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CITY OF LEEDS.

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REPORT

ON THE

**Health and Sanitary Administration**

OF THE CITY

FOR THE YEAR 1930

BY

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

*Medical Officer of Health.*



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" GERTRUDE DENNISON.	" A. LEE
" DOROTHY MURPHY.	" (Deputy-Chairman)
" D. BEEVERS.	" A. E. WEAVER.
" J. W. HEMINGWAY.	" J. W. WHITFIELD.

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Gateforth Sanatorium .. ..	H. E. REBURN, M.B., B.S., L.M.S.S.A.
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Assistant Medical Officer for Venereal Disease .. ..	A. A. D. LA TOUCHE, Ch.B., F.R.C.S.
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Do.	do.	..	..	I. TAYLOR, M.B., M.R.C.S., L.R.C.P.
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Assistant City Analyst	..	..	..	R. W. SUTTON, B.Sc., F.I.C.
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Chief Health Visitor and Inspector of Midwives	..	..	..	MARY E. HUGHES.
Principal Clerks—				
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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
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## CITY OF LEEDS.

*To the Chairman and Members of the Health Committee.  
Ladies and Gentlemen,*

*The year 1930 stands out as one of the best in the history of the city as far as the public health is concerned, though unfortunately one of the worst from the point of view of material prosperity. If it be true that the one reacts on the other, then the truth was not obvious in 1930, because notwithstanding acute trade depression, the health of the city was never better.*

*With the exception of an increase in the incidence and case mortality of diphtheria there were no serious epidemics.*

*The death-rate (12.4) was the lowest on record, the infantile mortality rate (68) likewise, whilst the following diseases, measles, whooping cough, influenza, diarrhoea and enteritis, pneumonia and bronchitis accounted for fewer deaths than in any previous year of which a record exists.*

*Unfortunately cancer continued to gain ground, the death-rate rising to the high figure of 1.52 as compared with an average of 1.39 in the previous quinquennium. So far the precise cause of the disease has eluded the many workers in this field of medical research, and until the cause is revealed, prevention is impossible.*

*The most notable achievement of the year was undoubtedly the marked fall in the infant death-rate, and as if to emphasize the importance of the event and to enhance its significance, the birth-rate rose a few points from 15.5 in the previous year to 15.8. This is the first time since 1920 that an increase in the birth-rate has been recorded.*

*If the year was favourable as far as the vital statistics are concerned, in other respects it was disappointing. A great deal had been expected from the Local Government Act, 1929, which came into force during the year. It was anticipated that the passing of this great measure of Social reform would lay the foundation of a unified and improved Public Health and Hospital Service in the city. That expectation has not been realised, the Service still remains disunited without any co-ordinating links between the various units.*

*A scheme for the inclusion of the Poor Law Hospitals in the Public Health Service was adopted by the Council in July but later in the year the Council reversed its decision and restored the hospitals to their original setting. The Public Assistance Committee has retained the supervision of the hospitals and the scheme for the mergence of these in the Public Health Service has for the time being been abandoned.*



*In previous reports I have called attention to the inadequacy of the provision made in the city for the treatment of non-pulmonary tuberculosis and orthopædics. A scheme for the utilization of Elmet Hall for the purpose of a combined tuberculosis and orthopædic hospital has been under consideration for some years, but so far has failed to materialize. An earnest attempt to bring the scheme to fruition was made during the year, but without success. Further comments on this subject will be found in the body of the report on page 113.*

*Negotiations for the amalgamation of the Public Health and School Medical Service were resumed during the year, but again came to naught. The case for amalgamation is, in my judgment, unanswerable, but an unfortunate tradition bars the way to the consummation of this most necessary reform.*

*The Housing Act of 1930 offered an opportunity of attacking the slum problem, which in Leeds is of considerable magnitude and complexity. I had hoped that a big effort would be made to overtake the arrears in this important department of Municipal activity and was disappointed with the meagreness of the five years programme adopted by the Council under the Act. I am not unmindful of the financial stringency of the times, but making due allowance for that, a bolder policy might have been adopted.*

*There are now four separate Departments of the Corporation, working in the field of health in the city, completely divorced from one another and without any connecting link. This, it seems to me, is anomalous and wasteful. I am convinced that until the separate strands are brought together and spun into one thread, strength, efficiency and economy cannot be attained.*

*I wish to acknowledge with gratitude the valuable assistance afforded me in carrying on the work of the department by the heads of the various sub-departments as well as by the members of the staff in general.*

*My thanks are also due to you, Sir, and to the members of the Health Committee for your encouragement and support during the year.*

*I am,*

*Ladies and Gentlemen,*

*Your obedient Servant,*

*J. JOHNSTONE JERVIS.*

*Public Health Department,  
Leeds,*

*August, 1931.*

# SUMMARY.

## 1930.

---

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) .. ..	478,500
ESTIMATED NUMBER OF HOUSES .. .. .	128,432
RATEABLE VALUE .. .. .	£3,008,142
SUM REPRESENTED BY A PENNY RATE .. .. .	£11,571

	Average. 1930. 1920-29.	
BIRTH RATE (births per 1,000 living) .. .. .	15·82	18·51
MARRIAGE RATE (persons married per 1,000 living) ..	16·49	17·20
DEATH RATE (deaths per 1,000 living) .. .. .	12·39	13·71
NATURAL INCREASE OF POPULATION .. .. . (Excess of births over deaths in the year)	1,638	2,258
INFANT MORTALITY RATE .. .. . (Deaths under 1 year per 1,000 births)	68	96
DEATH RATE from Pneumonia and Bronchitis .. .. .	1·44	2·27
"    "    Cancer .. .. .	1·52	1·31
"    "    Diarrhœa and Enteritis (under 2 years) per 1,000 births .. .. .	4·49	13·92

	Cases.	Case- rate.	Deaths.	Death rate.
SCARLET FEVER .. .. .	2,383	4·98	23	0·05
DIPHTHERIA .. .. .	994	2·08	54	0·11
TYPHOID FEVER .. .. .	4	0·01	2	0·00
MEASLES .. .. .	1,256	2·62	2	0·00
PULMONARY TUBERCULOSIS .. .. .	642	1·34	432	0·90
OTHER FORMS OF TUBERCULOSIS .. .. .	251	0·52	101	0·21



# City of Leeds.

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## Natural and Social Conditions.

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**Area.**—The area of the city was the same as in 1929, namely, 38,106 acres.

**Population.**—In view of the fact that another census is due in April of the current year it has been decided on the suggestion of the Registrar General to use the estimated population of 1929 for the calculation of birth and death-rates for 1930. The Registrar General's estimate of population at the mid-year of 1929 was 478,500.

The number of occupied houses at the 1921 census was 108,534 and unoccupied 2,737. The total number of families occupying these houses was 110,182. On June 30th, 1930, the number of occupied houses was estimated at 126,813 and unoccupied as 1,097.

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. This entails a completely new distribution of the population and inasmuch as the information we possess with regard to the population of the existing wards is only approximately accurate no attempt has been made to allocate the whole population to the new wards. For the purpose of this report and for the statistics of 1930 generally the ward populations have been retained as in the previous year. The table on page 14 gives the distribution of the population in the 17 wards as accurately as it is known. A fresh distribution covering the 26 new wards will be made and will appear in my next report.

**Constitution of new City Council.**—With the increase in the number of wards there was a corresponding increase in the number of elected representatives. The City Council now consists of a Lord Mayor, 26 Aldermen and 78 Councillors. The membership of the Health Committee was increased from 10 to 12. Details of the personnel will be found in the preface.



The following table shows the constitution of the population in age groups at the 1921 census :—

1921 CENSUS POPULATIONS IN AGE GROUPS.

Sex.	Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Total.
Males ..	4,645	13,419	41,533	38,348	63,219	44,198	10,125	215,487
Females ..	4,511	13,217	41,354	45,677	76,492	47,830	13,664	242,745
Total ..	9,156	26,636	82,887	84,025	139,711	92,028	23,789	458,232

POPULATION IN WARDS.

WARD.	Census, April and, 1911.	Census, June 19th, 1921.	Adjusted population, 1921.	Estimated population middle of 1930.
Central .. ..	14,503	12,528	12,727	12,636
North§ .. ..	41,968	42,423	43,096	44,274
North-East ..	36,239	36,011	36,582	36,667
New Ward* ..	..	7,814	7,938	13,812
East .. ..	34,701	35,272	35,832	36,115
South .. ..	12,562	12,817	13,020	12,951
East Hunslet† ..	33,562	35,264	35,823	37,957
West Hunslet ..	35,766	36,129	36,702	36,445
Holbeck .. ..	29,679	29,441	29,908	29,692
Mill Hill .. ..	5,856	5,286	5,370	5,274
West .. ..	20,553	22,029	22,378	22,079
North-West ..	30,570	31,531	32,031	31,707
Brunswick ..	23,219	23,930	24,310	24,006
New Wortley ..	16,714	17,773	18,055	18,009
Armley & Wortley	37,419	36,762	37,345	37,508
Bramley .. ..	23,937	23,481	23,853	24,685
Headingley‡ ..	48,302	49,741	50,530	54,683
City .. ..	445,550	458,232	465,500	478,500

§ Including Alwoodley (1921 Census, 205) and portion of Eccup added to Leeds, April 1st, 1928.

