seen at the Dispensary, usually dying in a general hospital or at home. For some time an intensive follow

up has been done in every case to ascertain the source of infection. In most cases it may be said that the source of infection falls under one of three headings :—

- (1) A known case of tuberculosis in the home.
- (2) A previously unsuspected case in the home.
- (3) Tuberculous Milk.

Frequently the source can at once be traced to an already known case in the home. In several others the death has led us by contact examination to detect someone, usually a parent, who was thought to be "bronchitic," "asthmatic," or to have a "cigarette cough," but who has been found to have definite infectious pulmonary tuberculosis. The most interesting group has been that in which no human source of infection could be traced and in which investigation of the milk supply has led to definite results.

The following is the most striking example of this danger. It was noted that three children in different families, all living near together had died within a few months of tuberculous meningitis and no family source of infection could be traced. But they all obtained milk from the same source, and all had taken it unboiled. This information was passed to the Chief Veterinary Officer of the city—Mr. J. A. Dixon—who in due course reported that a cow in the herd from which the milk was obtained was suffering from tuberculosis affecting the udder and other organs.

In my opinion there can be no doubt that this cow was the cause of the death of the three children and there may have been others infected from the same source.

In another case recently investigated it was found that the milk supply of a child dying from tuberculous meningitis was from a farm in the West Riding, and no home infection could be traced. In reply to enquiries the chief Veterinary Officer of the West Riding reported that one of the cows at this farm had been found to be tuberculous and that post-mortem examination had revealed extensive disease.

Here again it seems probable that the cow in question was the source of the infection.

The above cases are quoted in full as they are not only of great interest as examples of the danger of tuberculous milk, but they indicate a line of co-operation between the Tuberculosis

Officer and the Veterinary Authorities which up to the present has not received the attention it deserves. It is easy to say "the infection may be from milk" and leave it at that, but it seems clear that a more energetic follow up of similar cases may have far reaching results.

Special Dispensary Departments. Radiological.—Once more there has been a great increase in the work of this department. Numerous screen examinations have been made, chiefly in pneumothorax cases, and in addition 2,013 X-ray films were taken as against 1,476 in the previous year, an increase of over 36 per cent.

This increase was largely due to the larger number of cases from Killingbeck referred for periodical X-Ray examination as a check on progress and in connection with special forms of treatment. The need for X-Ray equipment at Killingbeck has become a matter of urgency and it is gratifying to know that this will be rectified early in the new year.

The bulk of the films have been taken by Dr. Thompson who has again produced a very high standard of work and to whose keenness and ability I am greatly indebted.

Artificial Sunlight.—The equipment of this department has remained unchanged, two Carbon Arc Lamps, and one Kromayer. The experience of several years working of this department shows that in a certain type of case definite improvement almost always follows treatment. The largest number of cases treated were children with tuberculous glands in the neck and particularly good results were obtained where the glands had broken down. Healing progresses steadily and the resulting scar is less noticeable than that obtained from other forms of treatment. Further reference to the work of this department has already been made under the heading of "Treatment."

Dr. Jackson ably supervises the working of this department and also deals with most of the cases of surgical tuberculosis referred to the Dispensary.

Dental Department.—Mr. W. L. Fleming is in charge of the dental work and in addition to regular sessions at the Dispensary and Killingbeck Sanatorium pays occasional visits to the Hollies and Gateforth. The work of the year is summarized in the following table :—

	Ex- tractions.	Fillings and Scalings.	Dentures.	Total Attendances.
T.B. Dispensary ..	429	12	61	457
Killingbeck	414	45	8	541
" The Hollies " ..	74	7	..	106

Surgical Tuberculosis.—The position as regards non-pulmonary tuberculosis in the city is a difficult one to assess. Notifications alone do not give a clear picture of the extent of the problem, as when a case presents pulmonary disease in addition to a surgical lesion it has to be notified as one of pulmonary disease, so will not appear in our records as a surgical case.

During 1931 the number of notifications of such cases was considerably lower than in the previous year, and the number of cases of bone and joint disease referred to the Dispensary for treatment was much lower than in previous years. Whether this means an actual reduction in the number of such cases or not is difficult to say. There has, however, been much less pressure on our bed accommodation for cases of bone and joint disease than in recent years. The total number of new non-pulmonary cases treated at the Dispensary has remained practically stationary in each of the last four years as will be seen from the following table :—

NEW NON-PULMONARY CASES SEEN AT CENTRAL TUBERCULOSIS DISPENSARY EXCLUDING CONTACTS AND TRANSFERS IN.

Year.	Bones and Joints.	Abdominal.	Glands.	Others.	Total.
1928 ..	49	23	30	8	110
1929 ..	45	13	30	13	101
1930 ..	40	21	43	5	109
1931 ..	23	25	49	10	107

The table shows that in two groups of non-pulmonary disease the figures have remained fairly stationary, namely abdominal tuberculosis and the miscellaneous group headed " others " which are, for the most part cases of skin or genito-urinary disease.

In the other groups, however, there is on the one hand a steady reduction in the number of cases of bone and joint disease, and at the same time a corresponding increase in glandular disease. We know that the majority (70 per cent.) of cases of bone and joint disease in childhood are caused by the human type of germ whereas the gland cases are more commonly of bovine origin. The figures are too small and do not extend over a sufficiently long period to draw any definite conclusion but it may be put forward as a possible explanation of the decrease of bone and joint disease that the control of the infectious cases of adult pulmonary tuberculosis has been more efficient, whilst the increased number of cases of glandular disease suggests that the milk supply of the city is still a common source of infection.

Domiciliary Work.—Out of a total of 18,235 visits to the homes of known tuberculosis cases made by the staff of nine Health Visitors, 874 were for the completion of environmental reports, 723 to contacts, and 222 following deaths from tuberculosis.

Minor Surgical Measures.—Attendances under this heading were over 50 per cent. more than in 1930, totalling 1,280, the increase being mainly due to a larger number of Artificial Pneumothorax refills—433 (against 247 in 1930)—and to a more extensive use of the Mantoux test in young children. Other treatments included 64 injections of Sanocrysin, 17 applications of plaster splints, and sundry aspirations, dressings, etc.

Clerical.—I am very grateful to those Panel Doctors who comply with the Ministry of Health request and complete Form G.P. 17 or 35 when referring state-insured cases to the Dispensary ; also for their help in periodically examining old cases and reporting on N.H.I. Form G.P. 36. Of the 927 forms sent out all but four were returned. These reports are of assistance in bringing to our notice special difficulties, medical and domestic, in individual cases in which our help is often of considerable use.

The closest co-operation exists with other health services in the city namely the Child Welfare and Education Departments. the several Hospitals, Infirmary, Public Dispensary and Public Assistance Institutions. Contact has also been maintained with the Ministry of Pensions Area Officer, and the Regional Medical Officers of the Ministry of Health. There were 1,637 letters and 5,176 card reports sent. In addition 1,658 letters, and 12,303 appointment cards were sent to patients.

The review of old Dispensary cases not known to be " recovered " or " dead " was completed during the year, and our energies are now being directed to a revision of the old notified cases who have ceased to attend the Dispensary.

Mortality of Children in Tuberculous Households.—For several years figures relating to research into the question which is still in progress have been reported.

The stage has now been reached at which it is considered advisable to defer further detailed reports until the whole group of children has been investigated over the full period of five years, when valuable information will be available. The whole enquiry concerns over 1,000 children who were born into homes where there was at the time of their birth a notified case of tuberculosis, and the follow up covers the first five years of life of each child

It is sufficient to state that the work so far carried out shows that the contacts to sputum-positive cases suffer a mortality both from tuberculosis and from other causes which is significantly higher than that of the child population as a whole, whereas those in contact with sputum-negative cases do not show the same tendency.

Care Work.—The Care Committee have again done excellent work in relieving the financial and domestic difficulties of the families who come under our care. The continued trade depression and resulting poverty have meant that more cases have been granted extra nourishment, clothing, financial and home help, etc. In addition valuable aid has been given in connection with the housing problem by helping patients to meet increased rent or removal expenses when tuberculosis is the cause of their financial troubles. This is a useful branch of work, as patients rapidly lose the benefit gained from prolonged Sanatorium treatment when they return to unsuitable surroundings.

Many cases have been sent away for periods of convalescence, either at the Committee's expense or by arrangement with their Approved Societies, or some charitable institution.

Through the Gerrich Fund, a local charity, the Committee have helped 64 Ex-service men during the past year.

In various ways help was given to 1,657 persons viz. :—533 grants of extra nourishment, 34 home helps supplied, 170 issues of clothing, 23 beds and bedding and 16 sick-room requisites loaned, 16 dentures granted, 22 surgical appliances provided, 82 given financial assistance, 20 homes found for children whose parents were in Sanatoria or Convalescent Homes, and 645 cases given advice or letters to other voluntary and official organizations in the city.

It is desired to place on record the excellent work done by the late Chairman, Mrs. Breach, during her twelve years enthusiastic service on the Committee.

"The Hollies" Sanatorium School.

PERIOD ENDED 31ST DECEMBER, 1931.

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

		Remaining Jan. 1st, 1931.	Admitted.	Discharged.	Remaining Dec. 31st, 1931.
Pulmonary	Boys .. { Under 5 ..	..	3	3	..
	.. { Over 5 ..	12	26	31	7
	Girls .. { Under 5 ..	1	3	4	..
	.. { Over 5 ..	6	37	31	12
Non-Pulmonary	Boys .. { Under 5 ..	1	..	1	..
	.. { Over 5 ..	3	4	5	2
	Girls .. { Under 5 ..	..	1	1	..
	.. { Over 5 ..	8	4	9	3
Observation Cases	Boys .. { Under 5 ..	..	2	2	..
	.. { Over 5 ..	1	16	12	5
	Girls .. { Under 5 ..	..	1	..	1
	.. { Over 5 ..	1	18	13	6
Totals		33	115	112	36

ANALYSIS OF CASES DISCHARGED.

DURATION OF RESIDENTIAL TREATMENT.

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

		Pulmonary.			Non-Pulmonary.			Total.
		Disease Quies- cent.	Disease Im- proved.	Disease not Im- proved.	Disease Quies- cent.	Disease Im- proved.	Disease not Im- proved.	
1-5 months.	Boys .. { Under 5 ..	..	1	1	..	..	..	2
	.. { Over 5 ..	1	3	1	1	1	..	7
	Girls .. { Under 5 ..	..	..	..	..	..	..	..
	.. { Over 5 ..	5	4	2	2	..	..	13
6-12 months.	Boys .. { Under 5 ..	..	1	..	1	..	..	2
	.. { Over 5 ..	18	5	..	2	..	..	25
	Girls .. { Under 5 ..	..	3	..	1	..	..	4
	.. { Over 5 ..	12	7	..	4	1	..	24
13-24 months.	Boys .. { Under 5 ..	..	..	..	..	..	..	..
	.. { Over 5 ..	1	1	..	..	..	..	2
	Girls .. { Under 5 ..	1	..	..	..	..	..	1
	.. { Over 5 ..	..	1	..	1	..	..	2
25 months and over.	Boys .. { Under 5 ..	..	..	..	..	..	..	..
	.. { Over 5 ..	1	..	..	1	..	..	2
	Girls .. { Under 5 ..	..	..	..	..	..	..	..
	.. { Over 5 ..	..	..	..	1	..	..	1
Totals		39	26	4	14	2	..	85
Observation and Negative Cases		..	..	..	..	..	..	27
Grand Total		..	..	..	..	..	..	112

“ The Hollies ” Open Air School.—The accommodation at this institution has been fully occupied throughout the year though outbreaks of infectious disease have been rather more numerous. During the year there were 27 such cases of which 14 were Diphtheria, and 8 Scarlet Fever.

These figures raise the question as to whether routine Schick and Dick tests should be done before admission of children to the institution, followed by protective immunization of susceptible children. The chief objection to this would be the delay in admission as most of the children have very slight signs of disease but come from highly infected homes where one is anxious to break contact with gross infection without further delay.

The arrangement of the classes has remained unaltered but there has been one change in personnel, the junior teacher resigning on marriage and a successor being appointed.

The wet summer of 1931 did not allow of so much open-air schooling and sun bathing as in other years but every opportunity for carrying out this treatment was taken.

The progress made by the children both physically and mentally continues to be very satisfactory and reflects the utmost credit on the nursing and teaching staff. The figures of attendance as given by the Head Teacher are :—

Number of children admitted to the school register, 109 (boys 50 and girls 59).

Number of school sessions, morning 254, afternoon 254, total 508.

Total number of attendances 16,368, average attendance per session 32.

Average number on the school register 38·81.

The Factory-in-the-Field.—The employees in the various departments at the end of the year were grouped as follows :—

Department.	Tuberculous.		Non-Tuberculous.	
Firewood	..	17	..	2
Brushmaking	..	4	..	2
Printing	..	3	..	1
Firelighter	..	2	..	—
Other Employees	..	2	..	6
		—		—
		28	..	11
		—		—

The operation of the Factory has been carried on exactly as in the previous year. The health of the employees has been a matter of great satisfaction and the amount of time lost in the various departments was less than last year in spite of the fact that the bulk of the tuberculous employees have disease which is of a moderately advanced type. Owing to the trade depression the policy has been continued of not expediting the discharge of men who might be fit for work in the open labour market, because of the probability that they would fail to find employment.

Tuberculous Employees.—During the year, 42 tuberculous patients were employed for varying periods of whom 28 remained at the end of the year. Of the 14 who ceased work 2 were considered fit for the open labour market, 5 were suspended owing to shortage of work, and 7 had to give up owing to failure of health. Two of those who gave up work died during the year.

Loss of Time through Ill-Health.—Of the 28 tuberculous employees remaining at the end of the year 11 had lost varying periods of time through sickness as shown in the following table :—

	No. Employed.	Worked Full Time.	Absent Through Sickness.
Firewood Department—			
Bundlers	9	6	3 lost 64 days.
Labourers	3	1	2 lost 19 days.
Travellers	4	4	
Foreman	1	1	
Brush Department ..	4	2	2 lost 22 days.
Printing Department ..	3	1	2 lost 20 days.
Firelighter Department	2	1	1 lost 7 days.
Other Employees—			
Gardener	1	—	1 lost 10 days.
Transport	1	1	

The average time lost per head of the tuberculous employees was just over five days in the year, as compared with 9.9 days in 1930. The average days lost per head in each department was :—Firewood 4.9, Brushmaking 5.5, Printing 6.7, and Firelighting 3.5.

General.—The effects of the prevailing economic depression has been felt during the year and has had the effect of curtailing the output of the Factory to some extent and thereby necessitating the putting of a certain number of employees on short time. Notwithstanding, all the departments have been kept running and the total loss incurred from trading has been slightly less than in the previous year.

Killingbeck Sanatorium.—The Medical Superintendent, Dr. W. S. Gilmour 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 721, comprising 327 males, 252 females, and 142 children. as compared with 729 for the previous year comprising 336 males 246 females and 147 children. Of the 721 cases treated during the year 56 were surgical cases, divided as follows :—9 males, 7 females and 40 children. The average percentage of bed cases was 69.5.

The average length of stay of patients was : surgical cases 49 weeks, and pulmonary cases 18 weeks.

Patients to the number of 541 were examined by the Dental Surgeon during the year and 511 received treatment.

X-Rays taken at the Central Tuberculosis Dispensary of patients undergoing treatment at Killingbeck numbered 180.

The average length of stay of pulmonary cases is slowly lengthening but is still below the ideal. Even in early cases with little evidence of severe activity, a period of 4 months is hardly long enough to arrest the disease permanently and enable the patient to withstand the stresses of industrial occupation, or what is just as bad, unemployment.

Patients with evidence of active disease, chronic or of recent origin, are not able to contemplate a return to work after such a short period, and, moreover, a high percentage still have infected sputum. These chronic cases with positive sputum are the main cause of the spread of the disease outside. The policy must therefore be to render the sputum non-infectious, and to keep the patient in hospital till this result is attained.

On the therapeutic side collapse therapy, mainly artificial pneumothorax, has been used freely and extended beyond the ideal cases to those where partial results promised some measure of success. The number of cases under review was not sufficient to indicate true conclusions. Artificial pneumothorax was performed in 43 cases discharged during the year, involving 600 refills.

Arrangements for the extension of collapse treatment by surgical methods are being made and the installation of an X-Ray

plant is imminent, so that the hospital will soon be well equipped for treatment of this sort.

Though specific chemotherapy has not yet arrived in tuberculosis the salts of gold are definitely accepted as having an adverse effect on the tubercle bacilli. Experience and improved technique have rendered the injection of gold salts into the veins a perfectly safe procedure in a comparatively wide range of cases. Sanocrysin (Mollgaard's original gold preparation) has been given in a few cases but the numbers are insufficient for conclusive evidence, only 19 of the cases having been discharged, the remainder being still under treatment. The results up to date are encouraging, particularly where chemical has been combined with physical treatment.

With regard to the lengthening of the period of stay the hospital is at a disadvantage from the point of view of accommodation. The male patients in the large hospital wards at New Killingbeck are well accommodated, but hardly suitably if the stay is to be prolonged. Those who are housed in the cubicles in the "Annexe" are inclined to remain longer than those in the large wards. The female patients in the old smallpox wards are at a great disadvantage. Worse circumstances from the point of view of treatment, nursing, or comfort can hardly be imagined, and the rectification of this by the provision of new accommodation modelled on the lines of modern Sanatorium design is imperative. Incidentally, the average waiting list of adults remains high which in itself warrants an increase in the number of beds.

Surgical Cases.—It is unfortunate that the accommodation for surgical children has not met with the approval of the Ministry of Health. This has meant the transfer of cases of this type to other institutions.

School Report.—The school was open 506 times during the year, the number of attendances being 16,196. Owing to an outbreak of Scarlet Fever the boys were excluded from school for six weeks which had a serious effect on the total attendances.

The average number attending school was 32. Tuition to children in bed has been carried on as usual. The children derive much benefit from the tuition and the backward ones are helped to attain a normal standard. The teaching staff remains the same.

The Recreation Hut near the Children's Ward has been transformed and proved itself a more suitable school than the old building.

Personnel.—The new post of Senior Assistant Medical Officer has been filled by Dr. Noël F. Pearson. The Matron, Miss Smeeton, has unfortunately been absent during the latter part of the year, due to an operation and prolonged sickness.

Equipment.—An electrical refrigerator has been installed and has proved of great value.

Amenities and 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.

A letter published by the editors of the Leeds Evening Newspapers resulted in the gift to the hospital by the general public of 400 disused pairs of headphones for the maintenance of the wireless installation.

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

Killingbeck Sanatorium.

GRADE OF EXERCISE ATTAINED BY ADULT CASES.

					Males.	Females.	Total.
No exercise	..	..	..	..	11	25	36
Walking	..	..	..	..	19	56	75
Work	{ Grade A.*	..	..	..	13	17	30
	{ Grade B.†	..	..	..	28	5	33
	{ Grade C.‡	..	..	..	50	..	50
Treatment not completed	..	..			56	33	89
Total	..	..			177	136	313

* Light work in wards and garden, or vocational.

† Slightly heavier than "A."

‡ Moderately heavy work in wards and garden.

Gateforth Sanatorium.—The Resident Medical Officer, Dr. A. C. Meek writes :—

The tables on page 117 show the number and classification of patients discharged during the year.

The Sanatorium accommodates 50 adult male patients, the majority of whom are cases of pulmonary tuberculosis in an early stage of the disease, but a few cases of non-pulmonary tuberculosis are also admitted. In addition, a certain number of patients in whom tuberculosis is suspected, but not definitely diagnosed, is admitted for observation.

The routine Sanatorium treatment of walking exercise and graduated labour is carried out. In suitable cases the routine treatment is supplemented by the induction of artificial pneumothorax or the intravenous injection of sanocrysin. The number of artificial pneumothorax refills given during the year was 147.

In 1931 a great deal of work was undertaken by staff and patients in improving the condition of the buildings and grounds, and in the construction of a series of substantially built poultry pens. This work could not have been undertaken without the help of the patients, who showed great interest in the improvements, and whose willing assistance was invaluable.

The appointment of a fully-trained Sister has undoubtedly led to increased efficiency in every direction. The health of the staff has been very good.

A few months ago, through the generosity of the Wounded Warriors' Welfare Committee, Leeds, the patients' wireless set was thoroughly overhauled, and all the beds equipped with headphones. This gift has been greatly appreciated by the patients.

One of the chief needs of the institution is a modern sputum steriliser to replace the obsolete apparatus now in use.

During 1931 the stock of poultry fell below the normal establishment, but it is hoped that during the present season this deficiency will be made good.

Garden produce valued at £145 was grown and used in the institution, and £111 was realised by the sale of eggs, poultry, flowers and other produce.

Gateforth Sanatorium (Males only).

PERIOD ENDED 31ST DECEMBER, 1931.

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

	Remaining Jan. 1st, 1931.	Admitted.	Dis- charged.	Died.	Remaining Dec. 31st, 1931.
Pulmonary ..	47	103	106	5	39
Non-Pulmonary ..	2	2	3	..	1
Observation Cases..	..	12	7	1	4
Totals	49	117	116	6	44

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.			Total.
	T.B. Minus.			T.B. Plus.			Quies- cent.	Im- proved.	Not Im- proved.	
	Quies- cent.	Im- proved.	Not Im- proved.	Quies- cent.	Im- proved.	Not Im- proved.				
Under 3 mths.	8	17	5	1	10	6	..	1	..	48
3 to 5 months ..	7	19	..	1	15	4	..	..	..	46
6 to 12 months..	4	1	..	2	5	1	2	..	..	15
Over 12 mths.	..	..	..	..	..	..	..	..	..	..
Total ..	19	37	5	4	30	11	2	1	..	109
Observation and Negative Cases				..	..	..	..	..	..	7
Grand Total ..				..	..	..	..	..	..	116

**GRADE OF EXERCISE ATTAINED ON DISCHARGE BY QUIESCENT
AND IMPROVED CASES.**

Cases who completed treatment. Grade.						Treatment not completed.	Total.
1	2	3	4	5	6		
11	11	8	12	4	27	20	93

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.

Maternity and Child Welfare.

The year 1931 was not so favourable to children under one year of age and mothers in childbirth as was the previous year. There was a slight increase in the infantile mortality rate and the maternal mortality rate was the highest recorded in Leeds since 1925.

With regard to the former one must expect fluctuations in the rate from year to year. It would be strange if a rate so sensitive as the infantile mortality is generally agreed to be, maintained a steady trend either upwards or downwards or remained stationary. The year 1930 was peculiarly favourable throughout the whole field of vital statistics and therefore it occasioned no surprise that the succeeding year, that under review, should have failed to maintain the exceptionally good record of its predecessor.

As regards the maternal mortality rate that it should have increased is certainly a matter for regret, though not one to justify undue pessimism. I am quite sure that if more attention were paid by the child-bearing population as a whole to ante-natal care, and, if the facilities provided for this were adequately taken advantage of, the rate might be very materially reduced. In this connection a further step was taken towards the perfecting of the maternity scheme in the city by the opening at the beginning of the current year of a consultative ante-natal clinic in Holbeck for the benefit of expectant mothers residing on the south side of the river. The object of the clinic—which for the time being is on an experimental basis—is to provide mothers with the services of a specialist within easy reach of their homes so as to avoid the long and somewhat arduous journey to the Maternity Hospital. It is hoped that the clinic will be taken advantage of by midwives and doctors alike, but particularly by the latter who up to the present have displayed quite an inexplicable reluctance to send their cases to the existing ante-natal centres. The busy practitioner often finds it difficult to afford the time necessary to maintain adequate and personal supervision over his cases during the ante-natal period and ante-natal work, if it is to be well done, involves the expenditure of much time and thought. It is to relieve the practitioner to some extent of these duties that the ante-natal service has been established, and this new clinic is a further effort to help him in carrying out this most important work.

Statistics.—The number of children under one year of age who died in 1931 was 552 (males 313 and females 239) as compared with 512 (males 297 and females 215) for 1930. The infant mortality rate was 76 as compared with 68 for the previous year and an average of 84 for the previous five years.

Compared with the other large towns in England and Wales, Leeds occupied seventh place, the towns with lower rates being Bristol, West Ham, London, Sheffield, Birmingham and Bradford.

Causes of Death.—The principal causes contributing to the infant death-rate in order of numerical importance were premature birth, pneumonia, diarrhoea and enteritis and congenital malformations. As compared with the previous year the principal increases to be recorded were pneumonia (50) and diarrhoea and enteritis (30). On examining the list of causes of death given on page 127 it will be noticed that 147 or 26·6 per cent. of the total deaths of children under one year were due to the respiratory group of diseases—pneumonia, bronchitis, whooping cough and influenza. Last year the number dying from this group was 94, or 18·4 per cent. of the total deaths and the average for the previous five years was 154 or 24·0 per cent.

Prematurity was the most important single cause of death during the year. The number of deaths attributed to it was 114, or 20·7 per cent. of the total deaths under one year as compared with 152, or 29·7 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 1921-1930.

Year.	Births.	Deaths from prematurity.	Death-rate per 1,000 births.
1921	10,144	207	20·4
1922	9,253	181	19·6
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

The average death-rate per thousand births for the ten years, 1921-1930, was 19·5.

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

INFANTILE MORTALITY DURING THE ELEVEN YEARS 1921-1931 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.	
1921	..	10,144	249	24.5	419	41.3	184	18.1	180	17.7	116	11.4	98	9.7	997	98
1922	..	9,253	206	22.2	401	43.3	159	17.2	125	13.5	127	13.7	123	13.3	935	101
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

Pneumonia (all forms) was the second most important single cause of death. There were 104 deaths or 18.8 per cent. of the total deaths under one year, from this disease, as compared with 54, or 10.5 per cent. for the previous year, and an average of 108 or 14.2 per cent. for the previous decade.