\* Roundhay, Seacroft, Shadwell and Cross Gates added to Leeds, November 1912 (1911 Census, 7,398), including Templenewsam (1921 Census, 3,393) and portion of Austhorpe (1921 Census, 71) added to Leeds, April 1st, 1928.

† Including Middleton added to Leeds, April 1st, 1920 (1911 Census, 1,207).

‡ Including portion of Adel added to Leeds, April 1st, 1926 (1921 Census, 987) and portion of Eccup added to Leeds, April 1st, 1928.

§† The 1921 Census population of Eccup which was divided between the North and Headingley Wards was 234.



**Rateable Value.**—The rateable value of the city was £3,008,412 and the estimated product of a penny rate £11,571. The corresponding figures for 1929 were £3,337,161 and £12,919. The reduction in the figures for 1930 as compared with the previous year is explained by the operation of the de-rating provisions of the Local Government Act 1929 which came into force during the year.

**Principal Industries.**—The principal industries in the city remained as in previous years, namely, engineering, iron and steel, woollen, ready-made clothing, leather, boot and shoe, printing and dyeing.

The trade of the city showed no signs of improvement during the year, indeed, in some respects it was worse than in the previous year. The number of persons wholly and partially unemployed in December was 38,000 as compared with 22,000 at the beginning of the year. Notwithstanding the serious amount of unemployment, the health of the city remained exceedingly good, better in fact than in many previous years when the unemployment figure was low or practically non-existent.

**Meteorological Conditions.**—The hours of bright sunshine registered in the city during the year was 1,082.58 hours as compared with 1,332.70 hours for the previous year and an average of 1,252.56 for the previous five years. The sunniest month was June with a daily average of 5.58 hours of bright sunshine and the darkest, December with a daily average of 0.43 hours. The daily average for the whole year was 2.95 hours as compared with 3.65 hours for the previous year.

The total rainfall was 32.47 inches as compared with 20.74 inches in 1929 and an average of 28.55 inches for the previous quinquennium. The driest month was February with a total of 0.27 inches and the wettest July with a total of 6.48 inches. Taking the four quarters of the year, the rainfall in the first quarter was 6.42 inches; in the second, 4.84; in the third, 12.86; and in the fourth, 8.35.

The month with the highest average temperature was August with 64.10 degrees and the lowest February with 39.69 degrees. The average temperature for the whole year was 51.70 degrees as compared with 51.67 for the previous year.



Judged by these figures the year must be classed as a rainy year, but notwithstanding, its health record compares very favourably with 1929 which was a very dry year or with any other previous dry year. The inference to be drawn, and it is one which the experience of every succeeding wet year strengthens, is that as far as the public health is concerned rain is more beneficial than sunshine. This apparent paradox is, however, capable of explanation. A large amount of rain can be deposited on the earth's surface in a very short period of time and it is possible to record accurately even the smallest amount which falls. Not so with sunshine, which varies from hour to hour according to the state of the atmosphere, and such records as are kept are only of bright sunshine and therefore not a true measure of the actual amount of sunlight. Another possible explanation, and one which will be obvious to most people, is that rain washes the atmosphere and the surfaces on which it falls, whereas sunshine dries the surface of the earth and through the action of wind and air currents increases the amount of dust and suspended matter in the atmosphere, and therefore as a corollary, the amount of air-borne infection.

**National Health Insurance Acts.**—The total number of insured persons in the city under the National Health Insurance Acts on December 31st, 1930, was 214,580 as compared with 213,855 on January 1st. The number of doctors, including assistants, on the panel at the end of the year was 237 and the number of prescriptions dispensed was 1,062,023. The corresponding figures for the previous year were 235 and 1,143,673.

**Hospitals.**—The great event of the year was the coming into force on April 1st of the Local Government Act 1929. The reforms introduced by this important measure are far reaching and affect many sides of Local Government, but perhaps the most important reform from the point of view of public health is that which deals with what is popularly spoken of as the break-up of the Poor Law. For many years, indeed ever since the report of the Poor Law Commission was issued in 1907, it has been felt that the system had outlived its usefulness and that the rapid growth and development of the rival rate-aided service of public health made it necessary in the interests of economy and efficiency that drastic changes should take place.



In a report on the medical services of the Poor Law and the Public Health Departments of English Local Government issued by a Royal Commission on the Poor Laws and Relief of Distress in 1907, it was stated *inter alia* :—

(1) " That any reform, either of the Poor Law medical service or of the public health medical service, must be in the direction of uniting into one systematically organised service the various competing, overlapping and mutually conflicting rate-supported agencies that now so largely counteract each other."

(2) " That the principal and primary object of any medical provision at the public expense ought to be, not the relief of the present suffering of the individual patient but the prevention of disease, and its cure, in him, and in the rest of the community."

The Act is a frank acknowledgment of the truth underlying these two statements and gives effect to the suggestions contained therein. It transfers from the Poor Law Authorities to the Councils of Counties and County Boroughs all the powers and duties carried out by Boards of Guardians under the Poor Laws.

The Leeds City Council as from the 1st day of April 1930 became the Authority responsible for all the activities previously in the hands of the Board of Guardians. A Public Assistance Committee was set up to administer these powers on behalf of the City Council which powers included, in addition to the distribution of relief, the care of the sick poor in their homes and in the medical institutions established by the Board of Guardians.

In July 1929, an administrative scheme under Section 4 of the Act was passed by the City Council of which the following is a summary.

(1) It is hereby declared that all assistance to necessitous persons for which provision is made in the services set out in this Clause shall be provided exclusively by virtue of the Act or Acts under the heading of which the service is set out and not by way of poor relief :—

Public Health Act, 1875.

The provision for the use of the inhabitants of the County Borough of Hospitals for the reception of persons suffering from notifiable infectious disease other than Tuberculosis.

Blind Persons Act, 1920.

The provision of domiciliary assistance to blind persons.

Education Act, 1921.

The education of children.



(2) It is the intention of the Council to secure that all such other assistance as can lawfully be provided otherwise than by way of poor relief shall be so provided as soon as practicable.

(3) Nothing in this scheme shall diminish or otherwise affect the duty of the Council under section 34 of the Poor Law Act, 1927, to provide relief for the poor, and if any application for assistance is made to the Public Assistance Committee or a Sub-Committee thereof, or to an officer of the Public Assistance Committee, and the assistance required is assistance in respect of which a declaration is made under this Clause, the appropriate committee of the Council shall forthwith be notified of the application, and pending the decision of that Committee the Public Assistance Committee or Sub-Committee or officer shall render any necessary assistance either in an institution or otherwise.

Following upon the adoption of this scheme the Public Assistance Committee undertook a complete and exhaustive examination of the position in Leeds as regards the medical services under the Poor Laws. In conjunction with the medical superintendent of St. James' Hospital, I was instructed to prepare a scheme for utilising the poor law hospitals and medical institutions and making them an integral part of the public medical services. Such a scheme was prepared and formally presented to the Public Assistance Committee on the 29th May, 1930.

The recommendations put forward in the scheme were (1) that St. James' Hospital, St. Mary's Infirmary and the Infirmary at Rothwell be appropriated under section 131 of the 1875 Act and be transferred to the Health Committee.

(2) That the Health Committee be responsible for the treatment of acute and infirm sick and that the accommodation in the three hospitals referred to be reserved for this purpose, acute sick and a small number of infirm sick being accommodated at St. James' Hospital, whilst St. Mary's and Rothwell Infirmaries were retained for infirm sick only.

(3) That Holbeck Infirmary and Beckett Street Institution remain under the control of the Public Assistance Committee and be used to accommodate the able-bodied poor and infirm persons of both sexes not in need of medical or nursing assistance.

(4) That the mental wards at Beckett Street Institution remain under the control of the Public Assistance Committee. (This recommendation was subsequently altered after the passing of the Mental Treatment Act 1930 and the mental wards were included amongst the institutions to be transferred to the Health Committee under the scheme).



The effect of these recommendations was to increase the number of beds available for acute sick from 472 to 565, for infirm sick from 703 to 766, and for institutional cases from 1,080 to 1,122. They also increased the annual turnover of cases of acute sickness in St. James' Hospital from an average of 7,120 to 12,000 per annum. It will therefore be seen that the hospital services of the city stood to benefit considerably from the changes adumbrated by the scheme, whilst an important step would have been taken towards the ultimate unification of all the city's public health activities. The scheme also contained a number of other minor administrative improvements which I need not go into here.

After prolonged and careful consideration the scheme ultimately received the sanction of the City Council and was forwarded to the Ministry of Health for approval. The Minister of Health before approving the scheme desired further information on five points, all of which more or less minor in character and presenting no difficulty which could not be readily surmounted. The settlement of these points entailed some delay however, and meanwhile a new Council came into being. As a result of the change, it was decided to reverse the decision of the previous Council and leave the Poor Law Hospitals in the hands of the Public Assistance Committee.

The table on page 38 gives the number of hospitals under the control of the Health Committee and the tables on pages 39 and 40 gives the number of hospitals under the control of the Public Assistance Committee and the Leeds Mental Health Services Committee and the Voluntary Hospitals in the city.