The deaths from diarrhoea and enteritis under one year of age numbered 61 as compared with 31 for the previous year and an average of 96 for the previous ten years. It should be noted that the diarrhoea rate for 1930 was unusually low, though, considering that with due care and cleanliness the disease can be prevented there is no reason why the figure for 1930 should ever be exceeded.

Deaths in Age Groups.—Of the total (552) infant deaths, 93, or 16.8 per cent. took place in the first day of life; 172, or 31.2 per cent. in the first week; 233, or 42.2 per cent. in the first month; 92, or 16.7 per cent. between one and three months; 86, or 15.6 per cent. between three and six months; 80, or 14.5 per cent. between six and nine months; and 61, or 11.1 per cent. between nine and twelve months.

The percentage changes in the infant death-rate per 1,000 births in 1931 as compared with the average of the previous ten years are as follows:—

Under 1 week, decrease	0.8%	3-6 months, decrease ..	15.0%
Under 1 month ..	18.4%	6-9	5.9%
1-3 months ..	17.0%	9-12	19.2%
Whole year decrease, 16.5%			

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 126. 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 233, or 58 less than in the previous year, and the corresponding rate was 32.3.

Of the total deaths under one year 42.2 per cent. occurred in the first month as compared with 56.8 per cent. for the previous year, and of the deaths in the first month, 39.9 per cent. occurred in the first day, 73.8 per cent. in the first week, and 87.1 per cent. in the first two weeks.

The deaths in the first month were largely due to prematurity and other congenital defects.

Illegitimate Death-rate.—Of the 358 illegitimate births, 47, or 13.1 per cent. died before reaching the age of one year, which is equal to an infantile mortality rate of 131. This is a decrease of 11 per thousand as compared with 1930 and a decrease of 79 as compared with 1929.

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.
1921	108	78	101	108	98
1922	119	106	77	101	101
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

Maternal Mortality.—The number of mothers who lost their lives in childbirth during the year was 39, an increase of 7 on the figure for 1930. The maternal mortality rate per thousand births was 5.40 as compared with 4.23 for the previous year and an average of 4.67 for the previous five years. This is the highest maternal mortality rate recorded in Leeds since 1925 when the rate was 5.50. The death-rate of unmarried mothers per thousand illegitimate births for the year was 5.59 as compared with a rate of 5.39 for married mothers. Last year the death-rate of unmarried mothers was 5.35 and that of married mothers 4.17.

Further details on this subject will be found in the Maternity and Child Welfare section on page 137.

INFANTILE MORTALITY IN WARDS AT DIFFERENT PERIODS OF THE FIRST YEAR OF LIFE, CALENDAR YEAR, 1931.

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	292	3	10.3	7	24.0	9	30.8	6	20.5	6	20.5	8	27.4	5	17.1	34	116
Westfield ..	388	8	20.6	12	30.9	17	43.8	10	25.8	3	7.7	5	12.9	5	12.9	40	103
Blenheim ..	292	4	13.7	5	17.1	6	20.5	2	6.8	2	6.8	3	10.3	3	10.3	16	55
Central ..	348	4	11.5	8	23.0	10	28.7	6	17.2	7	20.1	5	14.4	7	20.1	35	101
Woodhouse ..	276	..	..	6	21.7	9	32.6	4	14.5	2	7.2	7	25.4	2	7.2	24	87
North ..	233	2	8.6	2	8.6	3	12.9	4	17.2	2	8.6	..	..	..	..	9	39
Far Headingley ..	197	1	5.1	4	20.3	4	20.3	..	..	1	5.1	..	..	1	5.1	6	30
Hyde Park ..	155	1	6.5	4	25.8	5	32.3	..	..	..	..	..	..	..	..	5	32
Kirkstall ..	269	6	22.3	9	33.5	10	37.2	4	14.9	6	22.3	1	3.7	2	7.4	23	86
Burmantofts ..	464	8	17.2	12	25.9	15	32.3	9	19.4	9	19.4	9	19.4	5	10.8	47	101
Harehills ..	225	7	31.1	11	48.9	12	53.3	5	22.2	2	8.9	1	4.4	2	8.9	22	98
Potternewton ..	207	1	4.8	3	14.5	6	29.0	1	4.8	1	4.8	..	..	1	4.8	9	43
Roundhay ..	164	1	6.1	5	30.5	5	30.5	..	..	..	..	1	6.1	..	..	6	37
Cross Gates and Templenewsam	163	1	6.1	2	12.3	5	30.7	..	..	1	6.1	1	6.1	1	6.1	8	49
Richmond Hill ..	523	4	7.6	9	17.2	13	24.9	10	19.1	11	21.0	5	9.6	10	19.1	49	94
Osmondthorpe ..	355	6	16.9	12	33.8	13	36.6	5	14.1	6	16.9	1	2.8	1	2.8	26	73
East Hunslet ..	312	4	12.8	8	25.6	13	41.7	2	6.4	2	6.4	5	16.0	2	6.4	24	77
Hunslet Carr and Middleton ..	334	2	6.0	7	21.0	12	35.9	2	6.0	3	9.0	5	15.0	2	6.0	24	72
West Hunslet ..	266	4	15.0	6	22.6	9	33.8	4	15.0	3	11.3	3	11.3	2	7.5	21	79
Beeston ..	169	2	11.8	5	29.6	6	35.5	1	5.9	2	11.8	1	5.9	..	..	10	59
Holbeck (South)	208	5	24.0	6	28.8	8	38.5	4	19.2	1	4.8	1	4.8	1	4.8	15	72
Holbeck (North)	320	3	9.4	4	12.5	7	21.9	2	6.3	4	12.5	7	21.9	1	3.1	21	66
Armley and New Wortley ..	336	4	11.9	4	11.9	7	20.8	5	14.9	2	6.0	4	11.9	4	11.9	22	65
Upper Armley ..	222	2	9.0	7	31.5	11	49.5	4	18.0	1	4.5	3	13.5	..	..	19	86
Bramley ..	255	5	19.6	6	23.5	9	35.3	1	3.9	2	7.8	3	11.8	2	7.8	17	67
Farnley and Wortley ..	246	5	20.3	8	32.5	9	36.6	1	4.1	7	28.5	1	4.1	2	8.1	20	81
City ..	7,219	93	12.9	172	23.8	233	32.3	92	12.7	86	11.9	80	11.1	61	8.4	552	76

INFANT MORTALITY PER 1000 BIRTHS, 1890 - 1931



REPORT MONTHLY FOR THE MONTH OF

1905

REPORT FOR THE MONTH OF

1905

BIRTHS AND DEATHS UNDER ONE YEAR WITH RATES.—CALENDAR YEAR 1931.

VARD.	Total Births (nett).	Birthrate 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 Westfield ..	292	18.49	272	20	34	116	28	103	6	300
Blenheim ..	388	19.80	367	21	40	103	37	101	3	143
Central ..	292	12.63	247	45	16	55	13	53	3	67
Woodhouse ..	348	16.47	319	29	35	101	30	94	5	172
North ..	276	14.66	262	14	24	87	22	84	2	143
Far Headingley ..	233	14.94	224	9	9	39	9	40	..	..
Hyde Park ..	197	10.71	188	9	6	30	3	16	3	333
Kirkstall ..	155	9.30	149	6	5	32	3	20	2	333
Burmantofts ..	269	13.64	261	8	23	86	22	84	1	125
Harehills ..	464	20.05	438	26	47	101	42	96	5	192
Potternewton ..	225	11.32	218	7	22	98	21	96	1	143
Roundhay ..	207	10.47	192	15	9	43	7	36	2	133
Cross Gates and Templenewsam	164	10.74	159	5	6	37	5	31	1	200
Richmond Hill ..	163	11.20	158	5	8	49	6	38	2	400
Osmondthorpe ..	523	21.40	501	22	49	94	48	96	1	45
East Hunslet ..	355	16.34	345	10	26	73	25	72	1	100
Hunslet Carr and Middleton..	312	16.86	300	12	24	77	23	77	1	83
West Hunslet ..	334	16.65	323	11	24	72	23	71	1	91
Beeston ..	266	14.63	254	12	21	79	21	83	..	..
Holbeck (South)	169	11.02	165	4	10	59	10	61	..	..
Holbeck (North)	208	14.41	202	6	15	72	14	69	1	167
Armley and New Wortley..	320	17.41	304	16	21	66	19	63	2	125
Upper Armley ..	336	16.53	321	15	22	65	20	62	2	133
Bramley ..	222	13.00	213	9	19	86	18	85	1	111
Farnley and Wortley..	255	14.36	244	11	17	67	16	66	1	91
City ..	246	13.14	235	11	20	81	20	85	..	..
	7,129	14.84	6,861	358	552	76	505	74	47	131

PERCENTAGE CHANGES (5 YEAR PERIODS, ALSO YEARS 1930 AND 1931) 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	-3.1%	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%

DEATHS FROM STATED CAUSES UNDER ONE YEAR OF AGE.

Causes of death.	Year 1930.	Year 1931.	Increase or decrease.	Percentage of total deaths under one.
Smallpox	..	..	..	..
Chickenpox	..	1	+ 1	0.2
Measles	..	6	+ 6	1.1
Scarlet Fever	1	1	- +	0.2
Whooping Cough	16	14	- 2	2.5
Diphtheria	2	..	- 2	..
Influenza	..	4	+ 4	0.7
Erysipelas	1	4	+ 3	0.7
Tuberculous Diseases	10	8	- 2	1.4
Meningitis	1	6	+ 5	1.1
Convulsions	21	16	- 5	2.9
Bronchitis	23	22	- 1	4.0
Pneumonia (all forms)	54	104	+50	18.8
Other diseases of Respiratory Organs	1	3	+ 2	0.5
Diarrhoea and Enteritis	31	61	+30	11.1
Gastritis	3	5	+ 2	0.9
Syphilis	4	6	+ 2	1.1
Rickets	3	2	- 1	0.4
Suffocation, including overlying	16	14	- 2	2.5
Injury at birth	16	20	+ 4	3.6
Atelectasis	18	10	- 8	1.8
Congenital Malformations	37	46	+ 9	8.3
Premature birth	152	114	- 38	20.7
Atrophy, Debility, and Marasmus	45	26	- 19	4.7
Other Causes	57	59	+ 2	10.7
Totals	512	552	+40	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, 1930 was 91 ; 28 new names were added during the year ; 19 did not renew their notification of intention to practise ; 10 left the district and one died, leaving a total on the register at December 31st, 1931, of 89. The actual number of midwives who practised in the area during the year was 76, of whom 33 were attached to Nursing Homes, Associations, etc. Seventy-two (or 94·7 per cent.) of those were trained and four (or 5·3 per cent.) untrained. The number of births attended by midwives was 2,535 or 33·5 per cent. of the total births registered as compared with 3,108 or 39·3 per cent., during the previous year.

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

TRAINED.			UNTRAINED.	
72 midwives.			4 midwives.	
Total cases attended .. 2,478			Total cases attended .. 57	
Average per midwife 34 cases.			Average per midwife 14 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	2	" 150	..
" 100	4	1	" 100	..
" 75	1	2	" 75	..
" 50	5	1	" 50	..
" 25	8	2	" 25	1
" 10	3	10	" 10	1
" 5	5	4	" 5	1
Under 5	12	11	Under 5	1

Twenty-three trained midwives (18 attached to institutions, nursing homes or Associations) and 1 untrained took no cases during the year.

Inspection of Midwives.—The total number of inspections made during the year was 272 of which 193 were routine and 79 special.

Fifty-three midwives were interviewed in connection with breaches of the rules of the Central Midwives Board and other minor misdemeanours; 19 were reported to the Senior Medical Officer for Maternity and Child Welfare and 14 interviewed by her.

Advising Medical Help.—Notifications of having advised medical assistance were received in 1,071 cases, which may be classified as follows:—

Illness during pregnancy or abortion	..	..	..	49
Malpresentation	..	..	..	44
Delayed or obstructed labour	..	..	..	204
Ruptured perineum..	..	..	..	190
Retained membrane or placenta	..	..	..	23
Hæmorrhage	..	..	..	57
Convulsions, eclampsia	..	..	..	5
Puerperal rise of temperature	..	..	..	73
Illness of mother during puerperium	..	..	..	66
Illness of child	..	..	..	145
Infants—discharging eyes	..	..	..	74
Artificial feeding	..	..	..	27
Death of infant under ten days	..	..	..	25
Still-births	..	..	..	65
Suspected infectious disease	..	..	..	22
Maternal deaths	..	..	..	2

Midwives' Emergencies.—During the year 511 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 33 were paid direct by the parent, the remainder 478 being met in whole or in part by the Local Authority, at a total cost of £491 2s. 5d.

Accouchement Sets.—During the year 223 accouchement sets were sold to the mothers, through the welcomes, midwives and maternity 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, pemphigus, measles and pneumonia remained in operation. A total of 111 cases were provided for in this way during the year.

Puerperal Fever.—There were 65 cases of this disease notified during 1931, of which 34 recovered and 17 died. In 14 cases the result is not known as the patients came from outside the city. Two of the cases followed abortion, in the remainder the labour was at full term. This is contrary to what one would expect if, as is often stated, criminal abortion is so prevalent. The number of cases of puerperal fever occurring in doctors' practices was nine, in midwives' 13 and in institutions 43. The high incidence of the disease in institution cases is probably explained by the type of case usually admitted to institutions. There were 76 cases of puerperal pyrexia notified, and of these 10 died.

The Inspector of Midwives paid a total of 182 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 17 cases.

Twenty-four cases of puerperal fever, and twenty cases of puerperal pyrexia were removed to hospital.

Seventeen midwives were disinfected after contact with cases of puerperal fever, and 22 after puerperal pyrexia.

This subject is also dealt with on page 49.

Ophthalmia Neonatorum.—During the year 53 cases of ophthalmia neonatorum were notified; 18 occurred in the practices of doctors, 12 of whom had handywomen in attendance; 22 occurred in the practice of midwives and 13 in institutions. Of the total cases, 33 were treated at home, and 20 in hospital. Seventeen cases of ophthalmia neonatorum and 11 cases of discharging eyes were referred to the District Nursing Association for home treatment. As a result of treatment 47 cases apparently made a complete recovery, one case had slight impairment of vision, three died from intercurrent disease and two cases left the district of which the result is not known.

This subject is also dealt with on page 51.

Pemphigus.—There were 38 cases of pemphigus brought to the notice of the Department during the year. Twenty of those were midwives cases, of whom two died; two occurred in the practice of doctors, and both died; and 16 occurred in one Institution. Home nursing was provided in 10 cases, and one was removed to Hospital. The midwives cases consisted of isolated cases of groups of two.

Municipal Midwives.—There were no midwives actually employed by the Health Department, nor was any subsidy given to any practising midwife during the year. However, 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 continued in operation.

The total number of cases dealt with by the Branch midwives was 624, the largest number 186, being at Hunslet Branch, the smallest, 66 at the West Street Branch. Only two of the five midwives conducted over 120 cases and were entitled to the bonus on each case over that number. The deficit on the working of all the Branches for the year was £419 which is borne by the Corporation under the agreement already referred to.

Compensation to Midwives for Loss of Work.—A midwife can now claim compensation for any case lost because of her having been in contact with an infectious case. The number of such claims made during the year was 3 and the cost to the Corporation was £4. She can also claim for the loss of a case which she has sent to an ante-natal clinic, and which owing to some abnormality has had to be sent into hospital for confinement. The number of these claims was 35 and the cost to the Corporation £35.

Handywomen.—During the year nine handywomen were visited and warned as to limitations of practice, etc.; nine were visited in connection with cases of puerperal fever and other infections; seven were disinfected after being in contact with infectious cases; four were interviewed by the Senior Medical Officer for Maternity and Child Welfare.

The handywoman in spite of the law and of the dissuasive influence of the Public Health Department is still very active in certain parts of the city. Unfortunately she frequently has the support and backing of the medical practitioner notwithstanding oft repeated warnings by the General Medical Council. It should be clearly understood that no countenance to irregular practice of this kind can be given by the Health Authority and that no stone will be left unturned to search out offenders and bring them to justice.

Ante-natal Work.—A total of 3,152 expectant mothers attended the ante-natal clinics during the year, which represents a decrease of 117 on the previous year. Of the total 2,467 were new and

attended for the first time. The attendances at all the clinics totalled 10,030 as compared with 10,245 for 1930.

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 attendance of expectant mothers.
			Full Term.	Premature.		
Ellerby	82	212	217	12	47	715
West Street ..	16	74	51	8	24	263
Burmantofts ..	81	291	271	20	64	1,154
Hunslet	39	192	161	8	49	559
University ..	55	157	142	14	46	496
Woodhouse ..	65	184	165	8	51	812
Holbeck	38	187	156	4	48	927
Armley	69	212	191	6	64	1,272
Chapelton ..	28	154	115	9	50	494
St. Nicholas ..	42	222	187	8	54	631
Bramley	41	90	83	4	36	595
New Wortley ..	27	138	126	3	33	677
Middleton ..	27	84	73	4	26	316
West Hunslet ..	41	120	119	6	29	597
Burley	16	103	81	4	29	314
Crossgates ..	18	32	34	1	11	134
Halton	..	15	11	..	3	60
Totals	685	2,467	2,183	119	664	10,016

Of the 3,152 mothers on the register 25 miscarried and 90 had still births.

In addition to the above 14 expectant mothers paid 14 visits to Meanwood and Kirkstall Centres where no ante-natal clinics are held, making a total of 10,030 attendances.

Included in the number of live births are 31 sets of twins.

Although many of the mothers come to the ante-natal clinics of their own accord, a large proportion are referred there by midwives, health visitors or doctors. The table on page 133 analyses the new cases admitted during 1931, at the different clinics, with information as to where the recommendations came from.

The average number sent by midwives was 53·7 per cent., a decrease of 14·3 per cent. on the average for 1930, which was 68·0 per cent.

Although all the districts are now fairly well supplied with ante-natal clinics, it was felt that there was a gap on the consultative side.

ANTE-NATAL CLINICS.

NEW CASES ADMITTED TO REGISTER DURING 1931 AND BY WHOM
RECOMMENDED.

Welcome.	Midwife.	Self.	Hospital.	Welcome Dr.	Private Dr.	Health Visitor.	Total.	Percentage sent by Midwife.
Ellerby ..	108	95	2	..	2	5	212	50·9
West Street	13	60	..	1	..	..	74	17·6
Burmantofts	206	80	3	..	2	..	291	70·8
Hunslet ..	173	13	3	..	3	..	192	90·1
University ..	107	38	2	4	2	4	157	68·2
Woodhouse..	101	33	..	10	1	39	184	54·9
Holbeck ..	99	56	3	10	2	17	187	52·9
Armley ..	4	197	4	..	7	..	212	1·9
Chapelton	58	92	2	..	1	1	154	37·7
St. Nicholas	197	3	14	..	6	2	222	88·7
Bramley ..	2	70	8	2	2	6	90	2·2
New Wortley	69	43	..	1	2	23	138	50·0
Middleton ..	46	26	..	1	1	10	84	54·8
West Hunslet	80	37	..	..	1	2	120	66·7
Cross Gates..	..	29	..	..	..	3	32	..
Burley ..	57	28	..	2	3	13	103	55·3
Halton ..	5	3	..	..	1	6	15	33·3
TOTAL ..	1,325	903	41	31	36	131	2,467	53·7

Up to the end of 1931 there was only one Consultative ante-natal clinic in the city, namely that at the Maternity Hospital. A scheme for a second clinic to be inaugurated at the Holbeck Infant Welfare Centre, to serve the wards south of the city, *i.e.* East Hunslet, Mill Hill and South, West Hunslet, Armley and New Wortley was passed by the Maternity and Child Welfare Committee towards the end of the year, and is now in operation. It is hoped that this will make things easier for the mothers in this district and may, in addition, act as an incentive to the medical practitioners to make greater use of the service.

Natal Work.—Of the total births in the city 2,726 or 36·07 per cent. took place in institutions or nursing homes. There is a gradual increase in the number each year, which shows that the mothers appreciate the better hygienic surroundings, with skilled attention always at hand, and freedom from domestic worries.

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	..	..	..	1,508	19·96
St. James's Hospital	..	..	..	606	8·02
St. Mary's Infirmary	..	..	..	285	3·77
Hope Hospital	..	..	..	9	0·12
Leeds General Infirmary	..	..	..	3	0·04
Hospital for Women	..	..	..	12	0·16
Private Nursing Homes	..	..	..	303	4·01
Total				2,726	36·07

Illegitimate Births in Institutions.—Of the 2,726 births which took place in institutions, 279 or 10·2 per cent. were illegitimate.

This is a decrease of 42 on the figure for last year.

Besides contributing to the upkeep of beds at the Maternity Hospital, the Health Committee maintains six beds at St. Mary's Infirmary and three at St. James's Hospital. The table on page 135 gives the details of the utilisation of the maternity beds in the Public Assistance Hospitals during the year.

SCHEME FOR UTILISATION OF MATERNITY BEDS IN PUBLIC ASSISTANCE HOSPITALS.
REPORT FOR YEARS 1928, 1929, 1930 AND 1931.

	ST. JAMES' HOSPITAL.					ST. MARY'S INFIRMARY.				
	1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	1930.	1931.
Number of Beds reserved ..	3	3	3	3	6†	6	6	6		
Total Number of Cases for which accommodation is available ..	78	78	78	78	136	156	156	156		
Number of Cases treated—										
(a) Normal ..	26	38	25	23	102	101	102	95		
(b) Abnormal ..	8	4	4	3	43	27	28	39		
(c) Not delivered ..	5	6*	3†	3*	8†	9†	8	8*		
TOTAL ..	39	48	32	29	153	137	138	142		
Number of Births—										
(a) Full term ..	33	42	27	24	136	120	118	124		
(b) Premature ..	1	..	..	..	7 §	6	7	6		
(c) Stillborn ..	1	..	2	2	5	2	5	5		
(d) Miscarriage ..	..	..	..	..	..	..	..	..		
TOTAL ..	35	42	29	26	148	128	130	135		
Average length of stay (in days) ..	16.8	12.6	13.7	17.0	14.2	14.2	14.5	15.6		
Total Cost per case ..	£4 3s. 3½d.	£2 17s. 5½d.	£3 1s. 7d.	£3 16s. 7½d.	£3 16s. 11½d.	£3 3s. 9½d.	£3 5s. 6½d.	£3 9s. 11½d.		
Cost per case per week ..	£2 1s. 0½d.	£1 11s. 9½d.	£1 11s. 6d.	£1 11s. 6d.	£1 12s. 1½d.	£1 11s. 4½d.	£1 11s. 6d.	£1 11s. 6d.		
Gross Cost to Corporation ..	£162 7s. 6½d.	£137 18s. 6½d.	£98 11s. 0d.	£111 3s. 0d.	£588 16s. 6d.	£436 19s. 0d.	£452 5s. 0d.	£496 16s. 0d.		
Total nett cost to Corporation	1928 .. £200 14s. 6d.	1929 .. £89 7s. 2d.	1930 .. £96 14s. 10d.	1931 .. £120 8s. 0d.	Amount of patients' payments, 1928 .. £550 9s. 6d.					
Do. do.	1929 .. £89 7s. 2d.	1930 .. £96 14s. 10d.	1931 .. £120 8s. 0d.		Do. do. 1929 .. £485 10s. 4d.					
Do. do.	1930 .. £96 14s. 10d.	1931 .. £120 8s. 0d.			Do. do. 1930 .. £454 1s. 2d.					
Do. do.	1931 .. £120 8s. 0d.				Do. do. 1931 .. £487 11s. 0d.					

* Includes 1 baby born before arrival.

† Includes 2 babies born before arrival.

† Increased from 3 to 6 beds as from April 1st, 1928.

|| Includes 2 twin babies.

§ Includes 3 triplet babies.

Specialist Service.—Facilities are provided by the Local Authority whereby medical practitioners may have the help of a specialist in cases of doubt or difficulty. The number of claims received from consultants for services rendered in connection with this scheme was 46 and the total cost to the Corporation was £131 15s. 6d.

Maternity and Nursing Homes.—The number of registered nursing homes in the city on December 31st, 1930, was 28.

The following table gives particulars as to the registration of maternity and nursing homes during 1931 :—

	Maternity Homes.	Other Nursing Homes.
No. of existing registered Homes on January 1st, 1931	23	5
No. of applications for registration ..	1	1
No. of Homes registered	1	1
No. of Orders made refusing or cancelling registration	1	..
No. of Appeals against such Orders ..	..	..
No. of Cases in which such Orders have been :—		
(a) Confirmed on appeal	..	..
(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	1

The total number of registered nursing homes on December 31st, 1931, was 28, comprising :—

Maternity Homes	10
Maternity and General Nursing Homes ..	12
General Nursing Homes	6

All registered homes were visited regularly and inspected, the number of visits paid for this purpose being 70.

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 80.

Maternal Mortality.—During the year 39 mothers lost their lives in childbirth, as compared with 32 for the previous year. The rate of mortality for the city was 5.40 as compared with 4.23 for 1930, and is the highest since 1925. In respect of mothers who attended the ante-natal clinics the rate was 3.91 or 27.6 per cent. less than for the whole city.

The causes of death were as follows :—

Sepsis	17	Pulmonary Embolism ..	2
Toxæmia	9	Other causes	3
Hæmorrhage ..	8		

The table on page 139 gives an analysis of the causes of death in relation to home conditions, age, parity and legitimacy. In thirteen cases, that is one-third of the deaths, there was no ante-natal care whatever.

By reason of the publicity given the subject, a section of the public has got the idea that maternal mortality can be entirely abolished. This is not so; there will always be some cases in which a fatal issue is unavoidable. How far the rate can be reduced in Leeds is a matter of conjecture but probably not more than 50 per cent. as an outside figure.

The road to this goal lies in intensive ante-natal care and skilled attention during labour and the puerperium. There are abundant facilities for this in the city, but without the co-operation of the mothers, all our efforts will be unavailing.

In accordance with the request of the Ministry of Health an enquiry was made into every case of maternal death which occurred during the year, and the results of those enquiries have been duly forwarded to the Maternal Mortality Committee.

The following table gives particulars of the maternal death-rate in Leeds for the last 20 years (since 1911) :—

MATERNAL MORTALITY.

Year.	No. of deaths.	Death-rate per 1,000 births from		
		Sepsis.	Other causes.	Total childbirth.
1911 ..	42	1.51	2.46	3.97
1912 ..	41	1.15	2.78	3.93
1913 ..	61	2.74	3.02	5.76
1914 ..	62	3.16	2.61	5.77
1915 ..	41	1.62	2.53	4.15
1916 ..	39	1.48	2.65	4.13
1917 ..	22	1.06	1.85	2.91
1918 ..	21	0.95	1.89	2.84
1919 ..	36	1.72	3.04	4.76
1920 ..	58	3.03	2.14	5.17
1921 ..	38	1.28	2.46	3.74
1922 ..	33	1.84	1.73	3.57
1923 ..	49	2.07	3.57	5.64
1924 ..	34	1.28	2.69	3.97
1925 ..	40	3.18	1.71	4.89
1926 ..	36	1.74	2.73	4.47
1927 ..	37	1.92	2.82	4.74
1928 ..	35	2.35	2.22	4.57
1929 ..	33	1.48	2.96	4.44
1930 ..	31	1.72	2.38	4.10

From Registrar-General's Annual Reports.

MATERNAL MORTALITY, 1931.

Cause.	Total.	AGE GROUPS.			PARITY.		HOME CONDITIONS.			Illegitimate.
		21-29.	30-39.	40+.	Primi-para.	Multi-para.	Good.	Fairly Good.	Poor.	
Puerperal Sepsis ..	17	8	8	1	7	10	6	4	7	1
Toxaemia ..	9	4	3	2	1	8	3	3	3	—
Haemorrhage ..	8	4	2	2	1	7	2	2	4	—
Pulmonary Embolism	2	1	1	—	2	—	1	—	1	1
Other causes ..	3	3	—	—	3	—	—	1	2	—
TOTAL ..	39	20	14	5	14	25	12	10	17	2

Stillbirths and Neo-natal Mortality.—The number of still-births in 1931 was 406 or 5·4 per cent. of the total births notified, as compared with 357 or 4·6 per cent. for 1930.

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.
1921	9,462	466	9,928	4·7
1922	8,658	418	9,076	4·6
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

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

Of the 406 stillbirths notified, 72 or 17·7 per cent. were by midwives, and 103 or 25·4 per cent. by medical practitioners. Every mother who gives a history of previous miscarriage, stillbirth or death of her infant in early childhood is visited and advised what to do to avoid a similar result should she again become pregnant.

The number of deaths during the first four weeks of life was 233 as compared with 291 in 1930, and shows a definite decrease on the previous 10 years. The neo-natal mortality rate was 32·3 as compared with 38·5 for 1930 and an average of 39·6 for the last ten years.

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.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Congenital malformation	29	21	21	19	30	23	14	23	21	20
Premature birth ..	167	152	136	134	133	120	153	148	138	105
Atrophy, debility and marasmus ..	61	41	32	39	32	15	25	26	32	15
Atelectasis ..	21	24	17	15	19	19	16	19	17	10
Injury at birth ..	16	22	23	18	19	17	10	18	16	20
Suffocation including overlying ..	2	1	7	10	4	11	11	17	8	9
Diarrhoea-enteritis ..	26	35	15	12	12	8	7	5	7	7
Syphilis ..	11	12	10	9	9	2	2	4	3	3
Pneumonia ..	4	11	11	8	12	12	7	19	11	5
Convulsions ..	34	29	21	19	17	21	18	16	13	12
Other causes ..	30	15	38	26	25	26	23	19	25	27
Total ..	401	363	331	309	312	274	286	314	291	233
Notified stillbirths ..	418	379	348	334	380	367	388	382	357	406

The Proportion of Male to Female Infant Mortality.—The table on page 142 shows the proportion of male to female mortality for the last six years and for the years 1917 and 1918—the first two years when the mortality of males and females was recorded separately.

Post-Natal Work.—The number of births notified during the year exclusive of stillbirths was 7,119 or 94·2 per cent. of the total births registered.

Home Visiting.—The total number of visits paid by the health visitors during the year amounted to 135,015, an increase of 5,438 on the previous year. An epidemic of measles in the spring and summer accounted for 13,429 extra visits.

First visits were paid by the health visitors to 7,146 cases. The number of revisits to children up to 5 years was 89,670. The number of visits to expectant mothers was 4,171.

INFANTILE MORTALITY DURING YEARS 1917 AND 1918 AND 1926 TO 1931 AT DIFFERENT PERIODS
OF THE FIRST YEAR OF LIFE. PERSONS MALES AND FEMALES.

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.			
	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	
1917	..	23.7	29.3	17.9	42.0	50.4	33.4	24.5	23.8	25.1	28.2	31.3	24.9	21.0	28.0	13.9	19.6	21.2	17.9	135	155	115
1918	..	25.6	28.7	22.2	42.7	50.2	34.8	20.8	23.5	18.0	26.9	26.7	27.2	23.7	25.8	21.3	18.9	20.4	17.4	133	147	119
1926	..	23.2	25.0	21.2	38.7	45.2	31.7	16.6	18.5	14.6	14.6	15.2	14.1	11.9	11.8	12.0	10.9	13.0	8.7	93	104	81
1927	..	21.8	23.3	20.0	35.2	39.0	31.2	13.2	16.5	9.9	11.2	15.2	7.0	10.8	11.9	9.6	10.4	12.2	8.6	81	95	66
1928	..	26.2	30.6	21.5	37.3	44.1	30.1	13.3	17.0	9.4	12.3	15.5	8.9	9.4	10.9	7.8	6.8	9.4	4.0	79	97	60
1929	..	28.3	34.6	21.8	42.3	51.1	33.2	14.9	18.9	10.9	14.4	16.5	12.3	14.5	17.8	11.2	11.0	14.1	7.9	97	119	75
1930	..	27.5	30.6	24.3	38.5	45.7	31.0	9.8	13.3	6.1	7.5	7.6	7.5	6.5	5.5	7.5	5.4	5.5	5.3	68	78	57
1931	..	23.8	26.1	21.4	32.3	34.8	29.6	12.7	13.7	11.7	11.9	14.8	8.8	11.1	11.9	10.3	8.4	9.2	7.7	76	84	68

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

	VISITS.
Notified births including re-visits	96,816
Stillbirths and deaths under one month including re-visits	888
Death investigations of children from one month-five years	714
Ophthalmia Neonatorum	156
Measles	15,325
Whooping Cough	1,418
Pneumonia	1,584
Epidemic Diarrhœa	1
Expectant mothers	4,171
Special visits (medical aid claims 568, cancer 53 and others 833)	1,454
Visits to ill children notified from the Leeds General Infirmary and Public Dispensary ..	940
Visits to children under The Children Act, 1908 ..	589
Ineffectual visits	10,959
Total visits for the year	<u>135,015</u>

Infant Protection Visits.—During the year 589 visits were paid to boarded-out children by the health visitors, who are the infant protection visitors for the purposes of the Children Act, 1908. On December 31st, there were 109 children on the Infant Protection Register.

Infant Welfare Centres (“ Welcomes.”) There are 20 infant welfare centres situated in different parts of Leeds.

On June 8th a new Welcome was started in a church hall at Kirkstall, and is held there once a week. Plans were in progress for the building of new premises for Hunslet Welcome, but for financial reasons the project was abandoned. The Association were fortunate in procuring a house in Pepper Lane, formerly used by the Education Committee as a Nursery School, and it is expected that the new premises will be in order for early summer.

The less satisfactory Welcomes are being gradually eliminated, but there is always the difficulty of procuring suitable premises in the right district.

BABIES UNDER ONE REGISTERED DURING YEAR 1931.

WELCOME.	0-1 month.	1-3 months.	3-6 months.	6-12 months.	Total.
Ellerby ..	116	110	22	24	272
West Street ..	122	123	38	23	306
Burmantofts ..	110	126	27	24	287
Hunslet ..	119	74	23	17	233
University ..	100	72	37	21	230
Woodhouse ..	115	91	34	28	268
Holbeck ..	139	108	22	22	291
Armley ..	103	146	48	38	335
Chapelton ..	112	136	24	25	297
St. Nicholas ..	133	101	14	36	284
Bramley ..	53	72	16	18	159
New Wortley ..	96	74	26	21	217
Middleton ..	62	35	12	23	132
Meanwood ..	24	58	14	12	108
West Hunslet ..	84	133	32	26	275
Harehills ..	33	87	33	29	182
Cross Gates ..	22	33	13	17	85
Burley ..	89	130	28	22	269
Halton ..	32	46	23	16	117
*Kirkstall ..	8	39	19	22	88
Totals ..	1,672	1,794	505	464	4,435

BABIES OVER ONE REGISTERED DURING YEAR 1931.

WELCOME.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	Total.
Ellerby ..	35	16	11	8	70
West Street ..	37	30	13	2	82
Burmantofts ..	38	18	10	2	68
Hunslet ..	18	26	14	11	69
University ..	31	22	16	13	82
Woodhouse ..	36	20	16	11	83
Holbeck ..	41	29	19	5	94
Armley ..	34	36	32	22	124
Chapelton ..	45	33	20	13	111
St. Nicholas ..	37	45	14	10	106
Bramley ..	16	14	11	2	43
New Wortley ..	31	30	15	8	84
Middleton ..	29	22	20	12	83
Meanwood ..	11	12	9	2	34
West Hunslet ..	27	22	12	4	65
Harehills ..	26	17	12	9	64
Cross Gates ..	10	12	12	4	38
Burley ..	25	20	10	4	59
Halton ..	9	14	8	7	38
*Kirkstall ..	23	21	8	9	61
Totals ..	559	459	282	158	1,458

* Kirkstall Welcome opened June 1st, 1931.

ATTENDANCES MADE AT INFANT WELFARE CENTRES DURING
YEAR 1931

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 ..	5,562	2,911	1,966	16	418	106	204
West Street ..	1,813	4,218	3,332	84	661	657	127
Burmantofts ..	4,890	3,840	2,208	285	1,096	617	—
Hunslet ..	3,635	3,130	2,890	25	292	107	81
University ..	3,168	2,751	2,508	20	771	149	155
Woodhouse ..	1,773	3,583	2,445	40	325	53	—
Holbeck ..	3,030	4,161	3,209	127	989	237	205
Armley ..	3,334	3,388	2,801	521	1,102	2,005	835
Chapelton ..	1,985	3,409	1,981	—	490	8	11
St. Nicholas ..	4,411	2,949	2,153	40	726	180	740
Bramley ..	666	2,011	1,626	29	383	92	80
New Wortley ..	1,798	2,970	2,063	250	472	144	43
Middleton ..	1,258	1,698	1,968	—	161	45	4
Meanwood ..	58	1,430	836	1	296	12	30
West Hunslet ..	1,599	3,940	2,199	—	298	102	—
Harehills ..	469	1,766	1,167	—	207	1	—
Crossgates ..	430	959	1,119	—	87	5	1
Burley ..	501	2,940	1,932	—	426	191	7
Halton ..	138	1,558	814	3	121	2	—
*Kirkstall ..	19	665	308	—	88	9	—
Totals ..	40,537	54,277	39,525	1,441	9,409	4,722	2,523

*Kirkstall Welcome opened June 1st, 1931.

The number of new babies under one year of age admitted to the Welcomes during 1931, was 4,435, between one and two years 559, and between 2—5 years 899. As compared with the previous year these figures represent an increase of 124 in the first group, 35 in the second and 76 in the third.

Of the total children born during the year 61.4 per cent. attended one or other of the Welcomes as compared with 57.0 for last year. The total number of names on the registers at the Welcomes at the end of the year was 10,083 as compared with 9,392 for the previous year and the total attendances of all babies at all the Welcomes during the year was 107,933, which includes attendances at the morning treatment clinics. This represents an increase of 3,227 when compared with the figure for 1930. There was therefore an increase in both numbers and attendances.

The mortality rate of infants attending the Welcomes was 37 as against 76 for the city, which goes to prove that the Welcome child has a better chance of survival, and consequently also better health than the child outside the Welcomes.

A list of the Welcomes was included in the Annual Report of the Medical Officer of Health for 1930.

Infant Consultations.—The number of ordinary infant sessions at seven of the Welcomes is three per week, at eight two, and at five, one. In addition special sessions for massage and the treatment of minor ailments are held at 12 Welcomes.

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

Dental, Orthopædic, Venereal diseases and Immunisation Clinics are also held at Central Welcome.

Medical Findings at the Welcomes.—An investigation was made into the condition of each child on its admission to a Welcome during 1931. Details of these findings at the different Welcomes with the percentages of normal children at each will be found on page 147.

It will be noticed that the average percentage of normal children at all the Welcomes on admission was 52.6. The Welcomes with the highest percentage of normals were Halton with 73.6, Burley with 69.8, and Hunslet with 68.1. Those with the lowest percentage were Kirkstall with 18.6, and Woodhouse with 36.6. The other Welcomes range between those figures.

A table giving details of the defects discovered at the Welcomes during the year will be found on page 148. The results obtained in relation to the number of times the child attended, are tabulated for each defect. Minor defects were treated at the Welcomes, more serious were referred to the family doctor, if there was one, or to the Hospitals.

DEFECTS DISCOVERED IN NEW CASES ON ADMISSION TO THE CLINICS, IN 1931.

Condition.	Ellerby.	West Street.	Burmantots.	Hunslet.	University.	Woodhouse.	Holbeck.	Armley.	Chapeltown.	St. Nicholas.	Bramley.	New Wortley.	Middleton.	Meanwood.	West Hunslet.	Crossgates.	Harehills.	Burley.	Halton.	Kirkstall.	Total.
Normal ..	138	177	166	194	163	134	146	208	18	238	100	117	101	73	130	54	136	227	95	27	2,848
Malnutrition ..	38	19	67	18	16	32	35	15	18	29	31	27	10	5	22	11	11	45	2	15	466
Debility ..	14	66	16	5	7	14	5	53	26	18	8	5	6	2	3	5	15	12	7	3	285
Rickets ..	17	24	21	20	16	44	27	32	30	48	6	16	8	7	9	5	12	18	2	22	384
Minor digestive disturbances ..	31	48	29	17	6	38	46	52	10	14	17	37	3	20	36	6	12	12	4	11	446
Enlarged Tonsils and Adenoids ..	..	4	2	8	4	10	14	12	7	8	1	12	3	5	7	2	6	3	1	6	110
Developmental defects ..	19	14	21	15	5	20	43	13	8	34	12	39	3	5	41	2	12	7	8	12	333
Skin diseases ..	..	8	3	2	5	29	22	12	9	8	6	21	5	1	16	1	3	9	3	5	171
Bronchitis ..	15	5	..	8	4	18	19	10	10	11	3	8	7	..	4	1	3	3	..	7	126
Phimosis ..	..	23	..	10	15	14	..	15	12	11	..	..	7	..	1	2	8	..	..	5	135
Dental Caries ..	..	1	1	12	4	2	5	19	1	9	2	..	4	5	5	2	3	..	3	2	99
Infant feeding difficulty ..	11	1	1	3	1	44	27	12	2	6	..	34	4	..	51	3	7	..	..	42	239
Inflammatory eye conditions ..	12	12	6	9	2	6	9	10	2	17	2	6	5	3	7	..	8	..	..	..	115
Umbilical Hernia ..	..	13	..	..	18	7	..	..	20	..	..	..	..	..	..	..	..	..	..	..	93
Otorrhoea ..	1	..	3	1	..	3	3	5	2	..	1	..	..	..	..	..	..	..	..	..	27
Prematurity ..	..	..	5	3	..	4	8	..	2	13	2	1	2	..	4	..	..	..	..	..	68
Squint ..	1	1	..	3	3	8	..	4	1	..	1	..	1	..	7	3	1	..	..	..	32
Infectious Diseases ..	..	..	2	2	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	10
Acute Gastro Enteritis ..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	9
Granulating Umbilicus ..	1	..	..	1	1	..	14	..	1	..	..	14	..	3	11	..	2	..	..	2	48
Infantile Paralysis ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Nocturnal Enuresis ..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	1	2
Cervical Adenitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Mental Deficiency ..	..	..	..	..	1	1	..	1	..	..	..	1	..	..	..	..	..	2	1	..	5
Abscess or minor sepsis ..	..	..	..	..	..	1	1	1	1	1	1	..	..	..	2	1	2	..	..	..	10
Mongol ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Tuberculosis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Worms ..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	3	..	..	5
Stomatitis ..	..	..	..	2	..	..	..	..	1	1	..	..	..	..	..	1	1	3	..	..	8
Veneral Disease ..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	4
Heart Disease ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Nasal Catarrh ..	..	..	1	1	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	4
Rheumatism ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3
Inguinal Hernia ..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Miscellaneous ..	4	1	3	3	1	6	15	1	1	2	..	4	2	1	3	1	1	1	..	5	55
Total Defects ..	311	419	351	340	284	439	443	478	390	468	193	354	168	135	360	106	250	354	131	183	6,157
Total number of cases included in the above ..	276	372	313	285	281	366	337	437	386	397	178	271	168	131	293	98	226	325	129	145	5,414
Percentage of Normal Children ..	50.0	47.6	53.0	68.1	58.0	36.6	43.3	47.6	58.0	59.9	56.2	43.2	60.1	55.7	44.4	55.1	60.2	69.8	73.6	18.6	52.6

Average number of normal children for all clinics is 52.6%

MEDICAL FINDINGS AT THE INFANT WELFARE CENTRES DURING 1931 AND RESULTS.

Attendances for Medical Examination.	One to five attendances.				Six to ten attendances.				Ten to twenty attendances.				Over twenty attendances.				Totals.
	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	
Defect—																	
Malnutrition ..	22	166	117	112	56	156	41	10	61	98	17	2	13	11	..	1	883
Debility ..	8	168	66	85	14	131	30	5	16	85	21	3	3	17	..	..	656
Minor digestive disturbances ..	330	146	131	132	442	125	31	14	381	104	10	..	74	21	..	1	1,942
Feeding difficulty ..	17	12	4	23	32	9	..	2	31	1	..	1	4	..	..	..	136
Rickets ..	19	167	220	145	43	154	35	10	32	90	15	2	1	10	1	..	944
Rickets with deformity ..	4	24	32	30	2	14	3	1	..	11	..	..	..	..	3	..	125
Skin diseases ..	152	48	45	64	172	23	15	6	140	37	3	1	..	..	..	..	726
Bronchitis ..	216	41	77	57	272	41	23	9	316	48	9	3	75	8	..	..	1,203
Developmental defects ..	71	29	65	64	57	23	19	11	43	18	14	7	4	5	4	1	435
Enlarged tonsils and adenoids ..	22	9	98	88	31	8	39	9	15	2	23	8	1	1	2	2	358
Inflammatory eye conditions ..	58	5	8	29	72	7	3	3	61	6	3	2	9	..	..	2	268
Otorrhoea ..	51	7	13	25	62	7	7	2	53	4	7	2	11	..	3	..	254
Dental caries ..	20	1	33	64	13	2	16	2	5	1	..	..	..	..	..	..	157
Infectious disease ..	69	2	1	5	77	3	..	4	62	6	..	..	..	1	..	..	243
Acute gastro enteritis ..	31	3	3	3	45	2	..	1	27	3	..	1	..	..	..	..	119
Umbilical hernia ..	26	9	30	16	31	4	6	2	14	3	2	1	4	2	..	..	150
Phimosi ..	29	3	22	25	20	..	8	1	15	..	1	3	4	..	2	..	133
Granulating Umbilicus ..	18	..	..	3	15	..	..	..	9	..	..	..	1	..	..	..	46
Squint ..	..	1	18	9	..	1	3	4	..	3	..	2	..	1	..	2	44
Cervical adenitis ..	3	5	5	2	..	2	9	1	5	2	..	2	1	..	..	..	37
Mental deficiency ..	..	1	4	5	..	..	1	..	..	1	..	..	..	..	..	..	12
Tonsillitis ..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	5
Stomatitis ..	1	..	..	1	4	..	..	..	3	..	..	..	..	..	..	..	9
Tuberculosis ..	..	2	2	4	..	2	..	..	..	..	..	..	1	..	1	1	13
Circumcision ..	4	..	1	1	7	..	1	3	2	..	1	..	..	..	..	..	20
Rheumatism ..	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	5
Pneumonia ..	..	..	..	1	2	..	..	..	..	1	..	2	1	..	..	1	7
Bronchiectasis ..	3	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	6
Inguinal Hernia ..	1	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	5
Congenital heart disease ..	..	..	2	1	..	..	1	1	2	..	..	1	..	..	..	..	8
Acidosis ..	2	1	..	..	2	..	..	..	2	..	..	..	1	..	..	..	7
Worms ..	2	1	..	..	1	..	..	1	1	..	..	..	..	..	..	..	6
Pyelitis ..	..	..	..	..	..	1	..	2	..	1	..	1	..	..	..	..	5
TOTALS ..	1,186	861	1,008	1,013	1,480	732	296	111	1,304	535	133	48	236	83	28	11	9,065

The total defects numbered 9,065. The largest group of defects numbering 2,078 consisted of minor digestive disturbances and infantile feeding difficulties. The next largest group included those suffering from debility and malnutrition and amounted to 1,539.

The number of cases of rickets was 1,069, a decrease of only 15 on the figure for the previous year.

It is stated that a large number of the entrants to school show defects, and for this some put the blame on the Infant Welfare Scheme. That there is often a hiatus between the welfare centres and entrance to school cannot be disputed. But there need be no such hiatus. In Leeds, children can attend the Welcomes right up to the age of 5, and where a child attends regularly, and parents avail themselves of the facilities which are provided, most defects can be avoided or eliminated. As we all know, however, many parents default after the first or second year; so the children are not seen, defects are not found and therefore cannot be rectified. The visits to the homes by the health visitors help to some extent to close the gap, but do not wholly make up for non-attendance at the clinics. If parents availed themselves of the facilities provided, there is no reason why even 20 per cent. admitted to the school register should show defects.

Adenoids and Enlarged Tonsils Investigation.—The Welcomes are co-operating in the investigation into the incidence of tonsils and adenoids in children under five years. The investigation is carried out on the lines recommended by the Special Committee of the Board of Education. Two-hundred children were chosen at random from nine centres and are being examined by an Ear, Nose and Throat Specialist at six monthly intervals until the investigation is completed.

Leeds Babies' Welcome Association.—The Maternity and Child Welfare Department continued to work in close association 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 was most helpful and much appreciated.

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 loyalty and support.

Central Clinic.—Dental, Artificial Sunlight, Massage, Orthopaedic, Venereal and Diphtheria Immunisation Clinics are held at the Central Clinic in Calverley Street. It is probably not realised that 20 different clinic sessions are held at Central Welcome each week. Our temporary premises in Calverley Street have unfortunately to be vacated this year, and the Babies' Welcome Association have intimated to the Maternity and Child Welfare Committee that they no longer desire to co-operate in the administration of Central Clinic. The clinics there are now well established and it is hoped that the Health Committee will be able to secure suitable and equally accessible premises in which to carry on this very important work.

Artificial Sunlight Clinics.—The lamps at all these clinics were used to great advantage during the year.

Central.—A total of 387 children and two mothers were treated at this clinic during the year. In all 517 examinations were made by the doctor, an average of 11 per session. The attendances during the year of all cases were as follows:—mothers 23, babies under one year 296, children between one and five years 5,666, a total of 5,985.

Holbeck.—During the year a total of 389 children, three mothers and two expectant mothers received treatment. The total attendances were as follows:—mothers and expectant mothers 46, babies under one 936, and children between one and five years 6,005, a total of 6,987. The number of examinations made by the doctor was 632, an average of 13 per session. The cases for X-Ray examination were mostly rickety children sent for diagnosis and to observe progress during treatment, orthopaedic cases, and ante-natal cases where abnormality was suspected. The total number thus examined included 351 children and 25 mothers, an average of eight per session.

Armley.—There were 146 children and seven mothers treated during the year. Altogether 101 attendances were made by mothers, 101 by babies under one year, and 2,076 by children between one and five years, a total of 2,278. The number of examinations made by the doctor was 391, an average of 13 per session.

The children sent for treatment were suffering principally from rickets, malnutrition, general debility, catarrhal conditions, rheumatic conditions and also for preventive reasons.

SUNLIGHT TREATMENT WITH DISEASES AND RESULTS, 1931.

Disease.	Total.	RESULT.				
		Cured.	Improved.	In statu quo.	Still attending.	Defaulted.
Rickets	539	68	184	12	123	152
Malnutrition	76	12	21	2	14	27
Debility	141	22	35	2	32	50
Catarrhal Conditions	21	1	9	2	3	6
Rheumatic Conditions	7	1	2	1	2	1
Preventative	37	3	23	1	3	7
Miscellaneous	40	4	16	2	10	8
Total	861	111	290	22	187	251

Leaving out of account those still attending and those who had defaulted, of the remaining 423, 401 or 94.8 per cent. were cured or improved.

The table on page 151 analyses the results of treatment at the three clinics for the different conditions. It will be noted that leaving out of account those still attending, and those who had defaulted, 94·8 per cent. were cured or improved. This goes to prove the undoubted benefit of artificial sunlight treatment in certain selected cases in young children.

Orthopædic Clinic.—The table on page 153 gives the details of the work done at the Central Orthopædic Clinic, the defects found, with results, and the number of cases sent for operation, etc.

Children who are still attending the clinic when they reach the age of five years are immediately transferred to the School Orthopædic Clinic, so that there is no break in the continuity of their treatment.

It will be noted that the number of children who attended the clinic was 342, an increase of 67 on the number for 1930. Most cases were re-examined in three months time or less, and their progress ascertained. The total number of attendances at the clinic was 670, an average of 15 at each session. Of the 342 cases, 221 at the end of the year were cured or improved and 45 were transferred to the School Orthopædic Clinic. Twenty-two cases were referred for operation during the year.