### VITAL STATISTICS.

**Marriages.**—The number of marriages which took place in Leeds during the year was 3,946 corresponding to a marriage rate of 16.5 as compared with 16.7 for the previous year and an average of 17.2 for the previous ten years. The marriage rate of England and Wales for 1930 remained the same as for the previous year, namely 15.8.

**Births.**—The births registered during the year were 7,905 comprising 4,009 males and 3,896 females. Of these 230 males and 206 females born to parents not belonging to the city were transferred out, whilst 49 males and 50 females born outside the city to Leeds parents were transferred in, making a nett total of 7,568 births,



comprising 3,828 males and 3,740 females. Compared with the previous year this represents an increase of 74 males and 68 females or a total increase of 142.

The birth-rate was 15.8 as compared with 15.5 for the previous year and an average of 16.5 for the previous five years. From 1920 to 1929 the descent of the birth-rate curve has been continuous, some years steeper than others, but in no year showing any signs of flattening, much less an upward rise.

The table appended gives the marriage and birth rates for the years 1911-1930 and it will be noticed that there was a slight decrease in the marriage rate in 1930 and a slight increase in the birth-rate. The chart opposite page 22 illustrates in a more striking manner than words can express how the relative positions of the birth and marriage rates have changed in the last five years. Up to 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 have been reversed.

MARRIAGE AND BIRTH-RATES 1911-1930.

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	3,946	16.5	7,568	15.8



In the list of the thirteen large towns in England and Wales Leeds occupied ninth place, the towns with higher birth-rates being Liverpool, Hull, Stoke-on-Trent, Newcastle, West Ham, Birmingham, Nottingham and Manchester, whilst those with lower rates were London, Bristol, Sheffield and Bradford.

The distribution of the births in the various wards is shown in the table on page 25. In nine of the wards namely, East, New, East Hunslet, New Wortley, South, North East, West, North and Holbeck, the birth-rate was higher than for the city as a whole, whilst in the remainder North West, Central, Brunswick, Bramley, Headingley, West Hunslet, Armley and Wortley and Mill Hill it was lower. The wards with the highest rates were East, New, East Hunslet, and New Wortley, all of which were above 18, whilst those with the lowest were Headingley, West Hunslet, Armley and Wortley, and Mill Hill. In four of the wards the rate was below 14 per thousand.

*Birth-rate in Quarters.*—The highest rate was in the second quarter, 16.6, and the lowest in the fourth, 14.6, whilst in the first and third it was 16.0 and 16.1.

*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 1,638 as compared with 1,532 in 1928 and an average of 2,258 for the previous ten years. In 1929 there was no natural increase of population, as the deaths outnumbered the births by 472.

For the last five years investigations have been made as to the size of family into which children have been born and the table on page 23 gives the results of those investigations. It will be observed that whereas in 1926 the beginning of the quinquennium, 71.4 per cent. of the births investigated were into families of two children and under, the percentage in 1930 rose to 74.4, and that of the births occurring into families of more than six children the percentage had fallen from 6.2 in 1926 to 4.6 in 1930. If these figures mean anything they surely point to the gradual elimination of the large family. In some respects that is a good thing but viewed from another angle it is to be deplored. I am no advocate of large families where the parents are not in a position to give the children the care and attention which they should have, but I am very strongly of opinion that amongst the "comfortably off"



and the well-to-do classes of the population families might be larger than they are. It is regrettable from an eugenic point of view that the population should have to depend for a large proportion of its yearly increase on the procreative efforts of that section of the community which is least able to produce healthy children, and when it has produced them to give them a fair chance of attaining that degree of mental and physical development which modern standards demand.

In this connection I should like also to draw attention to the paragraph on stillbirths which appears on page 165 of this report.

*Illegitimate Births.*—Of the 7,568 (nett) births registered, 7,194 (3,636 males, 3,558 females) or 95·1 per cent. were legitimate and 374 (192 males, 182 females) or 4·9 per cent. were illegitimate. The ratio of illegitimate to legitimate was 1 to 19; last year it was 1 to 17.

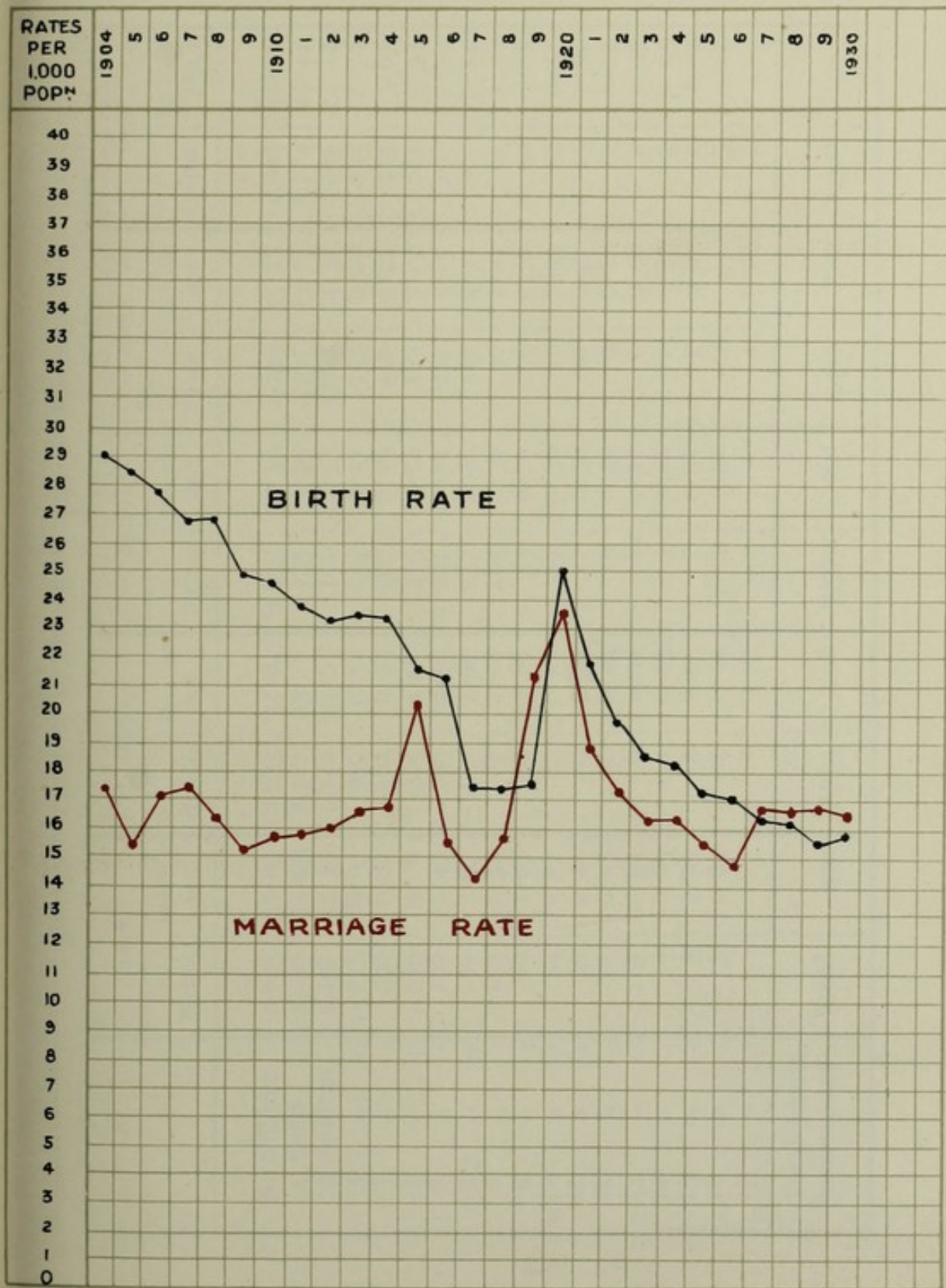
#### ILLEGITIMATE BIRTHS.