Appliances were supplied to 41 cases through the Health Department at a cost of £30 1s. 6d., of which £14 9s. 6d. was refunded by the parents.

Three trained masseuses attend regularly at the Welcomes. During the year a total of 14,155 treatments were given by them.

Dental Clinic.—The number of patients who received dental treatment at the Central Clinic during the year reached a total of 905, and included 210 expectant mothers, 471 mothers and 224 children.

The number of treatments given was, to children 893, to nursing mothers 8,944, to expectant mothers 1,623, making a total of 11,460. Dentures were supplied to 388 mothers, as compared with 332 for the previous year. Of these 388 mothers, 166 received full upper and lower dentures, 50 full upper only, five full lower only and the remaining 167 had partial plates, remodels or repairs. The total cost to the Corporation of these dentures was £438 8s. 6d. of which £334 15s. 3d. was recovered from patients.

ORTHOPAEDIC CLINIC, 1931.

153

DEFECTS.	Total.	RESULT.						Recom- mended. for operation. at L.G.I.	Appli- ances.
		Discharged cured.	Trans- ferred to School Clinic.	Defaulted	Still Attending.		Recom- mended to Country Hospital.		
					Improved.	In statu quo.			
Genu Valgum ..	115	9	22	15	63	5	..	..	26
Genu Varum ..	83	15	11	17	34	3	3	..	2
Talipes ..	20	4	..	3	11	..	1	2	..
Flat Feet ..	18	3	1	1	12	1	..	2	1
Deformities of Hips, Coxa Vara and Congenital dis- locations ..	17	3	1	3	8	..	2	6	..
Deformities of Spine ..	14	2	2	4	2	..	3	..	3
Torticollis ..	12	3	..	..	9	..	..	2	..
Infantile Paralysis ..	10	..	4	1	5	..	..	1	4
Hemiplegia ..	8	..	2	1	2	1	1	1	1
Spastic Paraplegia ..	2	..	..	..	1	..	..	..	..
Erbs Paralysis ..	6	..	..	1	5	..	..	2	2
Deformed Toes ..	5	3	..	..	2	..	..	..	..
Extra digits on hands and feet ..	4	1	..	1	2	..	..	2	..
Unequal growth of limbs ..	5	..	..	1	4	..	..	..	..
Debility ..	7	3	..	1	3	..	..	..	..
Delayed Walking ..	1	..	..	..	1	..	..	..	..
Tendon Contractions ..	3	1	..	..	2	..	..	1	..
Tuberculosis ..	3	..	..	..	2	1	..	2	..
Injuries and Fractures ..	5	3	1	..	1	..	..	1	2
Nerve Injury ..	1	..	1	..	..	..	..	..	..
"Still's" disease ..	1	..	..	..	1	..	..	..	..
"Little's" disease ..	1	..	..	..	1	..	..	..	..
Mentally deficient ..	1	..	..	..	..	1	..	..	..
TOTALS ..	342	50	45	49	171	13	10	22	41

Auxiliary Clinic for Venereal Disease.—A medical officer from the Venereal Diseases Department attends the Central Clinic one session weekly to examine any patients thought to be suffering from venereal disease, referred to him by the Welcome doctors. Of those who are definitely diagnosed as being diseased, some are treated at the clinic, whilst others are referred to the Venereal Disease Department at the Leeds General Infirmary.

The total number of new patients was 74 comprising 14 mothers, 35 expectant mothers and 25 children.

Diphtheria Immunisation.—Although each year there is a slight increase in the number applying for immunisation, the total still represents a very small percentage of the child population. Children under seven are immunised without a preliminary "Schick" test being performed. Children over seven are tested first. This is necessary to indicate the patients likely to react severely to inoculation. All cases that have undergone a complete course of treatment, are submitted to the Schick test, four to six months later, before they are declared immune.

A total of 51 children over seven years had a preliminary Schick test, and of these 35 were positive and 16 negative. The total number of children who had a full course of immunisation was 202, of those 25 were under one year, 40 between one and two years, 61 between two and five years, and 76 over 5 years. Seventy-six children were Schick tested after immunisation, and of those 54 were negative and 22 positive or slightly positive. Of the latter 21 received a fourth dose of Toxoid Anti-Toxin mixture.

This subject is further dealt with on page 42.

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

The Milk Committee met on 50 occasions, and considered 7,878 applications, which was 1,691 more than the previous year. In addition it supervised generally the work of the milk staff, details of which appear in the table on page 155.

During 1931 the distribution of dried milk in Leeds amounted to 18.15 tons (equal to 29,227 gallons of fresh milk) given free to 2,479 babies, expectant and nursing mothers, while 12.34 tons (equal to 19,863 gallons of fresh milk) were supplied at full price or assisted rates to 1,769 mothers and babies. In 1930 the quantities were 14.26 tons (equal to 22,968 gallons of fresh milk) given free to

2,093 mothers and babies, and nine tons (equal to 14,377 gallons of fresh milk) supplied at cost price or assisted rates to 1,373 mothers and babies.

In addition to the above 1.27 tons (equal to 2,022 gallons of fresh milk) were distributed at the Centres during the year 1931 to Public Assistance cases as compared with 1.84 tons (equal to 2,882 gallons of fresh milk) for the previous year.

The amounts of cows' milk distributed during the same periods were 4,938 gallons supplied free to 322 babies, and 2,558 gallons supplied at full price or assisted rates to 236 babies in 1931, and in addition 13 gallons to Public Assistance cases, while in 1930, 3,698 gallons were supplied free to 268 babies and 1,935 gallons at full price or assisted rates to 203 babies.

WORK OF MILK STAFF.

	I. Quarter.	II. Quarter.	III. Quarter.	IV. Quarter.	Year.
Applications dealt with (new)	449	480	352	397	1,678
„ „ (repeat)	4,081	4,008	4,573	3,971	16,633
„ „ (refused)	..	..	..	..	..
No. of re-applications ..	203	131	172	142	648
*No. of external cases dealt with at the office ..	143	148	188	136	615
	4,876	4,767	5,285	4,646	19,574
No. of visits to Welcomes paid by the milk secretaries	157	146	146	166	615

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

COST OF MILK DISTRIBUTION SCHEME FOR YEAR ENDED 31ST DECEMBER, 1931.

INCOME.			EXPENDITURE.		
	£	s. d.		£	s. d.
To cash received for sale of dried milk	1,901	9 8	By salaries and wages	642	5 0
„ cash received for sale of fresh milk	1	12 9	„ Cost of dried milk	4,982	15 4
			„ Cost of cows' milk	907	17 6
			„ Printing, stationery, etc. ..	..	39 11 3
			„ Superannuation Contributions	..	30 14 4
„ balance—loss	4,716	14 2	„ Sundries ..	..	16 13 2
	£6,619	16 7		£6,619	16 7

Nett cost per head to Corporation, £0 19s. 7½d.

AMOUNT OF DRIED MILK DISTRIBUTED IN LBS. (YEAR 1931).

WELCOME.	Free.	Assisted.	Full Price.	Issued through Public Assistance Committee.	TOTAL.
Ellerby	4,585 $\frac{1}{2}$	1,971 $\frac{1}{2}$	486	755 $\frac{1}{2}$	7,798 $\frac{1}{2}$
West Street ..	4,037	1,454 $\frac{3}{4}$	508 $\frac{3}{4}$	233	6,233 $\frac{1}{2}$
Burmantofts ..	4,021	2,081 $\frac{1}{4}$	959 $\frac{1}{2}$	414 $\frac{3}{4}$	7,476 $\frac{1}{2}$
Hunslet	3,053	1,740	839	252	5,884
University ..	3,522 $\frac{1}{4}$	1,407 $\frac{3}{4}$	683 $\frac{3}{4}$	195	5,808 $\frac{3}{4}$
Woodhouse ..	1,900	771	505	83	3,259
Holbeck	2,894 $\frac{1}{2}$	2,040 $\frac{3}{4}$	864 $\frac{3}{4}$	69 $\frac{3}{4}$	5,869 $\frac{3}{4}$
Armley	1,811	863	815	45	3,534
Chapelton ..	3,106	1,285 $\frac{3}{4}$	733	286 $\frac{1}{2}$	5,411 $\frac{1}{4}$
St. Nicholas ..	3,959 $\frac{3}{4}$	1,295	506 $\frac{1}{2}$	281 $\frac{1}{2}$	6,042 $\frac{3}{4}$
Bramley	1,021	485	499	14	2,019
New Wortley ..	2,272	1,242	340	34	3,888
Middleton ..	1,326	282	332	..	1,940
West Hunslet ..	1,583	606	948	87	3,224
Burley	159	90	32	5	286
Crossgates ..	794	208	132	60	1,194
Halton	234	172	354	32	792
External	384 $\frac{3}{4}$	90	12	2	488 $\frac{3}{4}$
Totals	40,663 $\frac{3}{4}$	18,085 $\frac{3}{4}$	9,550 $\frac{1}{4}$	2,850	71,149 $\frac{3}{4}$

NUMBER OF RECIPIENTS, YEAR 1931 (DRIED MILK).

WELCOME.	Free.	Assisted.	Full Price.	TOTAL.
Ellerby	285	119	30	434
West Street ..	232	78	30	340
Burmantofts ..	225	130	42	397
Hunslet	198	100	45	343
University ..	172	73	35	280
Woodhouse ..	130	43	39	212
Holbeck	177	125	57	359
Armley	100	53	52	205
Chapelton ..	151	69	48	268
St. Nicholas ..	286	113	36	435
Bramley	51	32	40	123
New Wortley ..	127	77	25	229
Middleton ..	97	31	32	160
West Hunslet ..	108	42	66	216
Burley	15	6	7	28
Crossgates ..	40	13	17	70
Halton	21	12	26	59
External	64	23	3	90
Totals	2,479	1,139	630	4,248

AMOUNT OF COWS' MILK DISTRIBUTED IN PINTS. (YEAR 1931).

WELCOME.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	TOTAL.
Ellerby	3,567	2,057	1,117	85	6,826
West Street ..	1,878	403½	36	28	2,345½
Burmantofts ..	5,656½	1,200	1,186	..	8,042½
Hunslet	3,043	867	566	..	4,476
University ..	3,368	869	834	..	5,071
Woodhouse ..	3,072	1,171	585	..	4,828
Holbeck	1,681	816	421	..	2,918
Armley	1,279	178	..	..	1,457
Chapelton ..	2,036½	1,483½	290½	..	3,810½
St. Nicholas ..	1,081	89	236	..	1,406
Bramley	1,152	153	279	..	1,584
New Wortley ..	2,677	1,580½	601½	4	4,863*
Middleton ..	2,005	247	283½	..	2,535½
West Hunslet ..	2,367½	1,226	572½	..	4,166
Burley	426½	245	..	..	671½
Crossgates ..	1,787	308	213	..	2,308
Halton	437	..	..	..	437
External	1,991	28	205	..	2,224
Totals	39,505	12,921½	7,426	117	59,969½*

*In addition there were 103 pints issued through the Public Assistance Committee, making a grand total of 60,072½.

NUMBER OF RECIPIENTS YEAR 1931

WELCOME.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	TOTAL.
Ellerby	39	20	16	3	78
West Street ..	12	3	2	1	18
Burmantofts ..	36	16	13	..	65
Hunslet	21	7	11	..	39
University ..	21	8	11	..	40
Woodhouse ..	27	15	9	..	51
Holbeck	17	10	9	..	36
Armley	8	2	..	..	10
Chapelton ..	17	9	7	..	33
St. Nicholas ..	9	2	3	..	14
Bramley	9	3	3	..	15
New Wortley ..	34	16	10	1	61
Middleton ..	10	2	..	..	12
West Hunslet ..	20	8	6	..	34
Burley	5	1	..	..	6
Crossgates ..	10	3	2	..	15
Halton	4	..	..	..	4
External	23	1	3	..	27
Totals	322	126	105	5	558

THE INFANTS' HOSPITAL, WYTHER.

The accommodation and staffing of the Hospital was 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 cases dealt with were principally rickets, dietetic disorders, malnutrition and marasmus with various accompanying ailments. There were also several children referred from the orthopædic clinic and the General Infirmary.

Day Nursery.—The number of children who were admitted during the year was 57 as compared with 45 for the previous year. The total attendances are given in the accompanying table. Owing to the industrial depression and the large number of firms on short time, the attendances of the children have been more irregular.

Residential Nursery.—There were 25 children in residence on January 1st, 1931, 91 were admitted during the year, an increase of 21 on the previous year, and 21 remained in residence on December 31st, 1931. Sixteen of the children were illegitimate. The reasons for admission were as follows:—in 30 cases mother expecting confinement; in 53 cases illness of mother; in 10 cases death of mother; in 16 cases mother out at work; in four cases mother deserted; in two cases father dead; there was one special case.

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

TOTAL ATTENDANCES OF RESIDENT AND DAY CHILDREN AT THE NURSERIES, IN AGE GROUPS FOR THE YEAR ENDED 31ST DECEMBER, 1931.

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 ..	9,242	..	..	9,242	..	..	..	..
Cobden Place Day Nursery	6,764	2,023	..	8,787	553	183	..	736

SUMMARY OF CASES TREATED IN THE INFANTS' HOSPITAL, WYETHER.

	Males.	Females.	Total.
Remaining in Hospital, January 1st, 1931	20	24	44
Admitted during the year ..	62	60	122
Discharged during the year ..	56	61	117
Died during the year	4	1	5
Remaining in Hospital, December 31st, 1931	22	22	44

Mortality rate per cent. on admissions 4.1. Average stay in Hospital 98 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.	
20	42	15	45	35	87	122

ANALYSIS OF DEATHS DURING 1931.

Cause.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Marasmus and Congenital Heart Disease	1	..	..	..	1
Marasmus	2	..	..	..	2
Mucous Colitis, Marasmus, Bronchitis ..	..	1	..	..	1
Gastro Enteritis, Marasmus, Pyelitis ..	1	..	..	..	1
TOTAL	4	1	..	..	5

ANALYSIS OF CASES TREATED DURING 1931.

Reason for admission.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Rickets			19	18	37
Rickets and Malnutrition			3	5	8
Rickets and Acidosis			1	..	1
Rickets and Bronchitis			3	7	10
Rickets and mucous colitis			..	1	1
Malnutrition	1	5	9	9	24
Malnutrition and acidosis	..	..	2	2	4
Malnutrition and bronchitis	4	1	2	2	9
Malnutrition, enteritis and bronchitis	1	..	..	..	1
Malnutrition and infantile paralysis	..	..	..	2	2
Marasmus	15	10	..	2	27
Bronchitis	1	..	2	..	3
Unresolved pneumonia	..	..	2	..	2
Broncho pneumonia and purpura	..	..	..	1	1
Broncho pneumonia and pyelitis	..	..	..	1	1
Congenital heart disease	1	..	..	..	1
Congenital Laryngeal Stridor	..	1	..	..	1
Hemiplegia	..	..	1	..	1
Pink Disease	..	..	1	..	1
Cœliac Disease	..	1	..	1	2
Pyelitis	..	2	1	..	3
Enteritis	..	2	1	..	3
Prematurity	2	1	..	..	3
Little's disease	..	..	1	..	1
Axillary gland abscess	..	..	..	1	1
Rheumatism	..	..	..	1	1
Pyloric Spasm	1	..	..	..	1
Abscess to jaw	..	..	1	..	1
Kyphosis and Rickets	..	..	3	3	6
Osteoclasia and Rickets	..	..	4	..	4
Coxa vara and Rickets	..	..	..	1	1
Tuberculosis of spine	..	..	..	1	1
Scoliosis and torticollis	..	..	..	1	1
Congenital dislocation of hip	..	..	..	2	2
TOTAL	26	23	56	61	166

Convalescent Treatment for Mothers and Babies.—During the year arrangements for the convalescence of mothers with babies through the Leeds Convalescent Society were continued on behalf of the Maternity and Child Welfare Committee.

The Yorkshire Home for Mothers and Babies at Withernsea was opened in April, and the Convalescent Society arranged for four of the beds there to be reserved for Leeds mothers with babies.

Convalescence was arranged for 123 mothers with babies, and four mothers without babies. The average period of stay at the Convalescent Homes was 13.7 days. The nett cost to the Corporation of this provision was £499 12s. 1d. or an average of £2 os. 2d. per case per week.

In addition to the above, 180 children under five years were sent for convalescence to Meanwood Convalescent Home. The average stay of each child was 20.6 days and the cost to the Corporation was £3 2s. 3½d. per case. The parents contributed towards the cost where means permitted. The total cost to the Corporation was £574 os. 2d. of which £13 8s. 9d. was refunded by the parents.

Health Week.—October 11th to 17th.—The main object of the Maternity and Child Welfare service is to teach the mothers how to maintain their own health and that of their babies, and during Health Week special efforts are made to spread this knowledge among the people, in as attractive a form as possible. One of the subjects dealt with was the care of the teeth. The Dental Board kindly offered their help and sent a lecturer and a dental exhibition. The lecturer gave lecture demonstrations in ten of the clinics, where she explained the structure of the teeth, the reason why it was necessary to keep them in a healthy condition, the best way of doing this, and the evils which would result if the teeth were neglected.

The Leeds Babies' Welcome Association co-operated in the propaganda work. The competitions which were held took a new form, namely, that of health plays, and nine centres presented a play. The mothers thoroughly enjoyed getting up the plays, and did not fail to recognise the morals which they were intended to convey. University Welcome was awarded the Shield, and Bramley Welcome was a good second.

The Health Visitors assisted by the Nursery School Children presented a play called "Sunshine House," which stressed the importance of fresh air, sunshine and cleanliness. There was an excellent attendance and on the same occasion the two prize plays by the Welcome mothers were also given.

Additional leaflets and posters were distributed at the Welfare Centres.

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 1931 was as follows:—beef with organs 157, pork with organs 47, and veal with organs three.

Slaughterhouses.—During the year, the number of private slaughterhouses remained the same, the decrease of one registered slaughterhouse being balanced by the increase of one licensed slaughterhouse. The registered slaughterhouse abolished was situated in a railway arch, and was demolished as part of a street improvement, whilst the licensed slaughterhouse was one which had previously been licensed, but was allowed to lapse in 1930.

One of the two knackers' yards in the city gave up business during the year. It is considered that one knacker's yard is now sufficient for local requirements, there having been a great reduction in the number of horses kept in the city in recent years.

SLAUGHTERHOUSES IN USE.

	Number in use on December 31st.					
	1920	1927	1928	1929	1930	1931
Public Abattoir	1	1	1	1	1	1
Private slaughter-houses (registered)	63	46	46	46	44	43
Private slaughter-houses (licensed)	8	9	10	9	8	9
Knackers' Yards	2	2	2	2	2	1

Of the 52 private slaughterhouses remaining on the register, some are used every day, whilst others are not used on more than one or two days a week. The inspectors paid a total of 7,960 visits to these slaughterhouses, an average of 153 visits, or approximately three visits per week, to each slaughterhouse. It should be explained, however, that this average is rather high for one or two of the lesser-used slaughterhouses, though those which are regularly used, are visited more frequently than three times a week; in fact a considerable number of slaughterhouses are inspected every day and a few twice a day.

As shewn in the appended table, the number of animals slaughtered in private slaughterhouses was 9,252 animals less than in 1930, and 12,699 less than in 1929, whilst the number of animals slaughtered in the Public Abattoir during 1931 shows an increase of 9,356 over the previous year and 1,216 over 1929. It would therefore appear that the butchers of this city are at last waking up to the fact that the facilities provided at the Public Abattoir for the slaughter of animals for food are more economical than those offered by private slaughterhouses.

**ANIMALS SLAUGHTERED IN THE PUBLIC ABATTOIR AND IN PRIVATE
SLAUGHTERHOUSES.**

	Year.	Cattle.	Calves.	Sheep.	Pigs.	Total.
Public Abattoir ..	1929	24,279	10,678	64,141	3,742	102,840
	1930	23,248	9,664	59,413	2,375	94,700
	1931	21,947	8,330	69,405	4,374	104,056
Private Slaughter- Houses ..	1929	15,184	10,614	60,227	44,293	130,318
	1930	15,577	9,851	59,586	41,857	126,871
	1931	14,625	7,842	54,807	40,345	117,619

Humane Slaughtering.—The year under review saw the introduction of humane slaughtering to the Public Abattoir and the private slaughterhouses in the city.

After strenuous opposition on the part of some of the butchers, the City Council made a byelaw which requires the use of a mechanically operated instrument for the stunning of animals slaughtered for the food of man, and it is pleasing to be able to report that the byelaw is working smoothly and that any opposition that existed at the time of its introduction has now disappeared.

It should be noted that the byelaw is restricted in its application to slaughterhouses. The omission of other places such as allotments, small-holdings and farms, where slaughtering is still legal under certain circumstances is regrettable. In such places stunning can be carried out in any manner suggested by the butcher, and, in fact, need not be carried out at all if the butcher so wishes. This limitation exists owing to the Corporation's byelaw following exactly the wording of the model byelaw issued by the Ministry of Health; the model byelaw should be amended so as to make the use of the humane killer compulsory in all places where slaughtering is carried on.

Public Health (Meat) Regulations, 1924.—These Regulations continue to be well observed. Notices are duly given, meat shops and stores are maintained satisfactorily clean, and for the first time, it has not been found necessary to institute proceedings for the breach of the Regulations regarding the transport and handling of meat.

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 one sample of oysters was found, on bacteriological examination, to be unsatisfactory and appropriate action was taken in connection therewith.

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.

	1931.	1930.	1929.	1928.
Beef	160,380 lbs.	167,752 lbs.	147,635 lbs.	177,389 lbs.
Veal	6,115 "	7,226 "	8,499 "	8 790 "
Mutton	9,213 "	10,756 "	14,504 "	13,931 "
Bacon and Ham..	..	1,338 "	60 "	53 "
Pork	35,319 "	28,288 "	35,102 "	35 239 "
Goat Flesh	..	..	..	60 "
Offals	96,341 lbs.	88,872 lbs.	81,217 lbs.	75,775 "
Rabbits	10,896 "	16,059 "	9,538 "	7,544 "
Poultry	2,119 "	1,493 "	6,369 "	3,154 "
Game	782 "	965 "	834 "	976 "
Cheese	..	17,376 "	..	..
Fish	104,649 lbs.	108,230 "	73,060 lbs.	84,693 lbs.
Shellfish	32,889 "	48,678 "	64,447 "	55,325 "
Fruit	23,974 "	26,707 "	13,548 "	13,821 "
Vegetables	129,908 "	92,282 "	112,707 "	34,391 "
Inedible fungi	..	..	..	..
Edible fungi	12 lbs.	275 lbs.	608 lbs.	255 lbs.
Yeast	..	709 "	1,652 "	1,080 "
Tinned Goods	4,696 lbs.	3,654 "	2,849 "	1 601 "
Sundries	..	560 "	14 "	132 "
TOTALS	617,293 lbs.	621,220 lbs.	572,643 lbs.	514,209 lbs.
No. of Eggs	..	967	1,968	..

Legal Proceedings.—During the year proceedings were taken against a shopkeeper under the Public Health Acts of 1875 and 1890 for exposing for sale unsound tinned milk, 30 tins of which were seized and condemned by the Magistrates. Defendant pleaded guilty and was fined 40/—.

DISEASES OF ANIMALS ACTS

BY

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

The year under review was uneventful as far as contagious disease amongst animals is concerned.

Foot-and-mouth disease occurred in the neighbouring County area but no case occurred within the city. Apart from that, the principal feature of the year was a great increase in the prevalence of swine fever, in fact, the whole of the East and West Ridings of Yorkshire became an infected area and active steps were taken by the Ministry of Agriculture and Fisheries to bring the outbreak under control.

Tuberculosis Order of 1925.—Notification by owners under this order is still far from satisfactory. In a few cases cows with tuberculous emaciation, and obviously diseased are reported but in practically no cases do owners report cows with tuberculosis of the udder. The reason for this is that they do not make a practice of examining their cows' udders and so fail to detect the early signs of disease. It is certain that tuberculosis cannot be eradicated from our milk herds until dairy farmers recognise and carry out their obligations in this respect. The alternative is to have more frequent veterinary inspections of cows in milk which means extra staff and additional expense to the Local Authority.

During the year the minimum compensation payable for animals slaughtered under the order was reduced from 45/- to 30/-.

The inspections carried out under the Order, involved the examination of 719 cows-in-milk, 148 other cows and heifers, and 12 other bovine animals; 38 animals were slaughtered, all of which on post-mortem examination, were found to be diseased, 12 with tuberculosis of the udder, one giving tuberculous milk and showing lesions of tuberculosis, eight with tuberculous emaciation, and 17 otherwise. The owners of the 38 animals condemned received compensation as follows:—32 at the lowest rate, namely, one-fourth of the agreed market value or 45/- (reduced to 30/- from 15th October, 1931) whichever was the greater, and six at the rate of three-fourths of the agreed 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 two animals at the Victoria Cattle Market, and three at the Whitkirk Auction Mart. Three of these animals were slaughtered and on post-mortem examination were found to be suffering from advanced tuberculosis, and the carcasses and organs were condemned. One was taken back to the farm in the city whence it came, and later released from detention, whilst the remaining animal was returned to the owner's farm in the West Riding, and the West Riding County Council informed.

ANNUAL RETURN OF THE WORKING OF THE TUBERCULOSIS ORDER
OF 1925, FOR THE YEAR ENDING DECEMBER 31ST, 1931.

ESTIMATED BOVINE POPULATION .. 2,974.