YEAR.	Illegitimate births.	Percentage of nett births registered.	Rate per 1,000 estimated population.
1920 ..	631	5·6%	1·41
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

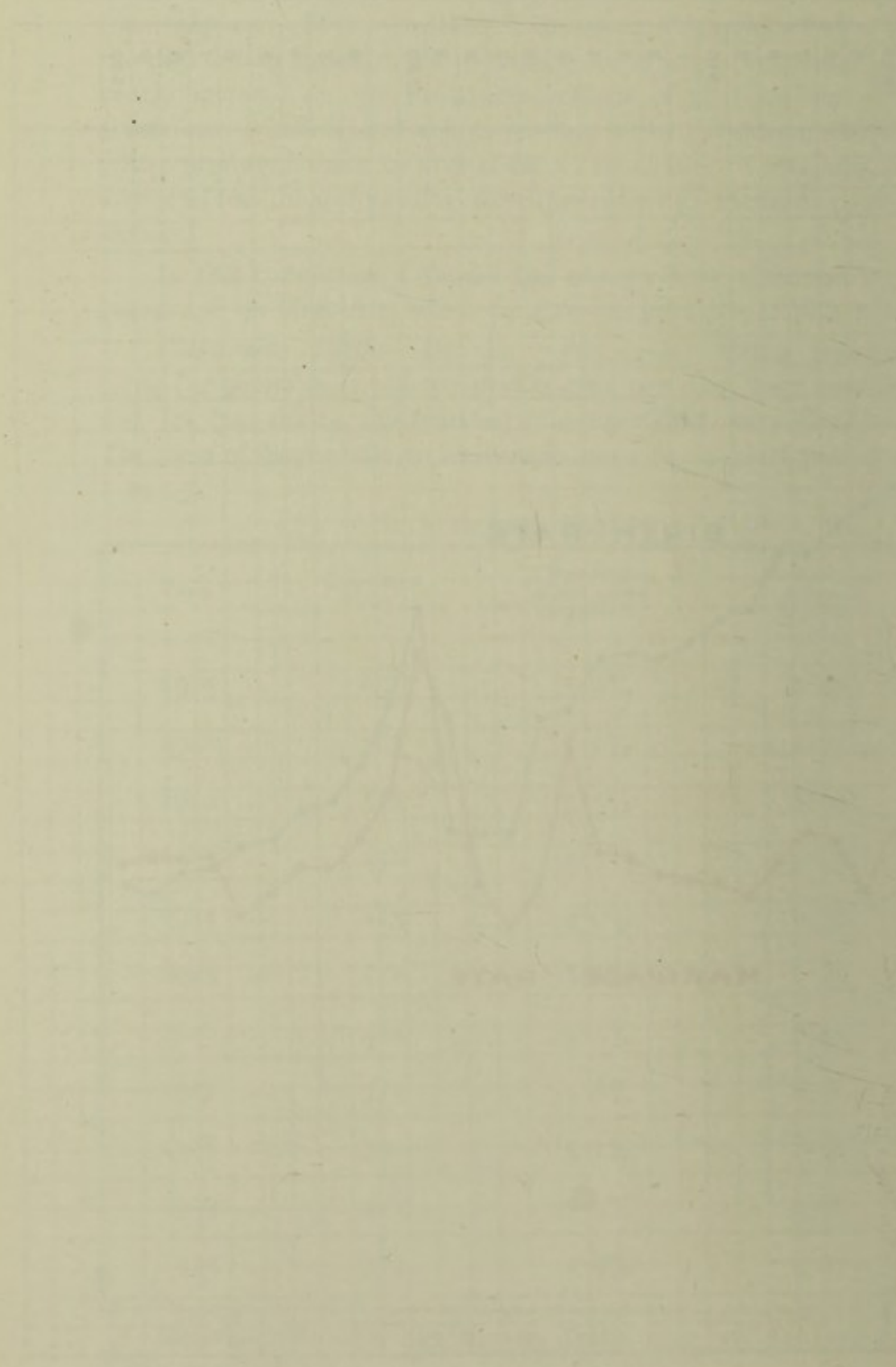
Reference to the illegitimate death rate will be found on pages 144 and 148.



# BIRTH RATE AND MARRIAGE RATE. 1904 - 1930.



# BIRTH RATE AND MARRIAGE RATE, 1904-1928



BIRTHS OCCURRING IN ORDER OF SIZE OF FAMILY.

	1926.		1927.		1928.		1929.		1930.	
	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
1 child ..	1,924	24.03	1,787	23.11	1,725	22.79	1,771	23.87	1,784	24.44
2 children..	1,152	14.39	1,148	14.84	1,100	14.53	1,062	14.31	1,039	14.23
3 " ..	771	9.63	759	9.81	694	9.17	653	8.80	635	8.70
4 " ..	498	6.22	482	6.23	466	6.16	446	6.01	414	5.67
5 " ..	325	4.06	314	4.06	313	4.14	289	3.89	287	3.93
6 " ..	196	2.45	198	2.56	191	2.52	212	2.86	197	2.70
7 " ..	166	2.07	144	1.86	137	1.81	127	1.71	105	1.44
8 " ..	122	1.52	88	1.14	103	1.36	90	1.21	95	1.30
9 " ..	86	1.07	68	0.88	53	0.70	58	0.78	59	0.81
10 " ..	54	0.67	47	0.61	59	0.78	41	0.55	31	0.42
11 " ..	35	0.44	29	0.37	27	0.36	20	0.27	25	0.34
12 " ..	20	0.25	20	0.26	15	0.20	9	0.12	11	0.15
13 " ..	3	0.04	6	0.08	8	0.11	6	0.08	1	0.01
14 " ..	4	0.05	4	0.05	3	0.04	2	0.03	5	0.07
15 " ..	4	0.05	4	0.05	1	0.01	1	0.01	1	0.01
16 " ..	3	0.04	1	0.01	1	0.01	..	..	3	0.04
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



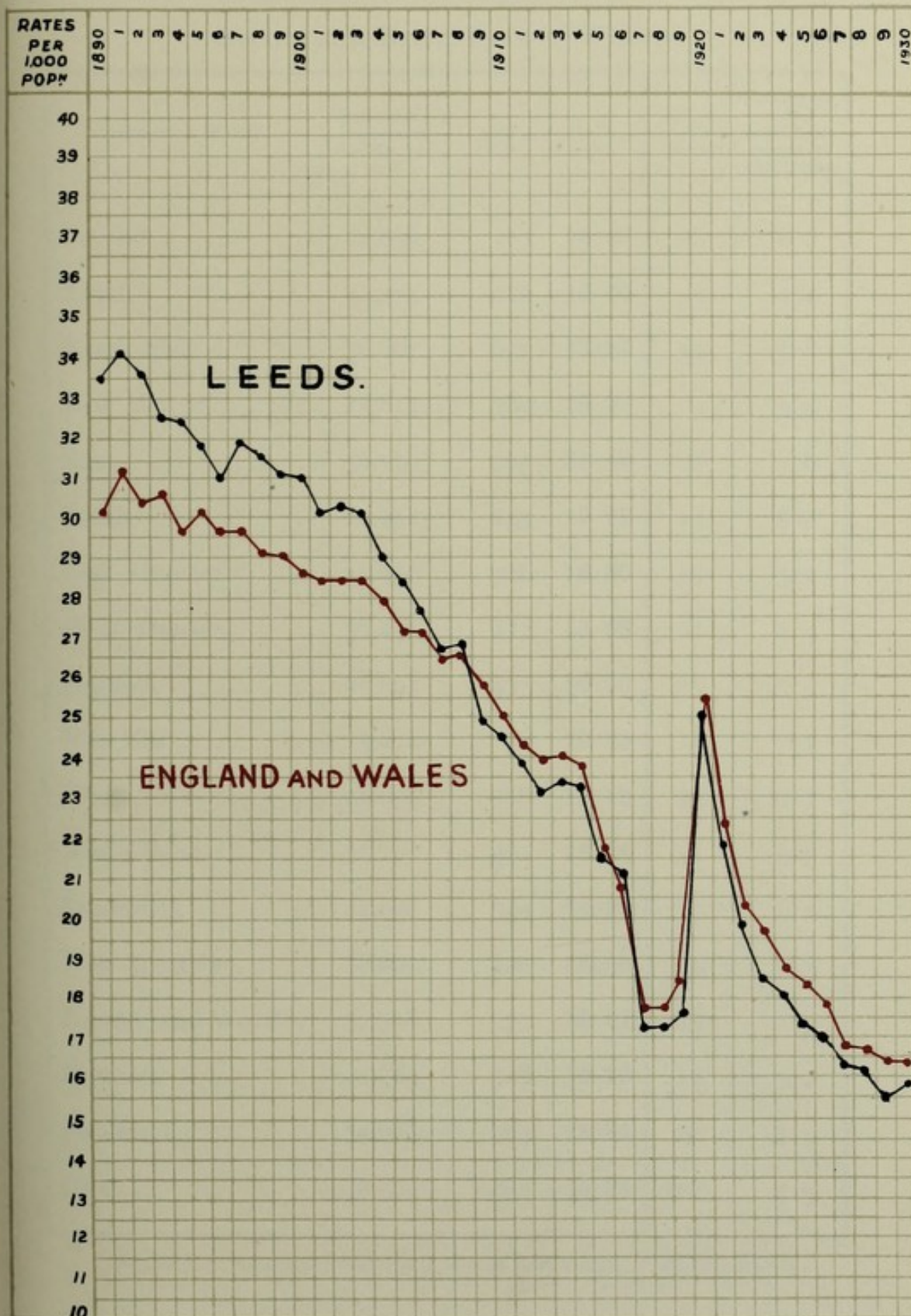
## BIRTH RATE.

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

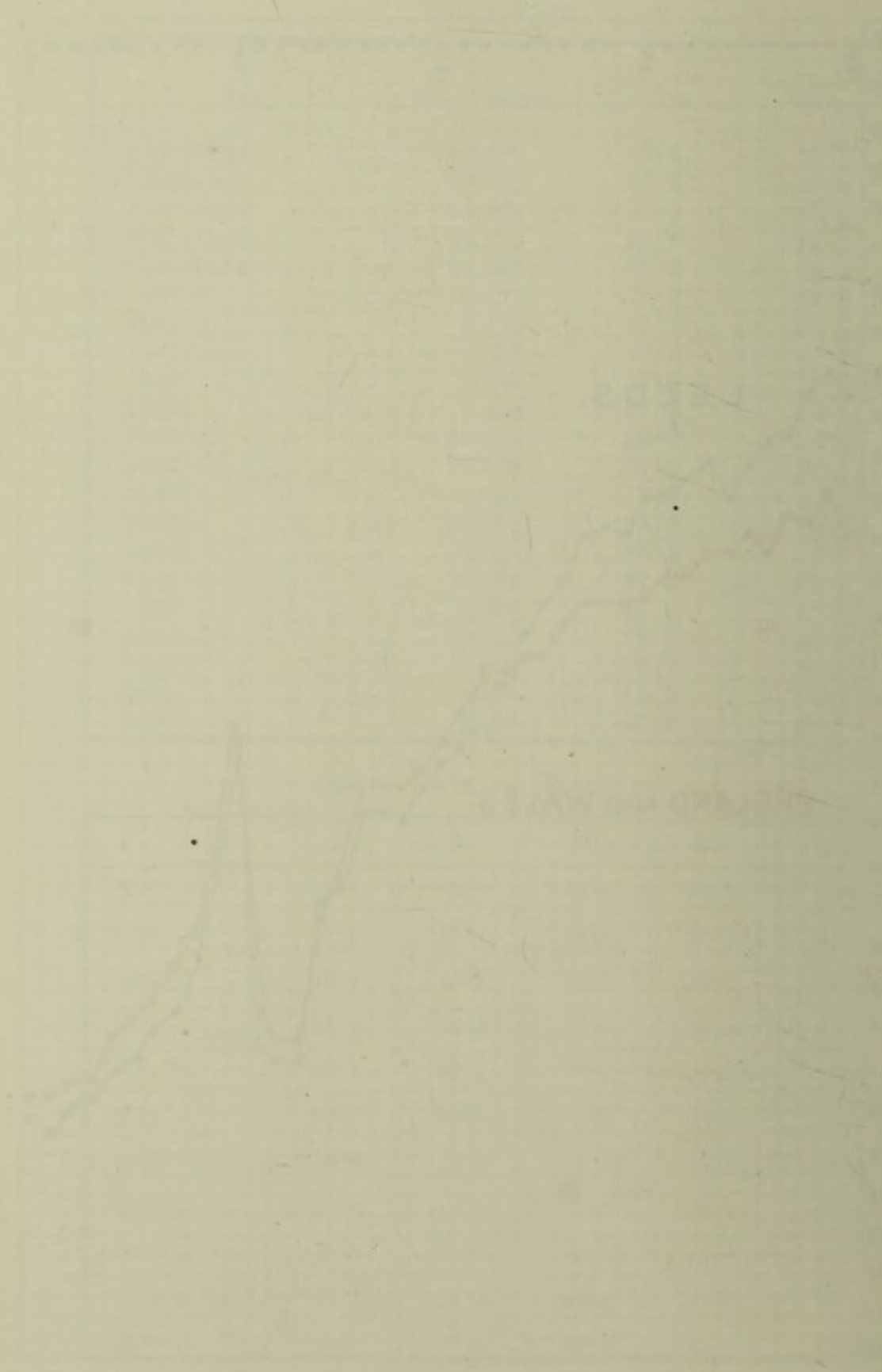
## BIRTH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1920 .. ..	30·1	25·6	23·7	20·8	25·0
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	7·5	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	6·1	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

# BIRTH RATE, 1890 - 1930.



BIRTH RATE 1950-1959





## BIRTHS AND BIRTH RATE IN WARDS.

MUNICIPAL WARD.	Estimated Population middle of 1930.	Nett births.	Birth- rate.	Illegiti- mate births.	Percentage of illegitimate births to total births.
Central .. ..	12,636	183	<b>14·48</b>	12	6·6
North .. ..	44,274	710	<b>16·04</b>	31	4·4
North-East .. ..	36,667	637	<b>17·37</b>	24	3·8
New Ward*	13,812	262	<b>18·97</b>	9	3·4
East .. ..	36,115	775	<b>21·46</b>	28	3·6
South .. ..	12,951	233	<b>17·99</b>	14	6·0
East Hunslet ..	37,957	706	<b>18·60</b>	35	5·0
West Hunslet ..	36,445	477	<b>13·09</b>	21	4·4
Holbeck .. ..	29,692	475	<b>16·00</b>	25	5·3
Mill Hill .. ..	5,274	56	<b>10·62</b>	4	7·1
West .. ..	22,079	378	<b>17·12</b>	33	8·7
North-West .. ..	31,707	461	<b>14·54</b>	31	6·7
Brunswick .. ..	24,006	344	<b>14·33</b>	31	9·0
New Wortley ..	18,009	325	<b>18·05</b>	22	6·8
Armley and Wortley	37,508	473	<b>12·61</b>	13	2·7
Bramley .. ..	24,685	348	<b>14·10</b>	13	3·7
Headingley .. ..	54,683	725	<b>13·26</b>	28	3·9
City .. ..	478,500	7,568	<b>15·82</b>	374	4·9

\* Roundhay, Seacroft, Shadwell, Cross Gates and Templenewsam.



**Stillbirths.**—The number of stillbirths registered during the year was 390, comprising 196 males and 194 females. The inward transfers numbered 2, namely 1 male and 1 female, and the outward transfers 60, namely 36 males and 24 females, which after the necessary adjustment leaves a nett total of 332, made up of 161 males and 171 females. The rate per thousand of the population was 0.69, the same as for England and Wales. Expressed as a percentage of the nett total births registered the rate was 4.2. Of the 332 (nett) stillbirths 309, 151 males and 158 females, or 93.1 per cent. were legitimate, and 23, 10 males and 13 females, or 6.9 per cent., were illegitimate. The ratio of registered "still" to registered "live" births was 1 to 23 as compared with 1 to 20 in 1929. There are too many stillbirths, though how to reduce the number presents a problem extremely difficult of solution. More intensive ante-natal supervision is evidently required but to obtain this the co-operation of the women of the community is necessary and up to the present they have not shown that willingness to co-operate, which, considering it is in their own interest to do so, one had been led to expect.

Details respecting the notification and visitation of births are given on page 166 and for information respecting the occurrence of stillbirths in families see page 165.

**Deaths.**—The gross number of deaths registered during the year was 6,235, comprising 3,272 males and 2,963 females, giving a crude death-rate of 13.0 as compared with 17.3 for the previous year and an average of 14.2 for the previous five years. The inward transfers numbered 239, namely 134 males and 105 females, and the outward transfers 544, namely 314 males and 230 females, which after the necessary adjustment, leaves a nett total of 5,930 deaths debitable to the city, made up of 3,092 males and 2,838 females. The corresponding nett death-rate was 12.4 as compared with 16.5 for the previous year and an average of 13.6 for the previous five years. The nett death-rate for 1930 is the lowest ever recorded in Leeds.

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



The death-rate for England and Wales was 11·4 or 8·1 per cent. less than Leeds.

*Death-rate in Quarters.*—The death-rate for the first quarter was 14·1; for the second, 11·8, for the third, 10·5, and for the fourth, 13·2.