TOTAL NUMBER OF ANIMALS REPORTED—						43
(a) By Owner	..	..	..	..	..	24
(b) By Veterinary Advisor to owner	..	..	..	..	..	1
(c) By Veterinary Officer acting under the Milk and Dairies Order, 1926	..	..	..	..	..	18
ANIMALS EXAMINED—						879
(a) Cows in milk	..	..	..	..	..	719
(b) Other Cows or Heifers	..	..	..	..	..	148
(c) Other Bovine animals..	..	..	..	..	..	12
ANIMALS TESTED WITH TUBERCULIN						2
ANIMALS FOUND DISEASED—						38
(a) Having Tuberculosis of the Udder	..	..	..	..	..	12
(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	..	..	..	..	..	17
COMPENSATION PAYABLE—						£ s. d.
(a) Full value	..	..	(0)	..	..	0 0 0
(b) Three-fourths value	..	..	(6)	..	..	72 15 0
(c) One-fourth value or 30/-	..	..	(32)	..	..	93 5 0
Total Compensation						£166 0 0
Total Salvage received	..	..	..	..	..	49 8 3
Nett Compensation						116 11 9
Recoverable from Government, 75% of Gross Compensation						124 10 0
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	..	..	..	..	..	5 0 0
(c) Valuation of Animals slaughtered	..	..	..	..	..	0 0 0
(d) Cost of travelling	..	..	..	..	..	31 6 7
Total Expenses						£36 9 1

Swine Fever Order of 1908.—During the year 115 cases of suspected Swine Fever were reported to the Ministry of Agriculture and Fisheries, and after investigation, Swine Fever was declared to exist in 54 cases.

It may be stated here that every case of unexplained death in a pig is regarded as Swine Fever, and duly reported, which accounts for the discrepancy between the cases reported and those found positive.

At the end of the year, 23 infected places existed in the city.

Two infringements of the Swine Fever Order occurred during the year, one pigkeeper being fined £25 and two others £5 1s.

Regulation of Movement of Swine Order of 1922.—The administration of this Order has necessitated the issuing of 1,386 licence, for the dispersal of 10,624 pigs from the Whitkirk Auction Marts whilst 1,984 visits were made to pig-keeping places to ascertain that the recently removed store pigs were detained and isolated for the proper period.

During the year, nine store pigs were ordered to be removed by licence from the Whitkirk Auction Mart by the Veterinary Officer on account of illness. It was found necessary to take action for infringement of the Order in two instances, and in each case the defendant was fined 40/-.

Parasitic Mange Order of 1911.—One horse was dealt with under the Order during the year. It was treated by a Veterinary Surgeon and inspected weekly by the Chief Veterinary Officer until it recovered and was released from restrictions.

Exportation and Transit of Horses, Asses and Mules Order of 1911.—During the year 81 animals were examined and all were found fit to travel and free from infectious disease.

Anthrax Order of 1928.—On January 26th Anthrax was found to exist in a cow which had died on farm premises. The carcass was destroyed by incineration, and disinfection immediately carried out, under the supervision of officers of this Department. The other cows were examined daily by the Veterinary Officer but no further cases occurred.

In June a bullock was bled and brought to the Public Abattoir for dressing. When opened, the size of the spleen suggested Anthrax and microscopic examination confirmed this suspicion. The Public Abattoir was immediately closed and the carcase destroyed by incineration. After thorough cleansing and disinfection the Abattoir was reopened for public use.

Sheep Scab Order of 1928.—No case of Sheep Scab was reported in the city, although 27 contact store sheep came in to the city. The owner was ordered to double-dip the sheep. The dipping was carried out under supervision, and the premises were then released from restrictions.

In addition, 151 contact sheep came on licence to slaughter-houses, and the fleeces were immersed in an approved Sheep Dip for one minute each.

Foot-and-Mouth Disease Order of 1928.—The city became part of an infected area during March, owing to an outbreak of disease at Menston, but after 14 days the restrictions were withdrawn.

In June, foot-and-mouth disease was again discovered amongst some recently-landed Irish cattle, and the distribution of these cattle was so widespread, that the Ministry of Agriculture and Fisheries issued an Order involving the whole of Great Britain in a foot-and-mouth disease infected area. The restrictions remained in force for 14 days.

Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1923.—The administration of this Order has entailed the issuing of 693 licences for the removal from Victoria Cattle Market of 3,061 cattle recently landed from Ireland. In addition to these 343 movement licences were issued for the movement of 4,027 cattle and 6,459 sheep recently landed from Ireland, but dispersed without passing through the Victoria Cattle Market.

Irish store cattle to the number of 252 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.

Importation of Dogs and Cats Order of 1928.—Six performing foreign dogs, and one cat came to a theatre within 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.

Rabies Order of 1919.—One suspected dog was reported, but upon post-mortem examination it was reported negative.

General.—The following additional Act and Orders were made by the Ministry of Agriculture and Fisheries during the year.

- (a) Improvement of Livestock (Licensing of Bulls) Act, 1931.
- (b) Control of Dogs (Amendment) Order of 1931.
- (c) Animals (Landing from Ireland, Channel Islands and Isle of Man) (Amendment) Order of 1931.
- (d) Importation of Canadian Cattle Order of 1931.
- (e) Animals (Sea Transport) (Amendment) Order of 1931.
- (f) Tuberculosis (Amendment) Order of 1931.

MILK AND DAIRIES

BY

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

Perhaps the most noteworthy feature of the year has been the marked increase in the use of sealed bottles for the delivery of milk. It has long been the opinion of the Health Department that consumers desired to have their milk delivered in this manner, and every effort has been made to persuade the retail purveyors to abandon the open milk can and adopt the more hygienic bottle, but without success. What we have failed to do by precept is rapidly being achieved by the example of a certain large firm of dairymen which started business in December, 1930, and since then has built up an extensive connection covering practically the entire city. All the milk sold by this firm is in sealed bottles which undoubtedly accounts for its popularity and the rapid growth of the business. The milk is also pasteurised which perhaps is an additional attraction.

1. *Town Produced Milk.*—Within the city there are 174 dairy farms, with an average number of 2,844 milch cows. During the year one farm was added to and six removed from the register.

The cows at every farm were inspected at least once a quarter by a Veterinary Officer, whilst the Cowsheds and Dairies Inspector, who is specially trained for this work, paid more frequent visits to supervise the cleanliness of the cows, sheds and adjoining yards, and to see that the methods of production and handling of milk were such as to comply with the provisions of the Milk and Dairies Order. In this connection the Veterinary Officers made 11,398 examinations of cows, and as a result it was found that at 11,350 (or 99.6 per cent.) of the examinations, the cows were clean, and at 48 (or 0.4 per cent.) dirty. As regards the health of the 2,844 cows examined, 43 (or 1.51 per cent.) were found to be diseased, nine (or 0.32 per cent.) having tuberculosis of the udder, two (or 0.07 per cent.) generalised tuberculosis, and 32 (or 1.13 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.

It will be seen from the above that the conditions under which milk is produced within the city are eminently satisfactory. Practically all the milk attains the standard of "Grade A" milk, and had the city been able to produce all the milk it requires, there would be little ground for criticism. Unfortunately, this is not the case.

The 174 registered dairy farms comprise 298 separate sheds, all of which are kept under close supervision by the Cowshed and Dairies Inspector. The Veterinary Officers made 1,160 inspections of cowsheds and the lay inspector 1,506, a total of 2,666. It might be stated that 248 additional visits were paid by the lay inspector in the early morning, to ensure that cleanliness and care are observed then, as at other milking times. At 1,148 (or 98.97 per cent.) of the Veterinary Officers' visits, the sheds were reported clean, whilst at the remaining 12 (or 1.03 per cent.) they were dirty. The number of yards inspected by the Veterinary Officers was 168, and the total number of inspections 668. At 644 (or 96.41 per cent.) of the visits, the yards were clean, and at 24 (or 3.59 per cent.) dirty.

By means of an energetic enforcement of the Milk and Dairies Order during the year the erection of one new cowshed, and the structural improvements of two others were brought about.

Although the Milk and Dairies Order provides very wide exemptions as regards the cooling of milk, the practice of cooling

milk immediately it is produced is usual amongst town producers. In every instance milk, after cooling, is stored in a compartment specially set apart and usually specially provided for the purpose, where it is protected from contamination. The cleansing of cans is thoroughly carried out and the clean cans are carefully stored so as to escape the risk of fouling.

2. *Country Milk*.—The methods of transporting milk from country to town have undergone considerable change within recent years, road transport having to a great extent superseded rail transport. Whichever method is used, every effort is made to ensure that the milk is clean and wholesome when it reaches the city. In this connection the Inspectors paid visits to railway stations, and attended at the wholesale and retail dairies in the town to inspect and sample milk arriving by road. The temperature of the milk is taken to ascertain whether it has been satisfactorily cooled before despatch, the churns are inspected to see if they are clean and of a proper pattern, and the milk itself is examined by means of a filtration test to determine its degree of cleanliness and freedom from gross dirt. Wherever there is cause for complaint, the matter is reported to the Local Authority in whose district the milk is produced.

General.—As to distribution, the wholesale and retail dairies of the city are under regular and frequent inspection, 1,946 visits being paid by the Inspectors during the year. Although some of the retail dairies registered many years ago are tolerated, a much higher standard is now being demanded before the Committee is advised to grant registration to new dairies.

During the year a special investigation has been carried out regarding the purity of milk as it is delivered to the consumer. From this it has been ascertained that in 40 (or 46.0 per cent.) of the samples, the milk was satisfactory as to its bacterial content, whilst in 47 (or 54.0 per cent.) it was unsatisfactory. With regard to the latter steps were taken to improve the quality whether the milk was town produced, or country produced.

Besides this investigation the Inspectors continued to take what, in previous reports, have been termed "Reading" samples, to ascertain the comparative purity of town and country milk.

The following table indicates the result of this investigation.

" READING " MILK SAMPLES, 1931.

Bacterial Content per c.c.	Local farms.	Road borne.	Rail borne.	Total.
1- 50,000 }	58 51.3%	21 18.6%	34 30.1%	113
50,000- 100,000 }	11 25.0%	19 43.2%	14 31.8%	44
100,000- 200,000 }	5 20.8%	10 41.7%	9 37.5%	24
200,000- 500,000 }	1 7.7%	7 53.8%	5 38.5%	13
500,000-1,000,000 }	..	..	..	..
1,000,000 + .. }	..	3 50.0%	3 50.0%	6
Total Samples ..	75	60	65	200

Bacillus Coli Content.	Local farms.	Road borne.	Rail borne.	Total.
B. Coli present in 1 c.c. }	2 9.1%	7 31.8%	13 59.1%	22
" " 1/10 c.c. }	9 25.7%	14 40.0%	12 34.3%	35
" " 1/100 c.c. }	9 39.1%	5 21.8%	9 39.1%	23
" " 1/1000 c.c. }	12 21.4%	22 39.3%	22 39.3%	56
B. Coli absent .. }	43 67.2%	12 18.7%	9 14.1%	64
Total Samples ..	75	60	65	200

The following is a summary of the cases taken into Court under the Milk and Dairies Order during the year :—

MILK AND DAIRIES ORDER, 1926.
PROSECUTIONS FOR THE YEAR, 1931.

No.	Article.	Result of Hearing.	Remarks.
1	Article 23 (1) .. " (2) .. " (4) .. " (5) ..	Fined 20/- and costs on each charge. Two employees each fined 40/- on one charge only.	Farmer. Employees.

Graded Milk and Issue of Licences.—It is regrettable, but not surprising, to have to report that no increase has taken place in the number of licences issued for the production and sale of graded milk. The table on page 175 indicates the present position. The need for a complete revision of the special designations of milk is obvious and should be undertaken at once. The designation "Grade A" is misleading to the public, in that the term suggests milk of the first quality, whereas in fact, it can only be regarded as of the third quality. On the other hand "Certified" milk, which is the highest grade, is little known to the public, and is therefore neglected, whilst "Grade A (Tuberculin Tested)" milk—the second grade—has only a very restricted sale.

"Pasteurised" milk has, recently become very popular largely owing to the Leeds Industrial Co-operative Society's entry into the business, and the fact that they sell nothing but this grade of milk. Three private retail dairymen have followed the example of the Leeds Co-operative Society and installed pasteurising plants and obtained the necessary licence for the use of the term "Pasteurised."

It is the considered opinion of the Department that milk should be entirely regraded, that the term "Grade A" should be applied to what is now designated "Certified"; that the present "Grade A (Tuberculin Tested)" milk should cease to be recognised as a separate grade, and that the designation Grade B should take the place of the present Grade A and should include all other raw milk used for human consumption. The grade "Pasteurised Milk" should remain as heretofore, but it is suggested that all milk treated by heat should be required to be labelled "Pasteurised," and that all dairies where milk is treated in this way should be under the

control and supervision of the Local Authority, or in other words, should be licensed.

A rigid system of inspection has been maintained over all licensed pasteurising plants, care being taken to see that the milk is treated in accordance with the instructions laid down in the Milk (Special Designations) Order. While pasteurised milk can be regarded as only a second best alternative to clean raw milk, when properly processed it does ensure safety and is therefore to be preferred to dirty raw milk. The proper processing however depends on many factors, not least of which is the human factor, hence the need for close and constant supervision.

The milk herds at both the dairy farms owned and managed by the City Council, are now or will shortly be tubercle free. Formerly only one, that at Skelton Grange, was maintained on this basis.

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.				
	1927.	1928.	1929.	1930.	1931.
(1) Producers' Licences to use the designation "Grade A" ..	4*	7	8	8	8
(2) Dealers' Licences to use the designation "Certified" ..	8	7	10	10	10
(3) Dealers' Licences to use the designation "Grade A (Tuberculin Tested)" :—					
(a) Bottling establishments ..	4	2	2	2	2
(b) Shops	35	22	14	11	10
(4) Dealers' Licences to use the designation "Grade A" :—					
(a) Bottling establishments ..	4	4	3	3	3
(b) Shops	179	196	215	211	207
(5) Dealers' Licences to use the designation "Pasteurised" :—					
(a) Pasteurising establishments ..	..	..	1	3	4
(b) Shops	..	..	6	5	..

*Two licences were revoked during 1927 by the City Council for failing to comply with the requirements of the Milk (Special Designations) Order, 1923, and are not included in the figures for 1927.

The milk produced at all the farms producing graded milk is examined monthly as to its bacterial content and the premises and methods are under the regular supervision of the lay inspector.

Dairy Farms and Milkshops.—The following tables show the number of registered dairy farms and milkshops in the city on December 31st, 1931.

DAIRY FARMS.

Number of dairy farms in the City on the register on		
December 31st, 1930	179	
Number added to register during the year	1	
Number removed from register during the year ..	6	
Number on register on December 31st, 1931	174	

MILKSHOPS.

Number of milkshops in the City on the register on		
December 31st, 1930	584	
Number added to register during the year	37	
Number removed from register during the year ..	31	
Number on register on December 31st, 1931	590	

In addition to the above registered milkshops in the city, seven dairymen with registered premises in the surrounding County area were added to the register of retail purveyors of milk, whilst two dairymen with registered premises outside the city were removed from the register.

The following visits were paid during the year by the Food and Drugs Inspectors and Dairies and Cowsheds Inspector in connection with the Milk and Dairies Acts and Orders:—

	VISITS	
To milkshops	1,946	
To cowsheds	1,756	
To railway stations.. ..	297	
To farms or milkshops <i>re</i> infectious disease	7	
To food shops and bottled milk stores	1,235	

Biological Tests.—During the year the Committee gave instructions for the number of samples to be increased. As a result a total of 171 samples were taken and submitted to the City Bacteriologist for biological investigation for the presence of the Tubercle Bacillus. Of these 165 were original and six were special samples. Of the original samples, two (or 1·2 per cent.) were returned as tuberculous, whilst four (or 66·7 per cent.) of the special samples were also reported as tuberculous. 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 County authority, which resulted in the finding and destruction of four cows.

Special Bacterial Tests.—Nine samples were submitted to the City Bacteriologist for special examination to ascertain the bacterial content and the presence of bacillus coli. These included one "Grade A," four "Pasteurised" and three raw milk samples prior to pasteurisation, and one special sample from a school, which was suspected to be the cause of an outbreak of illness in children. Two of the pasteurised milk samples were reported upon as having bacillus coli present in 1/100 c.c. and the three raw milk samples each had high bacterial counts. The remaining four samples were all found to be satisfactory.

One sample of oysters and one of cockles were also submitted for bacteriological examination, the oysters being examined at the request of the Ministry of Health, and they were reported upon as being unsatisfactory, whilst the sample of cockles was found to be satisfactory.

In addition, eight samples of dried milk from the stock of the Maternity and Child Welfare Section were submitted for bacteriological examination, and whilst one of these was reported upon as having a very high bacterial count, the remaining samples were all found to be very satisfactory.

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 handling milk whilst suffering from tuberculosis in an active and infectious form.

Departmental Laboratory.—During the year 988 samples of milk were submitted to the Departmental Laboratory for bacteriological examination. Of this number 305 were graded milks, 84 taken in course of delivery by the inspectors, 95 taken on delivery at local institutions, 12 taken at schools, 19 of pasteurised milk, 250 taken at the Leeds Industrial Co-operative Society's Dairy (before pasteurisation), 23 from other sources, *i.e.* milk brought to the laboratory by farmers, dairymen, and others, and 200 for the National Institute for Research in Dairying at Reading.

The Leeds Industrial Co-operative Society and Reading milks were also examined for fat and non-fatty solids. In addition there were 104 other milks examined only for fat and non-fatty solids.

The samples for bacteriological examination were kept at room temperature until the souring point was reached. The average keeping quality of the milks was as follows :—

Graded—3 days.

Pasteurised—2·3 days.

Institutions—2·5 days.

In course of delivery—1·9 days.

Schools—2 days.

Samples to the number of 61 did not comply with the standard laid down in the Milk (Special Designations) Order, 1923, bacillus coli being present in 1/10 c.c. in 8 ("Certified"), and in 1/100 c.c. in 53 (other graded milk). Seven of the Certified milks were from farms outside the city and one from a farm within the city. Twenty-eight of the 53 graded milks were from farms outside the city and 25 from farms within the city.

Two of the three graded milks with bacterial counts above 200,000 bacteria per c.c. were from within and one from without the city.

The Certified milks were all up to standard.

SAMPLES EXAMINED AS TO BACTERIAL CONTENT.

Bacterial Content per c.c.	Graded Milk	Milk taken in course of delivery.	Institution Milk.	School Milk.	Past- eurised Milk.	Total
1- 50,000 .. } 92.8%	283 92.8%	29 34.5%	68 71.6%	5 41.7%	18 94.7%	403
50,000- 100,000 .. } 3.6%	11 3.6%	22 26.2%	18 18.9%	7 58.3%	1 5.3%	59
100,000- 200,000 .. } 2.6%	8 2.6%	22 26.2%	5 5.3%	..	..	35
200,000- 500,000 .. } 1.0%	3 1.0%	8 9.5%	1 1.1%	..	..	12
500,000-1,000,000 .. } ..	..	..	1 1.1%	..	..	1
1,000,000+ .. } 3.6%	..	3 3.6%	2 2.1%	..	..	5
Total Samples ..	305	84	95	12	19	515

SAMPLES EXAMINED AS TO B. COLI CONTENT.

	Graded Milk.	Milk taken in course of delivery.	Institution Milk.	School Milk.	Past- eurised Milk.	Total.
B. Coli present in 1/10 c.c. } 2.6%	8 2.6%	12 14.3%	4 4.2%	1 8.3%	2 10.5%	27
" " 1/100 c.c. } 17.4%	53 17.4%	10 12.0%	4 4.2%	..	..	67
" " 1/1000 c.c. } ..	..	36 42.8%	29 30.5%	7 58.3%	..	72
B. Coli absent .. } 80.0%	244 80.0%	26 30.9%	58 61.1%	4 33.3%	17 89.5%	349
Total Samples ..	305	84	95	12	19	515

LEEDS INDUSTRIAL CO-OPERATIVE SOCIETY LTD.—
RAW MILK SAMPLES EXAMINED.

Bacterial Content per c.c.						Total.
1—	50,000	..	..	..	..	154
50,000—	100,000	..	..	..	..	36
100,000—	200,000	..	..	..	..	28
200,000—	500,000	..	..	..	..	23
500,000—	1,000,000	..	..	..	..	..
1,000,000+	..	..	..	..	..	9
Total Samples						250

Bacillus Coli Content.						Total.
B. Coli present in	1/10 c.c.	..	..	..	..	23
„	„	„	1/100 c.c.	..	..	26
„	„	„	1/1,000 c.c.	..	..	86
„	„	absent	..	..	..	115
Total Samples						250

Milk Samples Tested by the Gerber Method.—During the year 553 samples of milk (including 200 "Reading" samples) 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.
*553	479	50	18	6

* These were all informal samples.

The average composition of the 553 samples was:—

Fat	..	..	..	..	3.64 per cent.
Solids-not-fat	..	..	..	..	8.85 per cent.
Total solids	..	..	..	..	12.49 per cent.

Article 13 (1) of the Milk and Dairies Order, 1926, demands that the water supply to farms shall be suitable and sufficient, and 11 samples of water from farms and other premises were examined for the presence of bacillus coli with the following results:—

Containing B. Coli.—6. Free from B. Coli.—5.

The following investigations were also undertaken:—

Milk for the presence of tubercle or other bacilli	..	41
Sputum for the tubercle bacillus		2

Other work:—

Tubes of media prepared		5,200
Microscopical slides prepared and examined	..	96

As in previous years the laboratory has been found 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 steps taken in the examination of milk.

FOOD AND DRUGS.
FERTILISERS AND FEEDING STUFFS.

Food and Drugs.—The Sampling Officers took 502 formal and 22 informal samples of food other than milk and cream. The total number of formal samples of all kinds taken during the year was 1,879 and informal 96.

The following samples were taken by the Sampling Officers under the Condensed and 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 185.

Article.	No. of Samples.
Condensed milk.	10
Dried milk.	8
Potted meat.	21
Sausages.	36
Potted salmon.	3
Pearl barley.	12

Fertilisers and Feeding Stuffs Act, 1926.—During the year 91 samples were taken under the above-mentioned Act and submitted to the City Analyst for examination. Of this number 58 were samples of Feeding Stuffs and 33 Fertilisers.

Ice Cream and Food Preparing Places (Leeds Corporation Act, 1930).—This Act came into operation on January 1st, 1931. Section 44 of the Act makes provision for the registration of places used for (a) the preparation or manufacture of sausages or potted or preserved meat, fish or other food intended for the purposes of sale ; or (b) the manufacture for sale or sale of ice-cream or similar

commodity. The Department immediately commenced to operate this section in order to obtain improvement of places which for years had been regarded as unsatisfactory.

It was found, however, that the section had been very seriously weakened by the exclusion of all places which are subject to notification under the Factory and Workshops Acts. The significance of this exemption is that premises in which mechanical power is employed need not be registered and, as the number which come within this category is considerable—many of them in some material respects unsatisfactory—registration has not been as effective as it might have been and as it was hoped it would be.

Ice Cream.—All premises known to be engaged in the manufacture or sale of ice-cream in the city have been inspected with a view to registration. Out of a total of 229 so inspected 87 were unsatisfactory, because of their situation, construction or want of cleanliness. Rather than go to the expense of finding new premises or improving the old, 60 of the 87 owners decided to abandon the making and sale of ice-cream altogether, while 27 applied to the Health Committee for registration but were refused. In each case where an application was refused the proprietor was given an opportunity of appearing before the Committee in support of his application and to show cause why his premises should not be registered.

In ten cases the applicants continued to manufacture and sell ice-cream notwithstanding that the Committee had refused registration. They were prosecuted and convicted after which they desisted.

It is unfortunate that the Act does not identify the person with the registration of the premises, when the Local Authority would be able to control the number of manufacturers making use of such premises. At the present time a number of people freeze ice-cream on a Saturday or Sunday in some registered place, for sale from street barrows and such sellers are not compelled to seek registration under the Act.

The question of registration of cinemas and theatres where ice-cream is sold is now engaging the attention of the Department.

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	101
Number of premises registered for the sale of ice cream	41
Number of visits paid to premises	1,411
„ „ contraventions found on premises ..	137
„ „ premises refused registration ..	27*
„ „ „ voluntarily closed ..	60
„ „ prosecutions under the act ..	10
„ „ convictions obtained ..	10

*Seven of these premises were considered for registration a second time by the Health Committee.

Food Preparing Places.—In spite of the protection afforded certain manufacturers by the proviso exempting from registration all premises where mechanical power is used, a considerable volume of work has been done during the year under Section 44 of the Leeds Corporation Act, 1930, in respect of food preparing places. Lack of supervision in the past has encouraged manufacturers to be careless both as regards their premises and their methods. Registration has already effected a notable change in this respect.

The following table gives a summary of the work done :—

Applications submitted for registration ..	112
Applications granted :—	
(a) Pork butchers	60
(b) Beef butchers	27
(c) Potted meat makers	20
	— 107
Applications refused	1
Applications withdrawn	4
Number of visits to :—	
(a) Food preparing places	399
(b) Food shops	432
(c) Restaurants	95
	— 926

MUNICIPAL LABORATORY

BY

C. H. MANLEY, M.A., F.I.C., *City Analyst.*

The number of samples of all kinds examined in 1931 was 3,043, of which 1,975 were foods and drugs. Analyses have been made for five Corporation Departments, viz., Public Health, Public Assistance, City Police, Waterworks, and Cleansing. In addition work was undertaken on behalf of the Leeds General Infirmary.

FOOD AND DRUGS.

The table on pages 189 and 190 set out the nature and number of samples taken under the Food and Drugs (Adulteration) Act, 1928, together with the number and percentage of adulterations. The total percentage of adulteration was 8.6 per cent., as compared with 10.5 per cent. and 12.7 per cent., the corresponding figures for 1930 and 1929 respectively.

Milk.—The average composition was as follows, the 1929 and 1930 figures being given for comparison:—

	1931.	1930.	1929.	Standard.
Non-fatty Solids	8.85%	8.84%	8.77%	8.50%
Fat	3.71%	3.68%	3.61%	3.00%
Total Solids ..	12.56%	12.52%	12.38%	11.50%

A gradual improvement in average composition has thus taken place during the past three years. With the exception of the fourth quarter of 1931, too, the adulteration figure for any given quarter in the past two years compared with that for the same quarter in either of the two preceding years, shows a decrease, this being borne out by the table on page 186.

The marked rise in the adulteration figure for the last quarter of 1931 may be due partly to the decrease in farmers' profits consequent upon the poor Summer and the fall in the wholesale price of milk, whereby many farmers are stated to have been unable to make the usual outlay on feeding cake for the winter months. The average quality of the samples during this quarter was, however, higher than during the first nine months of the year, so that the lowering of quality has been anything but general.

ADULTERATION OF MILK—PERCENTAGE FIGURES.

Quarter.			1929.	1930.	1931.
January-March	..	..	16.2%	13.1%	10.2%
April-June	..	..	18.3%	14.5%	10.7%
July-September	..	..	19.7%	12.7%	7.3%
October-December	..	..	9.8%	7.0%	11.3%
Year	..	..	15.9%	11.9%	9.9%

Of the 142 samples below standard, 46 contained added water, 88 were deficient in fat, and eight shewed both added water and fat deficiency.

The largest amount of added water found in any sample was 10.7 per cent. and the greatest fat deficiency 34.0 per cent.

All the samples were free from boric acid and formaldehyde.

Cream.—All the 20 samples submitted were genuine and free from boric acid.

Condensed and Dried Milk.—Ten samples of the former and eight of the latter were taken by the inspectors under the 1923 Regulations and found to comply with requirements both as to composition and labelling.

Baking Powder.—Of 51 samples one (2.0 per cent.) was returned as containing $1/20$ grain of arsenic per lb., this being five times the amount recommended as allowable by the Royal Commission of 1903. This was traced to the acid calcium phosphate which had been used in the manufacture, and was found to contain $1/10$ grain of arsenic per lb. Proceedings were taken and the retailer ordered to pay the costs of the action, as he had purchased without a warranty from the wholesaler.

Black Beer.—Of five samples two (40.0 per cent.) contained $1/25$ and $1/80$ grain of arsenic per gallon respectively. The maximum allowed in liquid food is $1/100$ grain per gallon.

These two samples were taken at a shop at the request of the Ministry of Health, as a sample taken by the Board of Customs and Excise from the brewery was found to contain arsenic in excess

of the recognised amount. No action was taken as this preparation is not ordinary beer, but a concentrate and is only used as a beverage after considerable dilution.

Ginger Wine.—Two samples sold under this name were found to be non-alcoholic and to be none other than cordials flavoured with essence of ginger. As wine, strictly speaking, is the fermented juice of the grape or other fruit, the descriptions in the present cases are incorrect. No action was taken.

Pearl Barley.—Of 12 samples two (16·7 per cent.) contained 20 and 30 parts of sulphur dioxide preservative per million respectively. Proceedings were taken against the shopkeepers in question, and the cases were adjourned *sine die* to enable the inspector to take samples from the wholesaler.

Potted Meat and Potted Salmon.—Of 21 samples of potted meat eight (38·1 per cent.) contained starch in one form or another. In some of these cases a relatively small amount of starch in the form of rice, for example, enables a sample of low meat content to hold more water than would be otherwise possible without its becoming unduly pasty. In one case the retailer concerned was warned by letter from the Medical Officer of Health, whilst in another case a warning was issued by the Town Clerk. Similar remarks apply to so-called potted salmon, consisting of salmon and mashed potato. Of three samples submitted as potted salmon two (66·7 per cent.) were reported against, and in the case of one sample containing 20·0 per cent. of starchy filler proceedings were taken and costs obtained against the retailer.

Prescribed Medicine.—Of four medicines dispensed by local pharmacists two (50·0 per cent.) failed to conform in full with the requirements of the prescriptions.

Sausages.—Of 36 samples four (11·1 per cent.) contained 15, 130, 160 and 200 parts of sulphur dioxide preservative per million respectively without declaration of the fact at the time of purchase. Warnings were issued in the cases of the last three to those concerned by the Medical Officer of Health.

Sweet Spirit of Nitre.—Of three samples one (33·3 per cent.) was 43·4 per cent. deficient in ethyl nitrite. Proceedings were taken and the retailer ordered to pay costs.

Vinegar.—Of 10 samples two (20 per cent.) were 4 per cent. and 17.0 per cent. respectively deficient in acetic acid. In the second case the retailer was warned by letter from the Medical Officer of Health.

FERTILISERS AND FEEDING STUFFS AND OTHER ANALYSES.

Fertilisers and Feeding Stuffs.—Of 91 samples taken under the 1926 Act, one was incorrectly described, four incompletely declared, and ten failed to conform to the warranty.

Rag Flocks.—All seven samples taken under the 1911 and 1928 Acts conformed with the regulations and contained less than 30 parts of chlorine per 100,000.

Water.—The monthly analyses of the city water supply have been continued on behalf of the Waterworks Committee, and certain other enquiries dealt with.

City Police.—A sample of a dangerous drug was submitted and identified; also a sample of horseflesh was examined for dope and poisons, with negative results.

Public Assistance Committee.—Eleven samples of soap and two samples of margarine were analysed.

Cleansing Department.—One sample of meat meal was analysed.

Smoke Abatement.—The monthly analyses of the five rain gauges in Park Square, York Road, Hunslet, Headingley and Temple-newsam have been continued, and the daily sunlight tests have been extended to include in all five stations, viz., Park Square, York Road, Hunslet, Headingley, and Middleton. The data obtained are recorded on pages 215 and 216 respectively. In all, 59 rain gauge analyses and 793 light tests were carried out.

Leeds General Infirmary.—One sample of water was analysed.

Miscellaneous.—In addition to the above work, 77 other analyses were made, 41 of these being in the nature of special enquiries from the Medical Officer of Health, and 36 from private sources.

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED
TO THE CITY ANALYST DURING 1931.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Airlite	..	I	I	..	..	..	..
Almonds, Ground ..	3	..	3	..	..	..	..
Baking Powder	51	..	51	I	..	I	2·0
Beef, Minced	I	..	I	..	..	..	..
Beer	32	..	32	..	..	..	..
Bicarbonate of Soda ..	7	..	7	..	..	..	..
Black Beer.. ..	5	..	5	2	..	2	40·0
Brawn	I	..	I	..	..	..	..
Brewing Sugar	..	I	I	..	..	..	..
Butter	33	..	33	..	..	..	..
Calcium Phosphate Acid ..	..	I	I	..	I	I	100·0
Cheese	3	..	3	..	..	..	..
Cocoa	12	..	12	..	..	..	..
Chicken and Ham Roll ..	I	..	I	..	..	..	..
Coffee	22	..	22	..	..	..	..
Coffee, French	5	..	5	..	..	..	..
Condensed Milk	10	..	10	..	..	..	..
Cordials	7	..	7	..	..	..	..
Cornflour	2	..	2	..	..	..	..
Cream	20	..	20	..	..	..	..
Cream Cakes	2	..	2	..	..	..	..
Curds	2	..	2	..	..	..	..
Custard Powder	I	..	I	..	..	..	..
Dried Milk	..	8	8	..	..	..	..
Dripping	4	..	4	..	..	..	..
Epsom Salts	6	I	7	..	..	..	..
Flour	6	..	6	..	..	..	..
Flour, Bun.. ..	I	..	I	..	..	..	..
Flour, Self Raising ..	3	..	3	..	..	..	..
Ginger Wine	2	..	2	2	..	2	100·0
Greengage Drops	I	..	I	..	..	..	..
Health Salts	5	..	5	..	..	..	..
Jam	4	..	4	..	..	..	..
Jellies	7	..	7	..	..	..	..
Lard	29	..	29	..	..	..	..
Carried forward ..	288	12	300	5	I	6	..

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED
TO THE CITY ANALYST DURING 1931—Continued.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Brought forward ..	288	12	300	5	1	6	..
Lemon Crystals ..	1	..	1	..	..	..	..
Lemonade Crystals ..	1	..	1	..	..	..	..
Lemonade ..	1	..	1	..	..	..	..
Liver Salts ..	1	..	1	..	..	..	..
Margarine ..	24	..	24	..	..	..	..
Milk ..	1,357	74	1,431	139	3	142	9.9
Milk Skimmed ..	8	..	8	..	..	..	..
Oatmeal ..	8	..	8	..	..	..	..
Olive Oil ..	4	..	4	..	..	..	..
Orange Crystals ..	1	..	1	..	..	..	..
Pearl Barley ..	7	5	12	2	..	2	16.7
Peas ..	3	..	3	..	..	..	..
Pepper ..	15	..	15	..	..	..	..
Polony ..	1	..	1	..	..	..	..
Potted Meat ..	21	..	21	8	..	8	38.1
Potted Salmon ..	2	1	3	2	..	2	66.7
Prescribed Medicine ..	..	4	4	..	2	2	50.0
Raspberry Crystals ..	2	..	2	..	..	..	..
Rice ..	9	..	9	..	..	..	..
Rum ..	4	..	4	..	..	..	..
Sausages ..	36	..	36	4	..	4	11.1
Shredded Suet ..	2	..	2	..	..	..	..
Sponge Cakes ..	1	..	1	..	..	..	..
Sugar ..	12	..	12	..	..	..	..
Sugar, Demerara ..	3	..	3	..	..	..	..
Sultanas ..	5	..	5	..	..	..	..
Sweet Spirit of Nitre ..	3	..	3	1	..	1	33.3
Sweet Nitre Balsam ..	3	..	3	..	..	..	..
Tapioca ..	2	..	2	..	..	..	..
Tea ..	28	..	28	..	..	..	..
Toffee ..	1	..	1	..	..	..	..
Vinegar ..	10	..	10	2	..	2	20.0
Vinegar, Malt ..	8	..	8	..	..	..	..
Whisky ..	7	..	7	..	..	..	..
Total ..	1,879	96	1,975	163	6	169	8.6

SUMMONSES ISSUED DURING 1931 UNDER THE FOOD AND DRUGS
(ADULTERATION) ACT) 1928.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
54C	Milk ..	6.2% of added water and 16.0% deficient in fat ..	3 0 0	Producer retailer.
64aC	Baking powder	1/20th grain of arsenic per pound	..	Ordered to pay 10/6 costs ; retailer.
119S	Milk ..	10.7% of added water ..	..	Ordered to pay 19/6 costs ; producer.
163C	Sweet spirit of nitre	43.4% deficient in ethyl nitrite	..	Ordered to pay costs ; retailer.
175C	Milk ..	6.9% of added water ..	2 0 0	To pay 19/6 costs ; producer.
188L	Milk ..	5.9% of added water ..	..	Dismissed under the Probation of Offend- ers Act on payment of 20/- costs ; pro- ducer.
198C	Milk ..	6.0% of added water ..	..	Dismissed, and costs against the Corpora- tion amounting to 21/- was awarded to defendant ; producer.
240C	Potted salmon	6.5% of starch	..	Ordered to pay 14/6 costs ; retailer.
247S	Milk ..	7.5% of added water ..	..	Ordered to pay 14/6 costs ; retailer.
367C	Milk ..	9.2% of added water and 6.0% deficient in fat	..	Ordered to pay 14/6 costs ; producer.
335C	Pearl barley	20 parts per million of sulphur dioxide preserva- tive	..	Adjourned <i>sine die</i> .

SUMMONSES ISSUED DURING 1931 UNDER THE FOOD AND DRUGS
(ADULTERATION) ACT 1928—Continued.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.			Remarks
337C	Pearl barley	30 parts per million of sulphur dioxide preservative	..			Adjourned <i>sine die</i> .
361S	} Milk ..	28.0% deficient in fat ..	..			Dismissed under the Probation of Offenders Act and the costs ordered to be remitted; retailer.
364S		13.0% deficient in fat ..	..			
365S	Milk ..	27.0% deficient in fat ..	0	10	0	To pay 10/6 costs; retailer.
437C	Milk ..	4.0% of added water and 17.0% deficient in fat	5	0	0	To pay 10/6 costs; producer.
753C	Milk ..	16.0% deficient in fat ..	1	0	0	To pay 10/6 costs; retailer.
868C	Milk ..	6.6% of added water ..	..			Ordered to pay 22/- costs; producer.
196L	} Milk ..	5.4% of added water ..	0	10	0	To pay 10/6 costs; producer.
918C		10.0% of added water ..	0	10	0	To pay 10/6 costs; producer.
920C		6.8% of added water ..	0	10	0	To pay 10/6 costs; producer.
976C	Milk ..	9.9% of added water ..	2	0	0	To pay 10/6 costs; producer.

Sanitary Circumstances.

BY

A. B. WILLIAMSON, M.A., M.D., B.Sc., D.P.H., *Chief Assistant 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, by whom the powers conferred by the Rivers Pollution Prevention Act, 1876, in respect of the Leeds area are administered. Nothing worthy of note occurred during the year with regard to river pollution.

Water.—Mr. H. Shortreed, the Waterworks Manager, has kindly furnished me with the following particulars regarding the water supply of the city during 1931.

The rainfall in the Washburn Drainage Area for the year ended 31st December, 1931, was 43·84 inches, as compared with 42·87 inches in the year 1930, and an ample supply of water was available throughout the whole of the year.

During the year 20,682 yards of new distribution mains of from 4 inches to 9 inches in diameter were laid, and 5,899 yards of old mains were replaced by new ones of not less than 4 inches in diameter.

The total consumption of water for the year ended 31st December, 1931, was 6,431 million gallons, equal to an average daily consumption of 17·62 million gallons, as compared with a daily average of 17·54 million gallons during the previous year, the daily average consumption for domestic purposes being approximately 24 gallons per head.

The regular monthly analyses (chemical and bacteriological) indicate a high standard of purity.

Sewage Disposal.—The first instalment of the Works at Thorpe Stapleton is nearing completion. The Lime Mixing House and Plant are in course of construction. The greater part of the works are in active operation, and when the further important units are completed the city will possess one of the largest and most modern sewage disposal works in the country.

The Works at Rodley were extended to treat the additional sewage from neighbouring urban districts situated on the West of the city boundary, and they are considered to be in the front rank as regards efficiency.

I have to thank Mr. E. H. Howatson, the Sewerage Engineer, for the above information.

Drainage and Sewerage.—Additional branch sewers 490 yards in extent were constructed during the year, enabling five privies to be converted, three cesspools to be abolished, and the drains of four houses (including a farm) to be connected to the sewer. Thanks are due to officials of the City Engineer's Department for their willing co-operation and courteous consideration of all requests made to them.

Closet Accommodation.—The Corporation's scheme of giving financial assistance to property owners in approved cases in the matter of the cost of converting trough-closets into modern pedestal water-closets was continued, and 584 trough-closets were converted. The total contribution of the Corporation towards these works amounted to £3,212 14s. 5d., the average cost per closet being £8 6s. 0d. as compared with £8 12s. 8d. during 1930. On December 31st, 1931, there remained in the city 1,589 trough-closets, of which, owing to various circumstances, about 1,200 are incapable of being converted.

Twenty-two 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 300; pail-closets 227; trough-closets 1,589; and cistern water-closets approximately 111,800. There were also 306 cesspools.

Cleansing.—I am indebted to Mr. S. Thornley, the Cleansing Superintendent, for the following information. Household refuse collected by the Cleansing Department during 1931, amounted to 179,252 tons, of which 98,710 tons were dealt with at the destructors, 80,521 tons were disposed of at tips and for agricultural purposes, and 21 tons were sold as manure to farmers.

TABLE SHEWING NUMBERS OF TROUGH CLOSETS, PRIVIES
AND PAIL CLOSETS IN THE CITY DURING THE LAST
TWENTY-SEVEN 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

*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.

Ashpits and Ashbins.—No opportunity was lost in still further reducing the large number of ashpits remaining in the city, and as a result 443 ashpits were abolished. On December 31st, 1931, there still remained 598 sunken and 6,167 other types.

For reasons of economy during the present financial depression 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.

During the year particular attention was paid by the inspectors to the dangers arising from dilapidated and misused ashbins, and in response to representations from the Department, 4,311 metal ashbins were provided. Of this number 230 were supplied by the Corporation in default.

Public Conveniences.—The year 1931 was marked by a slowing up in the rate of erecting public conveniences, only one convenience, *i.e.*, at Whingate Junction, Armley, being constructed. The erection of conveniences at the junction of Woodhouse Lane and the new Headrow, at Harehills junction, and at the Cross Gates tram terminus, have been deferred until the financial position is easier.

The Parks and Allotments Committee have undertaken to maintain the shrubberies at the public conveniences on payment by the Health Committee of £50 per annum.

Flushing.—With the increase in the number of public conveniences which has taken place during the past few years and the recent extensions of the city boundaries, it was recognised that the time was ripe for the reorganisation of the flushing system. Accordingly, a scheme was introduced to transfer flushing from the Cleansing to the Health Department, and to replace the four horse-drawn vehicles by two modern light motor waggons, with consequent reduction in the personnel from 9 to 5. The new system came into force on September 1st, 1931. The results of the four months working seem to justify the conclusion that the change has been worth while and that considerable economies will be effected.

As a result of a joint representation by the Health and other Departments of the Corporation to the Waterworks Committee a reduction from 10 to 5 per cent. was obtained in the amount paid annually to the Waterworks Committee for repairs and maintenance of hydrants and indicators.

ANALYSIS OF WORK DONE BY DISTRICT INSPECTORS, 1931.

	EASTERN DIVISION.	WESTERN DIVISION.	CITY TOTALS.
HOUSE INSPECTION.			
1. Houses and premises { Infectious disease	1,351	1,134	2,485
2. } completely examined { Alleged nuisances	162	182	344
3. } on account of { House-to-house work	604	777	1,381
4. Houses and premises { Occupants	167	123	290
5. } examined only { Alleged nuisances	3,501	4,219	7,720
6. } as to { Drainage	318	317	635
7. Number of houses wholly or partly examined	6,103	6,752	12,855
8. Total number of above houses where sanitary defects or nuisances were found	4,159	5,145	9,304
NUISANCES FOUND DURING ABOVE EXAMINATIONS AND DAILY INSPECTIONS.			
9. Houses dirty	122	56	178
10. Overcrowded houses	145	82	227
11. Defective roofs, fallpipes and spouting, &c... ..	3,011	4,004	7,015
12. Defective drains	526	579	1,105
13. Houses without proper drains	17	61	78
14. " without proper water supply	7	50	57
15. Privies	9	13	22
16. Additional closets required	24	30	54
17. Pail closets	..	34	34
18. Defective or unsuitable trough or water closets	1,252	1,454	2,706
19. Ashpits { (a) Sunken	36	50	86
{ (b) Other than sunken	139	264	403
20. Houses with unsuitable or insufficient ashes accommodation	3,271	4,185	7,456
21. Dirty closets	115	176	291
22. Defective or dirty yard surfaces	226	100	326
23. Stopped drains	915	884	1,799
24. Other nuisances	2,193	1,496	3,689
25. Other housing defects	1,907	3,091	4,998
26. Number of houses affected by above nuisances	12,792	14,638	27,430
27. Offensive accumulations and other outside nuisances including manure pits and cess-pools	221	149	370
28. Pollutions of river or streams	2	11	13
29. Animals (pigs, poultry, etc.) improperly kept	48	117	165
30. Offensive urinals	5	7	12
31. Total nuisances and housing defects found	14,191	16,893	31,084
32. Complaints unfounded	229	134	363
33. Additional { Infectious disease	1,973	586	2,559
34. } visits paid { Non-abated Nuisances	14,004	17,110	31,114
35. } to houses { Inspection of work in progress	2,522	2,686	5,208
36. } for { Other causes	4,399	1,438	5,837
37. Visits on account of special enquiries	912	507	1,419
38. Visits to offensive trades	1,072	1,946	*3,018
39. Visits to bakehouses	1,621	2,363	3,984
40. Visits to rat-infested premises	393	402	795
41. Appointments	579	771	1,350
DRAIN TESTING.			
42. Number { House-to-house inspection	317	681	998
43. of tests { Nuisance complaints	170	469	639
44. applied to { Requests	83	141	224
45. drains on { Infectious disease	1,260	1,116	2,376
46. Account of { Work in progress	358	556	914

*In addition to the above, 151 visits were paid by the Workshops Inspectors to Offensive Trades.

ANALYSIS OF WORK DONE BY DISTRICT INSPECTORS—1931—contd.

	EASTERN DIVISION.	WESTERN DIVISION.	CITY TOTALS.
47. Number of informal notices served	4,717	4,737	9,454
48. Number of statutory notices served.. ..	1,666	1,707	3,373
NUISANCE ABATEMENT.			
49. Metal ashbins provided	1,980	2,331	4,311
50. Houses cleansed.. .. .	102	47	149
51. Overcrowded houses dealt with	34	19	53
52. Defective roofs, fallpipes and spouting, &c. repaired	3,026	3,668	6,694
53. Disconnection of house drains	201	230	431
54. Other drainage works	311	437	748
55. Houses provided with proper drains ..	25	45	70
56. Houses supplied with town's water	2	16	18
57. Privies abolished or converted into water closets	15	7	22
58. Water closets erected { (a) Outside	15	24	39
(b) Inside	..	..	..
59. Pail closets abolished or converted into water closets	3	..	3
60. Trough closets converted into water closets ..	281	303	584
61. Trough and water closets repaired	928	1,098	2,026
62. Ashpits abolished { (a) Sunken	48	70	118
(b) Other than sunken ..	113	212	325
63. Houses provided with suitable ashes accom- modation	2,945	3,910	6,855
64. Closets cleansed (limewashed, etc.)	112	150	262
65. Yard surfaces repaired or renewed	186	90	276
66. Stopped drains cleared.. .. .	860	882	1,742
67. Other nuisances remedied	2,024	1,381	3,405
68. Other housing defects remedied	1,497	2,875	4,372
69. Total houses for which above work done ..	11,830	13,998	25,828
70. Offensive accumulations removed	154	102	256
71. New manure pits or metal receptacles provided	12	13	25
72. Manure pits repaired	3	7	10
73. Pollutions of river or streams abated ..	4	10	14
74. Animals improperly kept removed	31	48	79
75. Offensive urinals dealt with	5	5	10
76. Cesspools filled up	4	7	11
77. Public or private wells abolished	1	—	1
78. Total nuisances and housing defects abated	12,942	15,656	28,598
79. Abated in response to prelim. notices or volun.	9,698	11,334	21,032
80. Abated in response to statutory notices ..	3,244	4,322	7,566
HOUSING ACT, 1930 : SECTION 17.			
81. Number of houses where defects found ..	812	1,195	2,007
82. Number of houses where defects remedied..	786	1,125	1,911
83. Defects remedied { (a) Prelim. Notices or Volun.	483	764	1,247
84. in response to { (b) Statutory Notices ..	303	361	664
85. Number of informal notices served	816	1,010	1,826
86. Number of statutory notices served.. ..	349	353	702

Section 17, Housing Act, 1930.—Full use continued to be made of the powers conferred by this Section, and the following table sets forth clearly comparative figures of the work done during the past three years.

	1929.	1930.	1931.
Number of houses where defects found	1,050	1,759	2,046
„ „ houses at which defects remedied ..	870	1,632	1,950
„ „ informal notices served ..	1,050	1,741	1,865
„ „ statutory notices served ..	180	481	716

It is pleasing to be able to record that little or no opposition was made by owners and in no case had the Department to do the work in default.

Cookridge and King Lane Estates.—When these areas were included within the city boundaries in 1928, they contained many houses of a temporary character, *e.g.*, wooden shanties without proper water supply, drainage or sanitary conveniences. During the year a determined effort was made to bring those into line with the requirements of the Public Health Acts. Notices under Sections 23 and 62 of the Public Health Act, 1875, and Section 246 of the Leeds Corporation (Consolidation) Act, 1905 respectively were served on 33 owners, and by the end of the year substantial progress had been made.

Offensive Trades.—Below is a table showing the nature and number of scheduled offensive trades being carried on in the city at the end of the year.

During the year 3,169 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 2,356 in 1930.

Fish Frying.—During the year 18 applications were received for permission to establish the offensive trade of a fish frier, of which 12 were rejected. The policy of the Department introduced last year to limit consent to one year only, renewable thereafter subject to the satisfactory conduct of the business, has been justified by results.

OFFENSIVE TRADES.

Nature of Trade.					Number of each Trade.
Bone Boiler	..	..	..	..	5
Fellmonger	..	..	..	..	2
Fat Melter	..	..	..	..	10
Glue Maker	..	..	..	..	1
Gut Scraper	..	..	..	..	4
Leather Dresser	..	..	..	..	23
Rag and Bone Dealer	..	..	..	..	32
Size Maker	..	..	..	..	3
Soap Boiler	..	..	..	..	5
Tanner	..	..	..	..	16
Tripe Boiler	..	..	..	..	12
Fish Frier	..	..	..	..	531
Total					644

District Sanitary Inspection.—Routine sanitary inspection has continued as in previous years and the amount of this work done during 1931 will be seen on reference to the tables on pages 197 and 198.

The number of preliminary notices served during the year for the abatement of nuisances was 9,454, and the number of statutory notices 3,373. Of the latter 2,997 have been effective and 376 were outstanding at the year end. In three cases only were legal proceedings necessary.

In addition 745 preliminary notices and 300 statutory notices were served in connection with common lodging-houses, houses-let-in-lodgings, etc.

It will be seen that the inspection of houses and premises in connection with infectious diseases, especially diphtheria and smallpox, made heavy claims on the inspectors' time.

Training of Sanitary Inspectors.—Seven student sanitary inspectors received training in the Department during the year.

Common Lodging-Houses.—Strict supervision of the common lodging-houses in the city has been maintained, and it can now be safely claimed that the standard of cleanliness in the 26 common lodging-houses now remaining in the city 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 1,433 beds.

For Women . . . 3 houses, with 116 beds.

Included in the above are three registered lodging-houses for men which are controlled by the Salvation Army and Church Army respectively, with a total of 376 beds.