#### 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

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

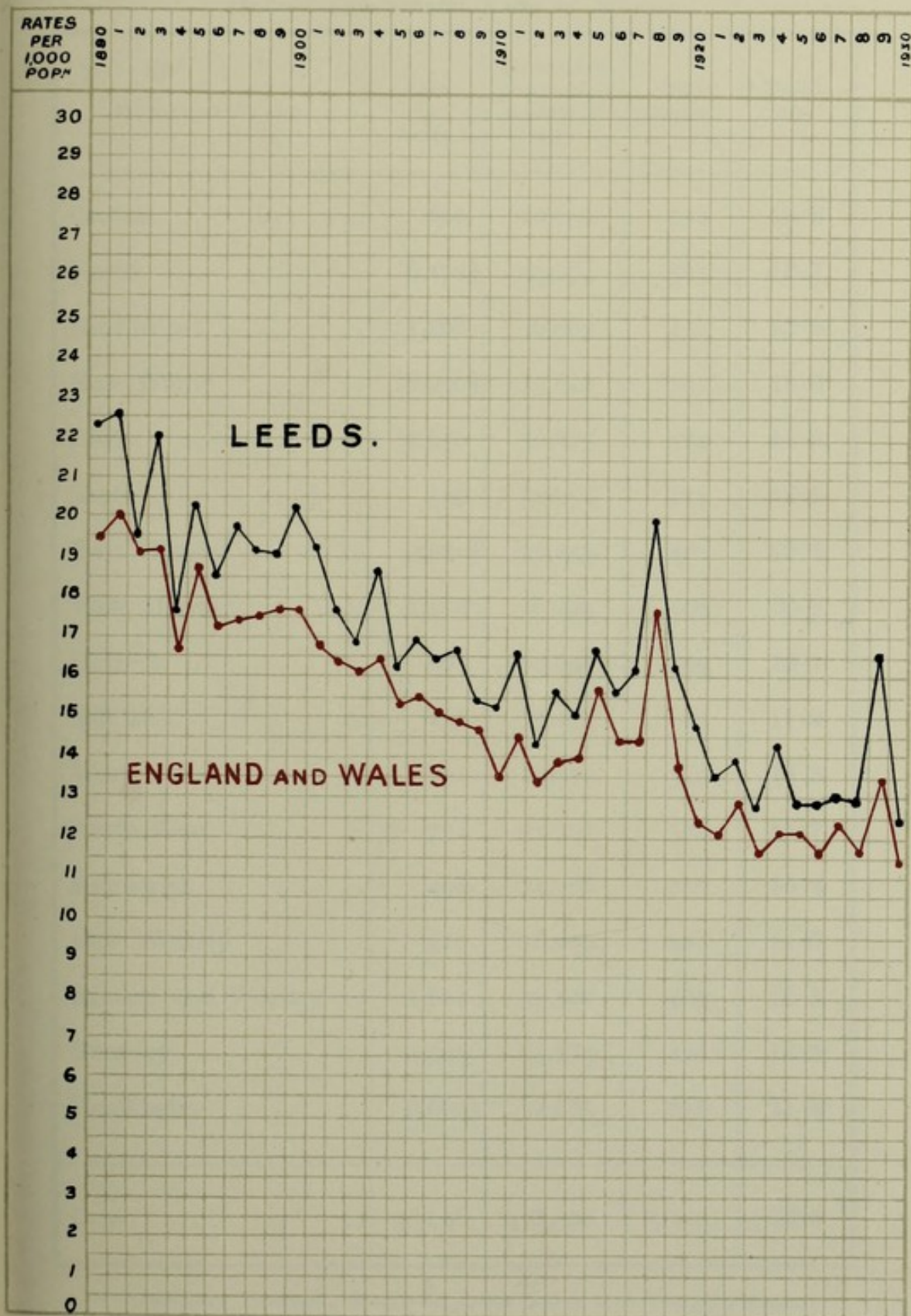


## DEATH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1920 .. ..	20·6	13·9	11·2	13·1	14·7
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

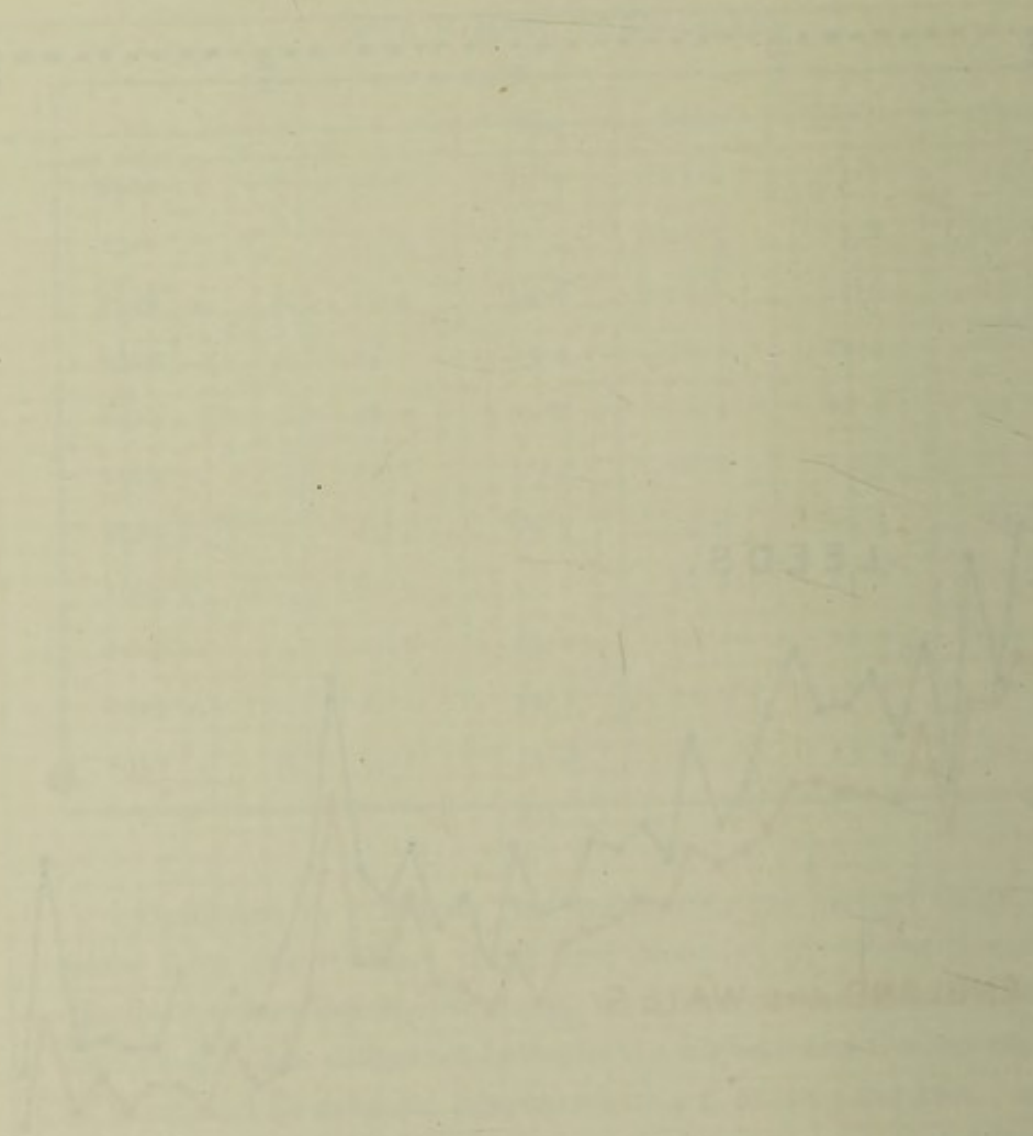
*Death-rate in Wards.*—The wards with the highest death-rates were West (14·8), East (14·2) and New (13·8), whilst those with the lowest were Brunswick (10·4), West Hunslet (10·9) and Headingley (11·4). The difference between the highest and the lowest, that is West and Brunswick, amounted to 4·4, or 42·3 per cent., whilst that between the highest and the city was 2·4 or 19·4 per cent. Once more the West ward, with a rate of 14·8, claims the highest place. During the last thirteen years the West ward has had the highest death-rate on nine occasions and on the other four it occupied second place. The probable explanation is that parts of the West ward are seriously congested, particularly the districts adjacent to West Street and Kirkstall Road. The houses in these districts are old and many of them insanitary with none of the amenities found in the more recently developed wards of the city. It is a truism in public health that where poverty and overcrowding abound there you have conditions which invite ill-health and force up the death and sickness rates.

# DEATH RATE, 1890 - 1930.





DEATH RATE 1890-1930



## DEATHS AND DEATH RATE IN WARDS.

MUNICIPAL WARD.	Area in Acres.	Estimated population middle of 1930.	Nett deaths.	Death- rate.
Central .. ..	209	12,636	174	13·8
North .. ..	6,172 $\frac{1}{4}$	44,274	561	12·7
North-East .. ..	1,268	36,667	452	12·3
New Ward* .. ..	8,290 $\frac{1}{2}$	13,812	191	13·8
East .. ..	1,650	36,115	514	14·2
South .. ..	343	12,951	174	13·4
East Hunslet .. ..	3,022 $\frac{3}{4}$	37,957	470	12·4
West Hunslet .. ..	1,414	36,445	396	10·9
Holbeck .. ..	507	29,692	359	12·1
Mill Hill .. ..	233	5,274	63	11·9
West .. ..	291	22,079	326	14·8
North-West .. ..	732	31,707	372	11·7
Brunswick .. ..	498	24,006	250	10·4
New Wortley .. ..	412	18,009	207	11·5
Armley and Wortley ..	1,604	37,508	467	12·5
Bramley .. ..	4,599	24,685	328	13·3
Headingley .. ..	6,860 $\frac{1}{2}$	54,683	626	11·4
City .. ..	38,106	478,500	5,930	12·4

\* Roundhay, Seacroft, Shadwell, Cross Gates and Templenewsam.



## PRINCIPAL CAUSES OF DEATH.

Death rate.	Diseases.	No. of deaths in 1930 (nett).	Increase or decrease compared with 1929.	Houses.	
				Through.	Back-to-back.
0.00	Enteric Fever .. ..	2	- 1	2	..
0.00	Small-pox .. ..	1	+ 1	..	1
0.00	Measles .. ..	2	- 100	..	2
0.05	Scarlet Fever .. ..	23	- 6	7	16
0.07	Whooping Cough .. ..	32	- 75	7	25
0.11	Diphtheria .. ..	54	+ 28	21	33
0.12	Influenza .. ..	59	- 509	29	30
0.05	Erysipelas .. ..	23	+ 4	9	14
0.90	Pulmonary Tuberculosis ..	432	- 76	139	293
0.21	Other Tuberculous Diseases	101	- 12	37	64
1.52	Cancer, malignant disease	728	+ 44	324	400
0.05	Rheumatic Fever .. ..	26	- 18	14	12
0.03	Meningitis .. ..	14	- 19	5	9
0.75	Cerebral Hæmorrhage ..	357	- 17	138	216
2.06	Organic Heart Disease ..	986	- 273	405	574
0.93	Arterio-sclerosis .. ..	447	- 88	195	244
0.58	Bronchitis .. ..	278	- 281	102	175
0.86	Pneumonia (all forms) ..	413	- 412	167	245
0.10	Other diseases of respiratory organs .. ..	48	- 37	29	19
0.12	Diarrhœa and Enteritis ..	57	- 58	16	41
0.08	Appendicitis and Typhlitis	38	+ 17	17	20
0.03	Cirrhosis of Liver .. ..	12	+ 1	5	7
0.42	Nephritis and Bright's Disease .. ..	200	+ 16	80	119
0.02	Puerperal Fever .. ..	10	- +	2	8
0.05	Other accidents and diseases of Pregnancy and Parturition .. ..	22	- 1	11	11
0.49	Congenital Debility and Malformation, including Premature Birth ..	236	- 22	81	155
0.44	Violent Deaths, excluding Suicide .. ..	212	+ 1	97	111
0.13	Suicide .. ..	64	+ 3	33	30
2.20	Other Defined Diseases ..	1,052	- 72	463	585
0.00	Diseases ill-defined or unknown .. ..	1	- 6	1	..
12.39	Totals .. ..	5,930	-1,968	2,436	3,459

Of the 5,930 deaths, 35 had no home.

## CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR, 1930.

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	..	..	..	..	1	..	1	..	2
2. Small-pox .. ..	1	..	..	..	..	..	..	..	1	1
3. Measles .. ..	2	..	..	2	..	..	..	..	..	..
4. Scarlet Fever .. ..	23	1	1	10	10	1	..	..	..	19
5. Whooping Cough .. ..	32	16	9	6	1	..	..	..	..	13
6. Diphtheria .. ..	54	2	2	16	32	1	1	..	..	50
7. Influenza .. ..	59	..	1	1	4	1	7	17	28	1
8. Erysipelas .. ..	23	1	..	..	1	..	2	7	12	18
9. Pulmonary Tuberculosis ..	432	4	2	3	5	95	172	139	12	183
10. Other Tuberculous Diseases	101	6	18	12	16	20	17	10	2	80
11. Cancer, malignant disease	728	..	..	1	1	1	62	352	311	294
12. Rheumatic Fever .. ..	26	..	..	..	4	6	4	11	1	7
13. Meningitis .. ..	14	1	1	2	2	1	2	4	1	15
14. Cerebral Hæmorrhage, &c...	357	1	..	..	..	2	11	114	229	95
15. Organic Heart Disease ..	986	1	..	1	4	11	59	331	579	292
16. Arterio-sclerosis .. ..	447	..	..	..	..	..	3	85	359	218
17. Bronchitis .. ..	278	23	5	3	..	5	12	72	158	43
18. Pneumonia (all forms) ..	413	54	28	21	17	14	53	139	87	179
19. Other diseases of respiratory organs .. ..	48	1	1	1	2	2	7	19	15	29
20. Diarrhœa and Enteritis ..	57	31	3	3	3	2	2	6	7	34
21. Appendicitis and Typhlitis	38	..	..	1	4	5	13	12	3	42
22. Cirrhosis of Liver .. ..	12	..	..	..	..	..	2	8	2	7
23. Nephritis and Bright's Disease .. ..	200	1	3	1	2	5	24	96	68	91
24. Puerperal Fever .. ..	10	..	..	..	..	1	9	..	..	14
25. Other accidents and diseases of Pregnancy and Parturition .. ..	22	..	..	..	..	4	18	..	..	29
26. Congenital Debility and Malformation, including Premature Birth ..	236	234	..	1	..	1	..	..	..	154
27. Violent Deaths, excluding Suicide .. ..	212	18	3	14	17	23	32	51	54	164
28. Suicide .. ..	64	..	..	..	..	2	20	32	10	22
29. Other Defined Diseases ..	1,052	117	7	18	31	49	135	307	388	571
30. Diseases ill-defined or unknown .. ..	1	..	..	..	..	..	..	..	1	1
Totals .. ..	5,930	512	84	117	156	253	667	1,813	2,328	2,668



*Causes of Death.*—The principal causes of death were in order of numerical importance, organic heart disease, cancer, arterio sclerosis, pulmonary tuberculosis and pneumonia, which together accounted for 50.7 per cent. of the total deaths. As compared with the previous year, the principal decreases were in influenza (509), pneumonia (412), bronchitis (281) and heart disease (273).

Diseases of the respiratory system including pneumonia, bronchitis and influenza, but excluding pulmonary tuberculosis, accounted for 798 or 13.5 per cent. of the total deaths from all causes. Last year this group of diseases was responsible for 25.8 per cent. of the total deaths and the percentage for the previous five years was 19.9. The number of children under five years of age who died from respiratory diseases in 1930 was 139, or 19.5 per cent. of the total deaths under five, as compared with 395, or 31.1 per cent. for the previous year and an average of 281, or 26.4 per cent. for the previous five years. There was therefore a considerable lightening of the burden of death from these causes in this age group and this had a corresponding effect in reducing the death-rate of the city as a whole.

*Deaths from Street Accidents.*—The number of street accidents having a fatal termination during the year was 75 of which 66, or 88.0 per cent. were due to motor vehicles. Last year the number was 55 of which 48, or 87.3 per cent. were due to this cause.

On examining the table appended it will be found that there were 39 deaths amongst children under 15 years and adults over 65, and 36 in the age groups between 15 and 65. Comparing these figures with the figures for the previous year it will be noticed that there was an increase of 16 in the number of deaths amongst children and adults over 65, and four in the age groups between 15 and 65. The extension of the system of traffic control by automatic light signals should do much to render the streets safer for the pedestrian. He has now no need to risk crossing a busy thoroughfare at a point where the traffic is dense but can choose one or other of the crossings where the traffic is under control.

DEATHS FROM VEHICULAR TRAFFIC OF LEEDS PEOPLE IN AGE  
GROUPS, 1911-1930.

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

*Housing and Death.*—Of the total deaths which occurred in Leeds during the year 3,459, or 58·3 per cent., occurred in back-to-back houses, 2,436, or 41·1 per cent., in throughs, whilst 35, or 0·6 per cent., had no fixed domicile. The ratio of through houses to back-to-backs is 1 to 1·4.



A further analysis of the table shows that the deaths of persons under 45 years numbered 1,789, or 30·2 per cent. of the total deaths, as compared with 2,631 deaths, or 33·3 per cent. for the previous year. In the last ten years there has been a steady decline in the deaths under one year, between two and five, and five and 15, whilst the deaths in those between one and two, 15 and 25, and 25 and 45 have been fairly stationary. On the other hand there has been a steady increase in the deaths between 45 and 65 and 65+.

Obviously, our future efforts must be concentrated on the saving of life in the age groups 1-2, 15-25 and 25-45 where the rate of death is still much too high.

Perhaps the most regrettable feature of the figures I have quoted however is the increase in the deaths between the ages 45-65, the period which really covers what is known as "the prime of life," and certainly the period when man reaches his maximum usefulness as a citizen. The wastage of life at this important age is attributable largely to cancer and organic heart disease, for the prevention of which no satisfactory means have yet been found.

COMPARISON OF PERCENTAGES OF DEATHS IN THE VARIOUS AGE GROUPS OF 1930, AS COMPARED WITH THE PREVIOUS DECENNIAL.

[illegible]



## DEATHS IN AGE GROUPS (NETT), 1929-1930.

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.
1920	1,232 <i>18.7%</i>	255 <i>3.9%</i>	283 <i>4.3%</i>	283 <i>4.3%</i>	291 <i>4.4%</i>	844 <i>12.8%</i>	1,572 <i>23.9%</i>	1,831 <i>27.8%</i>	6,591
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



*Infant Mortality.*—The number of deaths of children under one year numbered 512 or 8·6 per cent. of the total deaths. The infant mortality rate corresponding was 68 per thousand births or 29 less than the previous year (97) and 20 less than the average for the previous five years (88). This is the lowest rate of infant death ever recorded in the city and is an achievement of which the city as a whole and the Public Health Committee in particular may be justly proud.

This subject is dealt with in detail on page 139.

**Cremation.**—Out of a total of 5,930 deaths which occurred in the city during 1930 the number of bodies disposed of by cremation was 26 or 0·44 per cent. The corresponding figures for the previous year were 36 and 0·46 per cent. In former reports I have had to bewail the slow progress made in this important section of public hygiene. Last year's figures were even more discouraging than usual. Ignorance, superstition and prejudice have always been in the van of the forces of retrogression and have barred the pathway of many useful reforms. No better illustration of this can be found than the progress which cremation has made in this city in the last 25 years. In the year immediately following the opening of the crematorium at Lawnswood (1905) the number of cremations undertaken was seven. Last year the number was 26, barely four times the original number in approximately the same number of years. In the whole period the total number of cremations was 417 or 0·23 per cent. of the total deaths. Progress has therefore not been rapid and such progress as has been made has been the outcome of constant effort by propaganda and otherwise on the part of a small number of people who believe that cremation is the most hygienic, most expeditious, and most scientific of all the methods of the disposal of the dead practised amongst civilized communities. I feel there is little hope of turning the present generation from its attitude of indifference towards this important subject, but with the rising generation something might be done to stimulate interest if only the young people can be got to view the matter in the light of reason rather than of sentiment. Sentiment is all very well in its place but when it conflicts with the best interests of the community it loses its virtue and becomes a menace.