During the year under review the beds in the 23 men's lodging-houses were occupied on 429,430 occasions, the average number of beds vacant per night being 256, whilst the 116 beds in the women's lodging-houses were occupied on 25,984 occasions, the average number of vacant beds nightly being 17. It will thus be seen that despite the abolition of five unsatisfactory common lodging-houses last year there is still ample bed accommodation in the city.

The table on page 202 sets forth the work carried out in respect of the common lodging-houses during 1931.

Houses-Let-in-Lodgings.—The increased demand for this type of house continued throughout the year 1931, and on account of the difficulties of control as explained in last year's report, a good deal of time and attention on the part of the inspectors was necessary. The number of statutory notices served requiring compliance with the requirements of the Bye-laws was 236, and of these 222 have been complied with.

University Lodgings.—As in the past 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 1931	114 ..	187
Old lodgings re-inspected	163 ..	399
Drains tested—727 drains in 277 houses.		

Total number of visits to the above houses 277.

Details of sanitary defects found and rectified are included in the table under houses-let-in-lodgings.

Residential Flats.—The inspectors paid 79 visits to the 217 residential flats in the city. The nuisances found and abated are included in the table—houses-let-in-lodgings.

COMMON LODGING-HOUSES.

Number registered—						
Men's	23	Beds available	1,433			
Women's	3	"	"	116	..	..
Routine visits to all common lodging-houses..					1,050	
Visits as to drain tests and abatements ..					266	
Visits to smallpox contacts					682	
Visits for infectious disease					1	
Nuisances found and abated :—					FOUND.	ABATED.
Dirty closets					29	29
Dirty rooms					61	61
Dirty bedding					137	137
Defective or stopped drains					3	3
Defective roofs or eaves spouts					15	15
Other nuisances					198	188
Total					443	433

HOUSES-LET-IN-LODGINGS.

	HOUSES.	ROOMS.
Registered during 1931, let as furnished rooms	26	135
On register at end of 1931	177	955
Houses-let-in-lodgings visited though not registered	122	720
Drains tested 953, in 422 houses		
Drains re-tested 113, in 112 houses		
Visits for inspection of nuisance abatement and requirements of byelaws..	6,243	
Visits for other causes	1,462	
„ infectious disease (48 cases)	76	
„ additional inspection ..	2,537	
Nuisances—	FOUND.	ABATED.
Dirty or bad bedding	48	48
Dirty rooms	366	366
Overcrowding	69	68
Dirty closets	35	35
Other nuisances	1,537	1,470
Structural defects	262	251

Cellar Dwellings and Underground Sleeping Rooms.—During the year 66 underground rooms which were being used as dwellings were discovered. In all these cases, however, alternative accommodation had been found by the end of the year.

Below are particulars of visits, nuisances found and abated, and notices issued :—

Visits to cellar dwellings	30	
Visits to underground sleeping-rooms ..	66	
Visits on account of nuisance abatement ..	144	
Visits for other causes	99	
Preliminary notices served	66	
Statutory notices served	..	
Nuisances :—		
Underground sleeping-rooms	FOUND. 66	ABATED. 73
Other nuisances	..	..

Tents and Vans.—As explained in last year's Annual Report, a definite step forward was made in the control of camping grounds by Section 48 of the Leeds Corporation Act, 1930, and during the year a complete survey was made of all the camping grounds in the city. Thirteen failed to comply with the requirements contained in sub-section 1 (b) of the above Section, and nine of these were closed as the owners were unable to comply with the requirements. In addition 10 other camping grounds were discontinued owing to their being unsatisfactory in various respects.

The following table gives details of the several inspections made :—

Visits to vans (310 vans)	1,894	
Visits to tents (37 tents)	61	
Visits on account of infectious disease ..	12	
Visits to camping grounds	442	
Visits on account of nuisances	358	
Nuisances :—		
Dirty camping grounds	FOUND. 6	ABATED. 6
Dirty vans	6	6
Overcrowded vans	1	..
Camping places without sanitary accommodation	18	18
Tents and vans not habitable	24	24
Other nuisances	100	95

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 1931	1
Re-registered and Transferred to fresh owners ..	9
Re-registered owing to structural alterations ..	1
Struck off register (on revising register) ..	2
Remaining on register at end of year.. ..	145
Visits of inspection to wharves and locks ..	604
Complete inspections of boats	446
Cases of infectious disease	..
Cases of overcrowding	..
Dirty cabins	6
Absence of registration certificate	30
Boats not marked with registered number ..	14
„ not properly ventilated	..
„ requiring painting or repairing	6
„ found to be not registered	3
Number of children of school age found on registered boats—5 boats, 7 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.

The insanitary and dilapidated condition of one school called for special attention by the sanitary department and as a result of representations made to the managers through the proper channels improved conditions were obtained.

Rat Suppression.—As in previous years, the annual Rat Week was held in November when an effort was made to impress public opinion concerning the dangers to health and the economic wastage occasioned by rats. For the first time a rat film was shown in two of the leading cinemas during the week, and thanks to the valuable support given by the press a good deal of interest was

evoked. 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.

Few householders are conversant with the fact that the Rats and Mice (Destruction) Act, 1919, lays the onus of destroying rats and mice on the occupier of the premises infested.

The number of complaints received was 316 as compared with 226 last year. Particulars of the work done during the year under the above Act are as follows :—

Complaints received	..	..	..	..	316
Premises inspected	..	..	..	..	509
Premises cleared	..	..	..	..	237
Rats caught or found poisoned	..	..	..	..	2,160
Visits for purposes of observation of work in progress	..	..	..	..	829
Visits for other purposes—interviews with owners of infested premises and the like	..	..	..	..	165
Informal notices served	..	..	..	..	39
Notices complied with	..	..	..	..	29

Pig Keeping.—The intensive effort made during the preceding year to make the existing pigstyes in the city comply with the Byelaws was continued, and by the end of the year marked progress had been made.

On December 31st the total number of persons keeping pigs in the city (excluding farms) was 389, of whom 228 had complied fully with the provisions of the Byelaws or were in process of doing so. During the year 60 pig keepers were obliged to discontinue the keeping of pigs. A special effort was made to cause the minimum of inconvenience and expense to the pig keepers concerned.

Factory and Workshop Act, 1901.—A complete summary of the work done during the year under the above Act appears on pages 208 and 209.

Close co-operation continued to be maintained between the Department and H.M. Factory Inspectorate.

Plans.—The system whereby plans submitted to the Building Surveyor and dealing with schemes involving sanitary works are reviewed by this Department before being finally approved by the Corporation, was continued during 1931. The total number of plans examined and commented upon was 218.

OTHER VISITS PAID BY MALE WORKSHOPS INSPECTORS.

			Factories.	Workshops.	Workplaces.
Non-abatements	..	..	316	189	82
Drain Inspection	..	..	119	18	103
Drains tested	..	..	51	5	29
Disease enquiries	..	..	62	13	15
River pollution	..	..	..	1	..
Complaints	..	..	86	33	4
Measurement of workrooms	..	..	..	2	58
Other causes	..	..	190	212	108
TOTAL	..	..	824	473	399

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 1,053 cases)	..	1,112
To absent pupils	..	97
To factories (107 cases)	..	111
To workshops (3 cases)	..	7
To workplaces, including restaurants (40 cases)		40
To absent employees	..	4
Special visits	..	14

Factories and Workshops.—Part of the work done by the women inspectors under this heading appears on pages 208 and 209.

In addition to that appearing in the table the following visits were paid :—

Outworkers' homes	..	..	..	..	412
Outworkers, employers' premises	..	..	..	..	124
Factories	..	..	..	..	19
Workshops (routine and complaint)	..	..	..	..	426
Workplaces and restaurants do.	..	..	..	..	1,151
Special visits	..	..	..	..	50
					2,182

Inspections of public sanitary conveniences					
for women	..	..	..	..	458
Nuisances found	96,	abated	90.		

Underground Offices.—In view of the recent legislative attempts to introduce a Bill regulating offices, including underground offices, and the absence of any scientific investigation on the subject, the writer carried out, with the help of Inspector J. Richardson, during the latter part of the year, a detailed inspection of some 40 underground offices which were known to exist in the city. In all 37 offices (5 Insurance, 2 Municipal, 4 Law, and 26 Commercial) were visited and compared with 20 control offices above ground (3 Insurance, 2 Government, 1 Municipal, 2 Law and 12 Commercial). Hill's Kata-thermometer, the dry and wet bulb thermometers, Owen's dust counter for calculating the number of dust particles per c.c. in the atmosphere, and blood agar plates for determining the bacterial content of the air were used in the investigation. In addition, evidence was adduced by recording the medical histories and personal experiences of the workers themselves. The results of the investigation went to show that whereas certain underground offices owing to imperfect lighting and ventilation fall distinctly below the standard of a modern overground office many were unexceptionable from a sanitary point of view. It is reassuring to know that notwithstanding its situation an underground office when properly lighted and ventilated, can be reasonably healthy though, of course, not ideal.

FACTORIES AND WORKSHOPS.

I.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	524	217	..
Workshops (Including Workshop Laundries.)	2,216	101	..
Workplaces	1,392	84	..
Total	4,132†	402	..

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	98	97	..	..
Want of ventilation	9	10	..	..
Overcrowding	3	3	..	..
Want of drainage of floors ..	1	1	..	..
Other nuisances	703	682	..	..
Sanitary accom- modation. { insufficient ..	24	24	..	..
{ unsuitable or defective..	142	131	..	..
Sec. 22 in force. { not separate for sexes ..	22	30	..	..
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101)	..	..	..	..
Breach of special sanitary require- ments for bakehouses (SS. 97 to 100)	16	16	..	..
Other offences	..	..	..	..
Total	1,018	994	..	..

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

Exclusive of 3,934 visits to 618 bakehouses by ward inspectors, see page 197.

3. 4. 5.—OTHER MATTERS.

	Number of		
	Lists.	Outworkers.	
		C.	W.
Homework :—			
<i>List of Outworkers (S. 107) :—</i>			
(No homeworkers on our register except amongst those engaged in making wearing apparel)	..	..	..
Lists received twice in the year	318	545	560
„ once in the year	23	21	26
Addresses of \ received from other Authorities ..		94	
outworkers / forwarded to other Authorities ..		1	
Notices to occupiers as to keeping or sending lists ..		436	
Prosecutions.. .. .		..	
Inspection of Homeworkers' premises		674	
<i>Homework in unwholesome premises :—</i>			
Instances		16	
Notices		16	
Prosecutions.. .. .		..	
<i>Homework in infected premises :—</i>			
Instances		10†	
Orders made (S. 110)		10	
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 (138 trades)		1,031	
Domestic (5 trades)		33	
Bakehouses on register as workshops		271	
Do. domestic		347	
Total number of workshops on Register		1,682	
Matters notified to H.M. Inspectors of Factories :—			
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		21	
Action taken in matters referred by { Notified by H.M. Inspector ..		109	
H.M. Inspectors as remediable { Reports (of action taken) sent to H.M. Inspectors..		101	
under the Public Health Acts, but not under the Factory Act (S. 5)			
Other		..	
Underground Bakehouses (S. 101) :—			
Certificates granted during the year		..	
In use at the end of 1931		26	

† 3 Diphtheria, 7 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.			Total visits to all.
	Em- ployees beyond family.	Work- shop bake- houses.	Domestic bake- houses.	Em- ployees beyond family.	Work- shop bake- houses.	Domestic bake- houses.	
Mill Hill and South	46	in 12	23	..		1	261
Westfield	27	.. 14	27	..		..	236
Blenheim	34	.. 12	10	11	in 4	..	134
Central	134	.. 19	11	6	.. 2	..	203
Woodhouse.. ..	17	.. 8	25	..		3	53
North	11	.. 6	8	1	in 1	1	29
Far Headingley ..	8	.. 7	10	..		..	111
Hyde Park.. ..	59	.. 15	3	7	in 4	1	336
Kirkstall	21	.. 11	7	..		2	384
Burmantofts	25	.. 12	13	2	in 1	..	68
Harehills	22	.. 12	18	..		..	217
Potternewton ..	30	.. 10	4	1	in 1	1	35
Roundhay	22	.. 8	2	..		..	82
Cross Gates and Templenewsam ..	17	.. 10	3	..		..	168
Richmond Hill ..	9	.. 4	29	..		..	193
Osmondthorpe ..	15	.. 6	10	..		..	82
East Hunslet	10	.. 5	23	..		..	164
Hunslet Carr and Middleton	3	.. 2	5	5	in 2	..	87
West Hunslet	22	.. 12	16	5	.. 2	..	110
Beeston	20	.. 10	7	..		..	87
Holbeck (South) ..	48	.. 4	7	..		..	76
Holbeck (North) ..	155	.. 12	26	..		..	182
Armley and New Wortley	11	.. 8	11	..		..	183
Upper Armley	24	.. 14	14	..		..	239
Bramley	24	.. 15	13	..		..	155
Farnley & Wortley	18	.. 6	13	..		..	109
Totals	832	in 254	338	38	in 17	9	3,984

These visits made by Ward Inspectors only. This work is included in the figures in the table on page 197.

Rag Flock Acts, 1911 and 1928.—During the year 32 visits were made to premises occupied by persons engaged in the manufacture or use of rag flock. Seven samples were submitted to the City Analyst for analysis and all were found to comply with the legal standard. The average amount of chlorine found to be present was 13 parts per 100,000 which compares very favourably with the legal standard of not more than 30. Three of the seven samples analysed were found to contain only 3 parts, 4 parts and 6 parts respectively.

Mortuary Accommodation.—The question of mortuary accommodation has been occupying the attention of the Health Committee for a number of years. At present there are three mortuaries in the city, situated at Marsh Lane Police Station, Kirkstall Road Police Station and Old Mill Lane, Hunslet. Of these, Marsh Lane is the most modern both as regards construction and equipment; the other two are small and out-of-date. The accommodation provided is Marsh Lane four, Kirkstall Road two, and old Mill Lane two, a total of eight slabs. With the development of motor transport and the possibility of moving a body very rapidly from one place to another the practice in recent years has been to house most of the bodies at Marsh Lane, besides which this mortuary being better equipped than the other two, it is more convenient to carry out post-mortem examinations there.

For a city of the size of Leeds the mortuary accommodation is totally inadequate and a scheme for improving it was presented to the Health Committee during the year. This scheme *inter alia* suggested the abolition of the two smaller mortuaries at Kirkstall Road and Old Mill Lane and the centralization of the accommodation at Marsh Lane, which for this purpose was to be reconstructed and enlarged. Seeing however that at some date in the near future it will be necessary to find new accommodation for the Coroner's Court and Offices the Committee decided not to proceed with a complete scheme of reconstruction at Marsh Lane for the present but merely to extend the existing accommodation by the addition of four more slabs, and meanwhile to retain the two smaller mortuaries. When it is convenient to proceed with the erection of the new Coroner's Court and Offices the plans for that building will include a mortuary large enough to satisfy the demands of the city for many years to come.

Smoke Abatement.

The table on page 214 shows the work of the smoke inspectors during the year. The average duration of dense smoke per observation decreased from 39 seconds in 1930 to 34 seconds in 1931, and the number of chimneys found offending against the byelaw decreased from 80 to 62. The ratio of offending chimneys to observations in 1931 was 1 to 103 which works out a percentage of 1.0 as compared with 1 to 58 and 1.7 per cent., for the previous year and 1 to 63 and 1.6 per cent. for the previous five years. There were no prosecutions to record though warning letters were sent to all offenders.

The atmosphere in Leeds it will be generally admitted is perceptibly cleaner than it was even five years ago, Fogs, it is true, still exist but they are much less frequent and of quite a different character from what they used to be. White fog will always be with us because it is of a purely atmospheric origin, but the black, or pea-soup fog, which used to afflict the population during the late Autumn and early Winter and which owed its colour and peculiar irritating properties to the soot and sulphur which entered largely into its composition, has become rare. There is undoubtedly still room for improvement, which can only come about when something is done to mitigate the nuisance arising from the smoke caused by the domestic fire. To-day in this city I should venture to say that as much as 60 per cent. of the smoke found in the atmosphere is the production of the open coal fire.

West Riding of Yorkshire Regional Smoke Abatement Committee.—The Executive Committee has continued to function during the year. Amongst the matters which occupied its attention were the following :—

- (a) The preparation of a new form of constitution.
- (b) Consideration of measures for the control of smoke nuisances from coke oven plants.
- (c) The arrangement of courses of training for stokers and boiler attendants and the holding of examinations.

Further details 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.

There is one item in the report which ought to be specially mentioned, namely, the holding of classes for stokers and boiler attendants at the various technical schools and colleges in the West Riding of Yorkshire. The class held in the Leeds Technical School was extremely well attended, 14 students presenting themselves for examination and 11 or 78·6 per cent. were successful and will receive the Committee's certificate. In connection with this I would make a special appeal to factory owners in the city to encourage their firemen to attend this class, for by so doing, they will further not only the interests of the stokers but their own, inasmuch as the handling of coal by a careful and competent man means not only the reduction of smoke and the consequent betterment of the general health of the people but also a saving of at least 25 per cent. of the coal bill of the average factory. As a recompense to the man who takes the trouble to make himself proficient in this way, and as a contribution to the cause of smoke abatement, employers might consider the advisability when making appointments to their boiler house staff of giving preference to men who possess the Regional Committee's certificate, and as a further recognition of the stoker's enterprise in attending the classes and taking the certificate his employer might reasonably be expected to add something in the way of a bonus to his wages.

Smoke Gauges.—The table on page 216 shows the monthly deposit of soot and ash in English tons per square mile for the years 1930 and 1931. Increases were recorded at Headingley and Templenewsam and decreases at Park Square, York Road and Hunslet. The station with the highest monthly average during 1931 was Park Square (30·1 tons) and that with the lowest Templenewsam (9·1 tons).

Sunlight and Daylight Gauges.—The table on page 215 shows the amount of daylight registered at Headingley and Park Square Stations for the years 1930 and 1931 and at York Road, Hunslet and Middleton Stations for the months of November and December, 1931. The gauges fixed at these stations consist of a solution of potassium iodide in dilute sulphuric acid. When exposed to light free iodine is liberated, the quantity of free iodine in solution being an index of the amount of daylight. An examination of the table will show that the figure for Headingley increased from 6·30 in 1930 to 6·44 in 1931 and the figure for Park Square from 5·26 to 5·91.

The method of taking observations of the amount of actinic light by the acetone methylene blue method has not been found satisfactory and was discontinued on September 30th.

The work of the smoke inspectors is given in detail in the subjoined table.

(1)					1931.	1930.
Furnaces inspected	..	..	..	..	1,748	1,458
Observation of chimneys	..	..	..	..	6,397	4,670
Number of minutes of dense smoke	..	..	..	..	3,589	3,024
Average duration of dense smoke per observation					0 mins.	0 mins.
					34 secs.	39 secs.
Number of chimneys offending against the						
regulations					62	80
Smoke prevention appliances adapted to furnaces					8	23
Furnaces altered or reconstructed					74	60
Firms who have adopted smokeless fuel					15	16
Chimneys newly erected					11	10
Furnaces in connection with new chimneys					15	12
Number of firms adopting electricity					2	1
(Steam boilers discarded)						
Notices served on owners and occupiers					59	80
Prosecutions					—	—

SMOKE OBSERVATIONS, 1922-1931.

(2)

Year.	Observations of Chimneys.	No. of Chimneys found offending against the regulations.	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

TABLE SHOWING AMOUNT OF DAYLIGHT FOR THE YEARS 1930 AND 1931.
(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.	
	1930.	1931.	1930.	1931.	1931.	1931.	1931.	Middleton.
January ..	2.78	3.36	2.13	2.54	..	..	..	..
February ..	4.06	4.22	2.94	3.74	..	..	..	..
March ..	6.73	7.63	5.60	7.50	..	..	..	..
April ..	6.79	7.64	5.30	7.37	..	..	..	..
May ..	9.09	8.84	8.10	7.35	..	..	..	..
June ..	9.11	8.94	8.53	8.64	..	..	..	..
July ..	9.03	9.29	8.29	9.09	..	..	..	..
August ..	8.56	8.13	7.77	7.96	..	..	..	..
September ..	6.88	6.72	5.84	6.28	..	..	..	..
October ..	6.20	6.11	4.27	5.24	..	..	..	..
November ..	4.40	3.25	3.10	3.12	3.17	3.11	4.69	..
December ..	1.97	3.17	1.27	2.13	2.26	2.36	3.87	..
Year (average) ..	6.30	6.44	5.26	5.91	2.72 (2 months)	2.74 (2 months)	4.28 (2 months)	..

SOOT AND ASH GAUGES.
MONTHLY DEPOSIT IN ENGLISH TONS PER SQUARE MILE.
YEARS 1930 AND 1931.

Period.	STATIONS.									
	Headingley.		Park Square.		York Road.		Hunslet.		Temple Newsam.	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
January ..	10.8	8.4	42.5	33.9	22.5	26.3	23.0	26.0	9.0	7.9
February ..	7.4	9.7	18.4	29.8	18.7	23.0	11.5	22.2	4.4	7.6
March ..	11.5	8.9	38.7	17.3	26.6	16.3	27.4	15.6	7.9	5.1
April ..	13.1	10.7	30.5	35.2	30.2	28.0	16.6	31.6	9.7	9.9
May ..	10.2	16.1	29.4	33.2	33.3	—*	26.3	23.5	7.4	9.2
June ..	11.5	13.5	26.4	31.9	26.6	27.0	28.9	24.0	7.4	11.2
July ..	11.8	9.2	30.5	28.0	29.7	25.0	42.5	33.4	11.0	10.2
August ..	9.4	10.2	28.8	23.2	23.2	21.9	27.0	18.1	12.8	8.9
September ..	8.7	10.2	25.9	30.1	21.9	20.9	20.7	18.1	7.7	9.4
October ..	9.2	6.9	31.9	29.1	20.4	29.6	27.3	18.3	6.9	7.4
November ..	9.4	14.8	30.9	37.5	22.9	26.0	25.3	19.6	7.9	11.5
December ..	10.9	7.9	36.2	32.1	23.5	22.9	14.0	18.1	9.7	11.0
Year ..	123.9	126.5	370.1	361.3	299.5	266.9 (11 months)	290.5	268.5	101.8	109.3
Monthly Average ..	10.3	10.5	30.8	30.1	25.0	24.3	24.2	22.4	8.5	9.1

* Gauge tampered with

Housing.

This still remains a pressing and difficult question.

The table on page 221 shows the number of houses erected in Leeds during the current year, a figure which compares very favourably with the previous peak figures, in spite of which, the demand for houses remains unsatisfied.

The majority of the applicants do genuinely need houses, and are not merely pandering to a whim of the moment to "flit" from the house they now occupy and which they think bad, to another which they imagine is sure to be better.

The percentage of new houses devoted to the relief of overcrowding and tuberculosis, has recently been increased from 10 to 25. Some of these cases are most distressing and their need urgent. The concession is timely and should ease the situation for these unfortunate people.

It is not generally appreciated how difficult it is for people who have lived under the depressing influence of a slum or in furnished or unfurnished rooms to adjust themselves to the altered conditions of life in a new house. The majority respond, but there will always be some who do not, and for whose failure the deserving suffer. It would be more satisfactory if the change could be gradual, say in two moves, instead of one. The best way of doing this would be for the Corporation to acquire a certain number of the second class of back-to-back house, and reserve them for housing the more unsatisfactory type of tenant living in furnished or unfurnished rooms, or displaced from slum property which has been condemned as no longer fit for human habitation. In a report on the subject which I recently made to the Improvements Committee I threw out this suggestion.

Flats.—In the early days of the post-war housing shortage, the almost universal idea was to provide garden cities or housing estates on the outskirts of our large towns, and in all cases this was done so that the building subsidies then in operation could be obtained. Now, the pendulum has swung the other way, and popular opinion is no longer in favour of the suburbanisation of the poorest paid class of worker for the reasons, that the extra

cost of travelling is equivalent to additional rent, that valuable time is expended in getting to and from work, and that meals are hurried and irregular. Besides which it is admitted on all hands that enough provision has now been made for the better paid type of worker and that future efforts should be directed towards the re-housing of the class mentioned in my previous paragraph. This immediately opens up the question of flats erected on sites in or near to the centre of the city. An experiment was made in Leeds, in pre-war days, of building on a central site which had been cleared of small unhealthy houses, a row of flats, three blocks in all, three storeys high, containing 39 separate tenements. These comprise 21 flats with two bedrooms, and 18 with one bedroom. The rents range from 8s. 6d. to 7s. 3d. per week inclusive. The amenities of these flats are admittedly not great, in view of present day tendencies and requirements, as exemplified in post-war flats erected in London, Liverpool and many of the large continental cities, but they have certainly remained well let, even with the higher rents, and notwithstanding that they are surrounded by self contained small houses at less rents. The reason is obvious. It is simply that these flats occupy a central site with easy access to work and markets. The experiment might usefully be extended for the re-housing of the type of tenant of whom I have been speaking. Modern flats in blocks of three or four storeys might be built on some of the vacant sites still available in the built-up portion of the city. If due regard were paid to essential requirements, without lavish elaboration so that rents are reasonable and such that the tenants could be expected to pay, then the adoption of such a policy would give a start to our long delayed schemes of slum clearance.

Number of Houses.—The total number of houses in the city on December 31st, 1931, was 130,574, made up approximately of 74,834 back-to-back houses, and 55,740 through houses.

Empty Houses.—At the same date there were 1,186 unoccupied houses in the city, mostly of the large residential kind.

New Houses.—The number of new houses completed during the year was 2,239, of which 126 were back-to-back, 288 cottage flats, 1,029 working-class houses, and the remaining 796 were of a larger type. The number of houses, including flats, built by the City Council since the war is 8,730, and the number built by private enterprise 10,319, in all a total of 19,049 houses.

Two new municipal housing estates have been laid out during the year, one at Kirkstall known as the Sandford House Estate and one in North East Leeds known as the Torre Road Estate.

Housing Shortage.—The number of applicants for Corporation houses standing in the registers on December 31st, was 6,532.

Overcrowding.—The number of notices served by the Department for overcrowding during the year was 227 of which 53 were abated. It is not possible as yet to deal effectively with this evil. The notices served are in exceptionally bad cases but because of the housing situation it is very seldom that they can be enforced.

Extract from report to Improvements Committee, March 1st, 1932.

It should be noted that overcrowding is not restricted to the smaller type of working-class dwelling, but exists to as great, if not a greater, extent in what was once a better class house, but which, owing to the growth of the city and the shifting of the population, has lost its status and is now farmed out in rooms or become what is commonly known as a "house-let-in-lodgings."

Even the new housing estates are not free from the evil, though every measure is taken to prevent it. There is no more insidious or more serious menace to personal or the public health than overcrowding, to say nothing of the moral health which is similarly prejudiced. The implication of that statement is that overcrowding must be judged not only on a numerical standard but also on the basis of morality; overcrowding of the sexes is productive of deplorable evils.

Both types of overcrowding exist in the city as may readily be surmised when one reflects that most of the working-class houses have only one bedroom.

The crowding into one small bedroom of children and young people of all ages up to and over twenty without proper facilities for the separation of the sexes is degrading in the extreme and productive of physical and moral deterioration.

The problem of overcrowding is one of the most urgent.

Unfit Houses.—The number of houses inspected and found not to be in all respects reasonably fit for human habitation was 2,709, of which 1,911 were repaired in response to notices served by the Department. In addition 25,828 houses were found to be defective in some respect or other, and were repaired.

One demolition order was made during the year, and the house concerned was demolished.

Unhealthy Areas.—As stated in my last Report, under the Housing Act, 1930, a programme of work for the ensuing five years was called for, to include the demolition of insanitary property in large and small areas, in improvement areas, as well as in groups of individual unfit houses, and this programme was presented to the Improvements Committee in January, and received the approval of the City Council in February, and was forwarded to the Ministry of Health. The programme provides for the treatment of 2,000 houses, 1,820 houses being in clearance areas, together with 180 individual unfit houses, or 400 houses per year during the quinquennium.

A copy of the programme appeared in my last report.

In accordance with the programme, the first year's quota was prepared in April, 1931, and submitted to the Improvements Committee in March, 1932. It includes 429 houses in nine small areas, four situated on the North of the river and five on the South. The houses in these areas are without exception bad, and merit demolition. The matter is still under consideration.

During the year two official complaints under Section 51 sub-section (2) of the Housing Act 1930 were received but as in both cases they referred to areas of property of a considerable extent and included in the aggregate upwards of 4,800 houses it has not been possible with the staff at my disposal to deal with them. They are, however, having my attention and will be reported on in due course.

West Street Unhealthy Area.—This area has been constantly referred to in my Annual Reports since I made the official representation in 1923. Certain properties have been demolished, but partly by reason of the shortage of houses and the difficulties of re-housing coupled with legislative difficulties, the work of clearance proceeded very slowly, with the result that the Ministry of Health notified the Corporation in July that owing to the lapse of time the scheme must be regarded as *pro tanto* ineffective. This notification made it necessary that the incomplete portion should be dealt with *de novo*, and in September I made further representation of the remaining 222 houses to the City Council.

This representation is now *sub judice*.

TABLE SHEWING THE NUMBER OF HOUSES ERECTED IN LEEDS
DURING THE LAST THIRTY YEARS, ENDED 31st MARCH, 1932.

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
Totals	25,660	8,999	34,659

TABLE SHEWING THE TOTAL AMOUNT OF HOUSING WORK DONE
BY THE LEEDS CITY COUNCIL TO 31ST MARCH, 1932.

ASSISTED SCHEMES.

NAMK 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 com- pleted	No. of Houses and Flats on which work has been com- menced 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 and 1924 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	10,815	1,814	1,356	1,664
Hollin Park	2,647	2,396	345	345	345
York Road	7,904	8,592	1,634	1,552	1,634
Harehills	690	787	112	112	112
Hawksworth	639	541	206	206	206
Greenthorpe	1,161	1,290	216	216	216
Southfield	465	479	84	84	84
Dewsbury Road ..	1,359	1,080	334	254	274
Westfield	2,334	1,887	352	352	352
Potternewton	482	562	134	57	134
East End Park (pur- chased for re-housing)	Existing	Existing	192	192	192
Sandford House ..	1,227	..	40	..	36
Torre	1,240	1,482	102	..	12
Totals	35,085	35,267	6,509	5,670	6,205
Grand Totals ..	56,521	61,895	9,838	8,999	9,534

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, 1931, and the numbers represented or otherwise dealt with, pursuant to the Housing Acts, with the corresponding figures for 1929 and 1930.

	1930.	1931.
Number of new houses erected during the year ..	1,792	2,239
(i) By the Local Authority	948	1,014
(ii) By other bodies and persons	844	1,225
1. <i>Inspection of dwelling-houses during the year.</i>		
(1) Total number of dwelling-houses inspected for housing defects under Public Health or Housing Acts and the number of inspections made	12,012	12,855
(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	1,474	1,381
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	689	223
(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	1,669	2,007
2. <i>Remedy of Defects during the year without Service of Formal Notices.</i>		
Number of defective dwelling-houses rendered fit in consequence of informal action taken by the Local Authority or their Officers	1,059	1,247
3. <i>Action under Statutory Powers during the year.</i>		
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 ..	462	702
(2) Number of dwelling-houses which were rendered fit after service of Formal Notices :—		
(a) By owners	486	664
(b) By Local Authority in default of owners ..	..	..
B.—Proceedings under the Public Health Acts.		
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	28,010	27,430
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—		
(a) By owners	28,922	25,828
(b) By Local Authority in default of owners ..	..	..
C.—Proceedings under Sections 19 and 21 of the Housing Act, 1930.		
(1) Number of dwelling-houses in respect of which Demolition Orders were made	..	1
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	..	1

Health Education, and Propaganda

BY

A. B. WILLIAMSON, M.A., M.D., B.Sc., D.P.H., *Chief Assistant
Medical Officer of Health.*

"There are none which it concerns us more to know than those which affect our own health."

—*St. Augustine, 6th Century A.D.*

People cannot be made healthy by Act of Parliament or by resolution of the City Council, unless they understand the simple laws of health and have the will and the desire to put them into effect in every day life. Although medical science has made rapid strides in recent years, the education of public opinion on health matters has not kept pace, with the result that the full benefits of the public health services have not been reaped. No progressive Public Health Department can therefore afford to neglect health education.

Health Week.—Health Week, which was held from October 11th to October 17th, was planned on an ambitious scale and proved to be one of the biggest and most successful launched in the city. The net was cast widely, to include as far as possible persons of all ages in every section of the community.

Active co-operation with other Corporation Departments and with several organisations in the city and elsewhere, whereby the fullest possible use was made of the facilities already available, was perhaps the most important feature in the year's arrangements and accounted mainly for the remarkably small cost of the campaign.

The chief innovations may be summarised as follows:—

- (1) the greatly extended use of the cinema and press which have vast potential possibilities in the field of health propaganda ;

- (2) the employment of wireless in broadcasting announcements and health topics ;
- (3) the increase in the number of open-air meetings ;
- (4) the extension of the advertising scheme ;
- (5) the increase in the number of open competitions which acted as a kind of "curtain raiser" for health week.
- (6) the use of a cinemotor enabling cinematograph films to be shown at lectures ;
- (7) cinematograph film addresses to audiences of selected senior school children.

During the week in addition to competitions for school children and others, 32 lectures on health subjects were given at certain large factories, girls' clubs and religious and welfare associations in the city. The total attendances at these lectures which included three open-air lectures, was estimated at 17,143 or more than double the figure for last year. At each lecture questions were invited and the discussions which followed indicated the keen and growing interest taken by the audience in health matters.

Many of the Ministers of religion in the city included the subject of health in their sermons on Sunday, October 11th (Health Week Sunday).

Special health talks were given to the mothers attending the various babies welcomes.

A dental exhibition was held at ten of the welcomes in connection with which practical demonstrations were given to the mothers on the care of the teeth.

Through the kindness of the Leeds and District Association of Cinema Exhibitors, 15 health films and 93 lantern slides were exhibited in 48 cinemas.

On four occasions during the week wireless talks on health topics were given from the North Regional Station.

The literature distributed included 40,000 bookmarks issued in books from the various public libraries in the city and 100,000 leaflets and booklets were given away at meetings and lectures.

Information on health topics was also given to the public through the medium of the press and in "Better Health" as well as by bills and posters in tramcars and on notice boards throughout the city. In connection with the week's propaganda acknowledgment must be made of the co-operation of the Education, Tramways, Libraries and Baths Departments, the Leeds National Health Insurance Committee, the Leeds and District Association of Cinema Exhibitors and the Safety First Association.

Parents' Conferences.—With the co-operation of the Education Department, eight conferences for parents were held in February on similar lines to the previous year. There was an average attendance at each meeting of 240, as compared with 88 last year.

Wayside Pulpits.—The display of slogans conveying health messages to the people was continued on the eleven existing wayside pulpits, and proved a successful means of health propaganda.

Leeds Committee for Social Hygiene.—During the year the Leeds Committee for Social Hygiene changed its title and constitution thereby widening the scope of its activities and increasing its usefulness. The new Committee was inaugurated on June 18th, under the new designation of the Leeds Committee for Social Hygiene and Health Publicity, with a representative membership of 27. Eight meetings were held during the year.

The total number of addresses on health subjects given during 1931 was 106, as compared with 72 for the previous year. The former figure includes three lectures given under the auspices of the Leeds National Health Insurance Committee, which has worked in close co-operation with the Leeds Committee for Social Hygiene and Health Publicity throughout the year.

Staff Changes.

W. S. Gilmour, M.B., Ch.B., appointed Medical Superintendent at Killingbeck Sanatorium, January 1931 in place of W. A. Todd, M.B., Ch.B., died December, 1930.

G. F. Bromley, M.B., Ch.B., appointed Assistant Resident Medical Officer at Seacroft Hospital for six months, April, 1931.

A. A. Roberts, M.B., Ch.B., B.Sc., appointed Public Vaccinator for No. 3 Vaccination District, April 1931.

M. S. Scott, M.D., Ch.B., appointed Assistant Venereal Diseases Medical Officer, April, 1931, in place of A. A. de La Touche, Ch.B., F.R.C.S., resigned.

W. G. Platt, M.B., Ch.B., M.R.C.S., L.R.C.P., appointed Public Vaccinator for No. 17 Vaccination District, May, 1931, in place of C. J. G. Exley, L.M.S.S.A., resigned April, 1931.

A. C. Meek, M.A., M.B., Ch.B., appointed Medical Superintendent at Gateforth Sanatorium, July, 1931, in place of H. E. Reburn, M.B., B.S., L.M.S.S.A., resigned May, 1931.

E. A. Underwood, M.A., B.Sc., M.B., Ch.B., D.P.H., appointed Chief Assistant Medical Officer of Health, September, 1931, in place of A. B. Williamson, M.A., B.Sc., M.D., Ch.B., L.R.C.P., D.P.H., resigned.

N. F. Pearson, M.R.C.S., L.R.C.P., Assistant Resident Medical Officer, Killingbeck Sanatorium, appointed Senior Assistant Resident Medical Officer, October, 1931.

E. Ward, M.R.C.S., L.R.C.P., appointed Assistant Resident Medical Officer at Killingbeck Sanatorium for 12 months, November, 1931.

APPENDIX 1.

MINISTRY OF HEALTH TABLES.

TABLE 1.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1931 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.			
		Un-corrected Number.	Nett.		Number.	Rate.	Of Non-residents registered in the District.	Of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.		
1	2	3	4	5	6	7	8	9	10	11	12	13
1921	465,500	10,427	10,144	21·8	6,424	13·8	408	269	997	98	6,285	13·5
1922	466,700	9,500	9,253	19·8	6,589	14·1	425	315	935	101	6,479	13·9
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

Area of District in } 38,106
acres (land and
inland water)

Total population at all ages at the 1931 Census 482,789

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

APPENDIX 2.

TABLE II. CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE CALENDAR YEAR 1931

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	5	..	..	..	1	1	2	1	5
*Chicken-pox	2,135	90	725	1,278	30	10	2	..	12
Cholera (C.) Plague (P.)	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup)	995	4	224	584	112	64	7	..	974
Erysipelas	317	11	4	17	32	84	122	47	140
Scarlet Fever.. .. .	1,467	8	365	771	208	105	10	..	1,364
Measles	10,955	493	5,974	4,416	46	24	2	..	1,65
German Measles	101	7	34	48	12	..	..	..	7
Typhus Fever	..	..	..	..	..	..	..	..	..
Enteric Fever	10	..	..	1	6	..	3	..	7
Relapsing Fever (R.) Continued Fever (C.)	..	..	..	..	..	..	..	..	..
Puerperal Fever	65	..	..	..	24	41	..	..	12
Puerperal Pyrexia	76	..	..	..	27	49	..	..	11
Cerebro-Spinal Meningitis	16	6	5	..	3	1	1	..	6
Poliomyelitis	1	..	1	..	..	..	..	..	..
Ophthalmia Neonatorum	53	53	..	..	..	..	..	..	..
Encephalitis Lethargica	3	..	..	..	1	2	..	..	..
Malaria	1	..	..	..	..	1	..	..	..
Dysentery	5	..	1	2	..	..	2	..	4
Other Diseases	128	12	27	31	38	14	6	..	128
Pulmonary Tuberculosis	666	..	9	80	175	257	133	12	503
Other forms of Tuberculosis	176	2	36	70	35	22	10	1	23
Pneumonia (Acute Primary)	832	81	234	148	82	124	122	41	20
" (Acute Influenzal)	145	14	37	12	14	23	25	20	..
TOTALS	18,152	781	7,676	7,458	846	822	447	122	3381

Isolation Hospital or Hospitals, Sanatoria, &c.:—City Fever Hospital, Seacroft and Killingbeck.

In addition to the 503 Pulmonary Tuberculosis and 23 Tuberculosis (Other Forms), removed, 63 Pulmonary Tuberculosis and 9 Tuberculosis (Other Forms), were admitted to "The Hollies," Weetwood Lane, and 116 Pulmonary Tuberculosis and 1 Tuberculosis (Other Forms), were admitted to Gateforth Sanatorium which is outside the City. They are included in the 666 and 176 notified.

* Notification discontinued 31st December, 1931.

TABLE II. (continued).

TOTAL CASES NOTIFIED IN EACH LOCALITY, (e.g., Parish or Ward) of the District.																												
NOTIFIABLE DISEASE.		Mill Hill and South.	Westfield.	Blenheim.	Central.	Woodhouse.	North.	Far Headingley.	Hyde Park.	Kirkstall.	Burmantofts.	Harehills.	Potternewton.	Roundhay.	Cross Gates and Templenewson.	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	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	5
Chicken-pox	..	61	62	24	35	34	22	81	61	76	104	54	22	75	29	51	148	178	121	137	67	125	172	169	76	62	89	2,135
Cholera (C) Plague (P) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup)	..	79	17	23	38	51	18	42	9	13	111	24	19	19	49	74	66	59	77	48	22	27	45	29	17	11	8	995
Erysipelas	..	41	21	7	12	10	5	10	9	13	21	9	14	1	8	8	15	13	14	13	8	10	15	11	8	13	8	317
Scarlet Fever	..	76	42	66	77	68	40	50	42	50	95	60	44	34	107	98	78	57	63	41	32	31	43	54	30	45	44	1,467
Measles	..	421	542	344	436	373	385	147	249	461	364	399	317	223	409	743	683	652	499	552	292	399	706	444	294	189	432	10,955
German Measles	..	4	2	7	7	4	6	11	3	5	4	11	2	2	1	1	2	3	4	2	3	..	2	7	..	7	1	101
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	1	..	..	..	..	2	..	..	..	1	1	1	1	..	..	..	..	1	..	..	..	..	..	..	2	..	10
Relapsing fever (R) Continued fever (C)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	2	6	15	1	3	1	1	1	2	5	1	1	2	..	7	2	1	5	1	..	..	1	2	4	1	..	65
Puerperal Pyrexia	..	1	6	11	4	1	..	2	3	1	9	1	..	2	2	8	2	6	3	2	..	1	4	1	3	1	2	76
Cerebro-Spinal Meningitis ..	..	6	1	1	..	..	..	1	1	..	..	..	..	..	..	2	1	1	..	1	..	..	1	..	..	..	..	16
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	1	..	..	..	..	1
Ophthalmia Neonatorum ..	..	2	5	2	3	..	..	1	2	1	3	3	1	1	1	3	3	3	2	4	..	3	1	5	1	1	2	53
Encephalitis Lethargica ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	1	..	..	3
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Dysentery	..	4	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Other Diseases	..	13	4	8	7	2	..	4	2	2	14	1	1	3	23	7	6	3	4	5	3	2	8	2	3	1	..	128
Pulmonary Tuberculosis ..	..	33	33	23	39	16	12	3	11	27	49	17	20	6	14	57	25	32	33	50	14	18	27	40	23	20	24	666
Other Forms of Tuberculosis ..	..	6	5	3	8	11	1	2	8	10	12	3	5	3	7	14	6	7	8	8	6	6	11	11	4	8	3	176
Pneumonia (Acute primary) ..	..	46	53	28	35	29	23	8	10	27	41	20	14	4	17	69	23	77	54	29	19	28	69	32	23	15	39	832
Do. (Acute Influenzal) ..	..	8	2	4	14	9	1	1	4	8	4	6	5	3	2	8	4	1	4	16	5	6	19	1	3	6	1	145
TOTALS	..	805	801	567	716	611	516	364	415	696	837	610	467	379	669	1,154	1,065	1,093	893	909	471	656	1,125	808	490	382	653	18,152

APPENDIX 3.

CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR 1931

REGISTRAR GENERAL'S FIGURES.

CAUSES OF DEATH.	Sex.	All Ages.	0-	1-	2-	5-	15-	25-	35-	45-	55-	65-	75-
All Causes	M.	3,387	314	85	84	94	152	154	203	408	684	764	445
	F.	3,120	240	51	70	74	123	158	186	318	492	712	696
1. Typhoid and Para-typhoid Fevers	M.	..	..	..	..	..	..	..	..	..	..	..	..
	F.	2	..	..	..	..	..	..	..	1	1	..	..
2. Measles	M.	28	2	12	14	..	..	..	..	..	..	..	..
	F.	27	4	6	13	4	..	..	..	..	..	..	..
3. Scarlet Fever	M.	5	..	..	1	3	..	1	..	..	..	..	..
	F.	6	1	1	1	2	1	..	..	..	..	..	..
4. Whooping Cough	M.	24	8	13	2	1	..	..	..	..	..	..	..
	F.	20	6	8	6	..	..	..	..	..	..	..	..
5. Diphtheria	M.	43	..	6	10	26	1	..	..	..	..	..	..
	F.	44	..	2	14	25	..	1	1	1	..	..	..
6. Influenza	M.	70	3	1	2	1	3	4	9	14	6	17	10
	F.	56	1	..	..	2	2	1	4	7	12	14	13
7. Encephalitis Lethargica	M.	5	..	..	..	..	1	2	1	..	1	..	..
	F.	3	..	..	..	..	1	..	1	..	..	1	..
8. Cerebro-spinal Fever	M.	6	3	1	1	..	1	..	..	..	..	..	..
	F.	5	2	1	1	..	1	..	..	..	..	..	..
9. Tuberculosis of respiratory system	M.	263	1	1	2	2	49	50	42	56	54	6	..
	F.	184	1	..	..	2	57	48	33	26	9	7	1
10. Other Tuberculous Diseases	M.	46	3	4	9	12	10	1	1	..	4	..	2
	F.	41	3	4	9	6	8	4	1	3	1	2	..
11. Syphilis	M.	27	3	..	..	..	2	3	4	5	6	3	1
	F.	6	3	..	..	..	1	1	..	..	..	1	..
12. General Paralysis of the insane—tabes dorsalis	M.	28	..	..	..	..	..	..	4	10	7	5	2
	F.	7	..	..	..	..	..	..	3	3	1	..	..
13. Cancer, malignant disease	M.	354	..	1	1	..	4	10	23	60	116	108	31
	F.	389	1	1	..	..	..	5	22	91	102	105	62
14. Diabetes	M.	31	..	..	..	..	1	..	..	5	10	12	3
	F.	62	..	..	..	..	1	..	2	6	19	23	11
15. Cerebral Hæmorrhage, &c.	M.	145	..	..	..	..	1	1	3	15	36	59	30
	F.	197	..	..	..	..	..	..	3	13	45	72	64
16. Heart Disease	M.	614	..	..	..	9	14	11	19	73	164	211	113
	F.	682	..	..	..	3	10	25	33	57	141	198	215
17. Aneurysm	M.	18	..	..	..	..	2	1	..	4	8	2	1
	F.	8	..	..	..	..	..	1	..	2	1	2	2
18. Other circulatory diseases	M.	274	..	..	..	..	..	..	1	8	37	116	112
	F.	209	..	..	..	..	..	..	..	6	21	74	108
19. Bronchitis	M.	177	8	1	1	1	..	6	5	27	37	63	28
	F.	169	12	2	1	1	..	1	3	7	25	44	73
20. Pneumonia (all forms)	M.	299	67	30	20	6	12	13	28	32	44	27	20
	F.	210	43	18	12	6	8	8	16	14	24	40	21
21. Other respiratory diseases	M.	38	1	1	1	2	5	2	3	9	7	6	1
	F.	26	2	..	1	1	3	2	2	3	5	2	4
22. Peptic Ulcer	M.	33	..	..	..	..	..	2	8	7	10	5	1
	F.	19	..	..	..	..	1	2	3	3	6	3	1
23. Diarrhœa, &c.	M.	46	33	4	..	1	1	2	..	1	1	1	2
	F.	36	18	2	1	1	2	2	2	1	2	1	4
24. Appendicitis	M.	13	..	..	2	3	..	3	1	..	2	2	..
	F.	14	..	..	1	4	1	..	..	2	3	2	1
25. Cirrhosis of Liver	M.	9	..	..	..	..	..	..	2	2	3	2	..
	F.	9	..	..	..	1	..	..	..	5	2	..	1
26. Other diseases of Liver, &c.	M.	14	..	..	..	..	..	..	..	3	6	3	2
	F.	34	..	..	..	..	..	2	3	8	3	13	5
27. Other digestive diseases	M.	54	10	3	2	1	..	2	5	12	7	9	3
	F.	48	7	..	3	2	3	1	2	5	8	10	7
28. Acute and Chronic Nephritis	M.	101	..	..	1	1	6	3	8	13	31	28	10
	F.	90	..	..	1	..	2	6	15	12	20	24	10
29. Puerperal Sepsis	F.	18	..	..	..	..	6	6	6	..	..	..	..
30. Other puerperal causes	F.	21	..	..	..	..	2	15	4	..	..	..	..
31. Congenital debility	M.	141	134	1	1	3	2	..	..	..	..	..	..
Malformation, and premature birth	F.	101	101	..	..	..	..	..	..	..	..	..	..
32. Senility	M.	45	..	..	..	..	..	..	..	..	..	10	35
	F.	67	..	..	..	..	..	..	..	..	1	10	56
33. Suicide	M.	45	..	..	..	..	..	7	6	10	14	5	3
	F.	21	..	..	..	..	2	3	2	6	6	2	..
34. Other Violence	M.	107	4	1	6	8	23	15	7	12	15	9	7
	F.	91	16	2	4	7	3	6	7	9	7	14	16
35. Other defined diseases	M.	280	34	5	8	14	14	15	22	30	58	54	26
	F.	197	19	4	2	7	8	17	18	27	27	47	21
36. Causes ill-defined or unknown	M.	4	..	..	..	..	..	..	1	..	..	1	2
	F.	1	..	..	..	..	..	..	..	..	..	1	..

APPENDIX 4.

INFANT MORTALITY. CALENDAR YEAR 1931. 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	..	..	..	..	..	..	..	1	..	..	1
Measles	..	..	..	..	..	..	..	1	2	3	6
Scarlet fever	..	..	..	..	..	..	..	..	..	1	1
Whooping Cough	..	..	..	..	..	..	..	2	6	6	14
Diphtheria	..	..	..	..	..	..	..	..	..	..	..
Influenza	..	..	..	..	..	..	2	1	..	1	4
Erysipelas	..	..	1	..	..	1	..	3	..	..	4
Tuberculous Meningitis	..	..	..	..	..	..	..	..	1	2	3
Abdominal Tuberculosis	..	..	..	..	..	..	..	..	1	..	1
Other Tuberculous Diseases	..	..	..	..	..	..	..	1	..	3	4
Meningitis (not Tuberculous)	..	..	..	..	..	..	2	1	2	1	6
Convulsions	..	8	2	1	1	12	..	..	2	2	16
Bronchitis	..	..	2	1	..	3	12	3	3	1	22
Pneumonia (all forms)	..	1	1	1	2	5	20	27	31	21	104
Other diseases of respiratory organs	..	1	..	..	..	1	..	2	..	..	3
Diarrhoea	..	..	3	4	..	7	17	15	11	11	61
Enteritis	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	2	2	1	..	5
Syphilis	1	..	..	1	1	3	3	..	..	..	6
Rickets	..	..	..	..	..	..	..	..	2	..	2
Suffocation, including overlying	6	1	..	1	1	9	2	2	1	..	14
Injury at birth	10	9	1	..	..	20	..	..	..	..	20
Atelectasis	5	4	1	..	..	10	..	..	..	..	10
Congenital Malformations	3	8	7	..	2	20	14	6	4	2	46
Premature birth	56	31	9	6	3	105	7	2	..	..	114
Atrophy, Debility and Marasmus	6	7	1	1	..	15	6	4	..	1	26
Other Causes	6	9	3	1	3	22	5	13	13	6	59
Totals	93	79	31	17	13	233	92	86	80	61	552