I make no apology therefore for once more urging the claims of cremation on the attention of the public of the city.

## CREMATIONS IN LEEDS, 1905-1930.

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	5,980	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
Total	..	..	..	417	177,834	0·23



## HOSPITALS UNDER THE CONTROL OF THE HEALTH COMMITTEE.

NAME AND SITUATION.	PURPOSE	NUMBER OF BEDS.	MEDICAL STAFF.		NURSING STAFF.	
			No.	Classification.	No.	Classification.
City Hospital, Seacroft	Infectious Diseases ..	489	1	Resident Medical Officer	1	Matron.
			3	Assistant Resident Medical Officers	98	Nurses.
			1	Consultant for puerperal work	1	Dispenser.
			1	Consultant Aural Surgeon	—	—
Killingbeck Emergency Smallpox Hospital	Smallpox ..	20	As above		—	—
Killingbeck Sanatorium	Tuberculosis ..	88 male 78 female 54 children	1	Resident Medical Officer	1	Matron.
			1	Assistant Resident Medical Officer	36	Nurses.
Gateforth Sanatorium, near Selby	Tuberculosis ..	50	1	Resident Medical Officer	1	Matron.
					3	Nurses.
"The Hollies" Sana- torium, Weetwood	Early tuberculosis in children	40	—	—	1	Matron.
					4	Nurses.
Infants' Hospital, Wyther	Children ..	38 (1-5 years) 12 (under 1 year)	1	Medical Officer ..	1	Matron.
					4	Staff Nurses.
					13	Probationers.

## HOSPITALS UNDER THE CONTROL OF THE PUBLIC ASSISTANCE COMMITTEE.

NAME AND SITUATION.	BEDS AVAILABLE AND FOR WHAT PURPOSE.		MEDICAL STAFF.		NURSING STAFF.		Arrangements for Employment of Consultants.	Special Departments.
	Beds.	Purpose.	No.	Classification.	No.	Classification.		
ST. JAMES'S HOSPITAL, Beckett Street	122	Surgical	1	Medical Superintendent	1	WOMEN. Matron	In addition to Visiting Physicians and Surgeons mentioned under Medical staff, who are paid an annual salary, Consultants are available for :— Obstetrics, and Gynaecology, Ear, Nose, and Throat, and Eyes (Fee per consultation and/or operation).	X. Ray. Dental. Pathological Laboratory. Massage.
	292	Medical	1	Resident Deputy Medical Superintendent	1	Assistant Matron		
	204	Children	5	Resident House Physicians and Surgeons	1	Home Sister		
	51	Maternity	1	Radiologist (3 sessions weekly)	1	Assistant Home Sister and Sister Tutor		
	320	Chronic	1	Pathologist (full time)	3	Housekeeping Sister		
	290	Sick	1	Visiting Physicians	1	Sister Tutor		
		Mental	2	Visiting Physician for children	1	Night Sisters		
			1	Visiting Surgeon	1	Theatre Sister		
					17	X-Ray Sister		
					22	Massage Sister		
					130	Ward Sisters		
					36	Staff Nurses		
					17	Probationers		
					15	Asst. Nurses		
					13	Mental Attendants		
					1	Masseur		
ST. MARY'S INFIRMARY, Armley	213	Medical (Chronic)	1	Medical Superintendent	1	WOMEN. Matron	Consultants on the staff of St. James's Hospital called in when needed, but the necessity does not frequently arise.	None.
	22	Children			1	Assistant Matron		
	25	Maternity			1	Night Sister		
	25	Maternity cots			1	Sister Tutor		
					1	Maternity Sister		
					4	Ward Sisters		
					1	Relief Sister		
					4	Staff Nurses		
					26	Probationers		
					(3	Probationers taking surgery at St. James's Hospital).		



## HOSPITALS UNDER THE CONTROL OF THE LEEDS MENTAL HEALTH SERVICES COMMITTEE.

NAME AND SITUATION.	BEDS AVAILABLE AND FOR WHAT PURPOSE.		MEDICAL STAFF.		NURSING STAFF.		Arrangements for Employment of Consultants.	Special Departments.
	Beds.	Purpose.	No.	Classification.	No.	Classification.		
MEANWOOD PARK COLONY, Meanwood	249	Mentally deficient children and adults	1	A General Practitioner and part time Medical Officer	1 44	Fully trained Nurse Attendants (not certificated)	An Honorary Consultant is appointed on the Medical Staff	Violet Rays.
KEPSTORN INSTITUTION, Kirkstall	40	Feebleminded women	1	A General Practitioner and part time Medical Officer	5	Nurse Attendants (not certificated)	None	None.

## VOLUNTARY HOSPITALS.

NAME AND SITUATION.	BEDS AVAILABLE AND FOR WHAT PURPOSE.	
	Beds.	Purpose.
Leeds General Infirmary, Great George Street ..	627	General Medical ; General Surgical ; Venereal Diseases ; Orthopaedic ; Ear, Nose and Throat.
Leeds Public Dispensary, North Street ..	16 and 4 cots	General Medical ; General Surgical ; Ear, Nose and Throat.
Leeds Maternity Hospital, 42, Hyde Terrace ..	108	Maternity.
Hope Hospital, Chapeltown Road ..	20 and 8 cots	Venereal Diseases.
Jewish Herzl-Moser Hospital, Chapeltown Road ..	30	General Medical.
Hospital for Women, Coventry Place ..	50	Diseases peculiar to women.

### Comparative Statistics of the larger English Cities, 1930.

	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 ..	4,430,000 4,417,900	15·7	11·5	0·87	0·12	59	9·9
Birmingham ..	982,000	17·7	10·8	0·90	0·13	60	7·6
Liverpool ..	879,657	21·5	12·8	1·19	0·20	82	14·5
Manchester† ..	773,792	16·6	12·7	1·15	0·22	79	11·5
Sheffield ..	518,000	15·1	11·0	0·69	0·17	67	6·0
<b>Leeds ..</b>	<b>478,500</b>	<b>15·8</b>	<b>12·4</b>	<b>0·90</b>	<b>0·21</b>	<b>68</b>	<b>4·5</b>
Bristol ..	391,335 391,035	15·7	11·6	1·01	0·15	58	4·2
West Ham ..	307,600	18·2	10·6	1·0	0·1	63	7·3
Hull ..	305,600*	20·6	12·5	1·0	0·2	68	6·5
Bradford ..	293,254	15·1	13·4	0·77	0·13	73	5·6
Newcastle ..	283,400	18·4	12·6	1·05	0·24	74	9·6
Stoke-on-Trent	279,200	19·9	11·7	1·01	0·24	70	9·9
Nottingham ..	266,800	17·0	13·1	1·02	0·15	77	13·2

\*Population adjusted to allow for change in boundary during the year.

The mid-year population after the change is 307,500.

†53 weeks ended January 3rd, 1931.





## DISTRIBUTION OF CASES IN WARDS.

Central	..	..	..	..	..	..	1
North ..	..	..	..	..	..	..	14
North East	..	..	..	..	..	..	2
East ..	..	..	..	..	..	..	1
South ..	..	..	..	..	..	..	5
East Hunslet		..	..	..	..	..	8
West Hunslet		..	..	..	..	..	1
West ..	..	..	..	..	..	..	1
North West	..	..	..	..	..	..	5
Brunswick	..	..	..	..	..	..	1
Armley and Wortley			..	..	..	..	1
Headingley	..	..	..	..	..	..	2
Total .. ..							42

## SEASONAL INCIDENCE.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
4	5	20	5	2	—	1	—	—	1	2	2

*Vaccinal State.*—Thirteen of the 42 cases were vaccinated and 29 were un-vaccinated persons. Of the vaccinated cases no person was under twenty-one years of age nor was any re-vaccinated person of any age affected. Reference to the records of previous smallpox outbreaks in the city since 1900 shows that in no case has a child under ten years of age previously vaccinated in infancy, nor an adult re-vaccinated within a period of seven years, ever contracted the disease. Vaccination still forms the only sure protection against smallpox, and the above figures prove conclusively



that a population whose members are vaccinated in infancy, re-vaccinated during school age, and again about twenty years will be rendered immune to smallpox. Such a happy state of affairs exists in Germany at the present time with the result that smallpox hospitals are unnecessary, and the few cases of smallpox which do occur are usually cases which enter the country from outside. So thoroughly is the population protected that these cases are treated in the ordinary wards of general hospitals.

In connection with the 42 cases above-mentioned, contacts were vaccinated or re-vaccinated by the Public Vaccinators. No vaccinations or re-vaccinations were performed by the Public Health staff under the Public Health (Smallpox Prevention) Regulations, 1917.

*Source and Spread of Infection.*—In the two following epidemiological trees "A" and "B" an attempt is made to show the source and spread of the infection, the former dealing with cases whose origin had been traced outside the city and the latter with the remainder of the cases.

*Epidemiological Tree "A."*—After an absence of four months from the city the disease reappeared in the middle of January when the first group of cases, E.T. a woman aged 32 years, not vaccinated since infancy, and her two un-vaccinated children M.T. and O.T., was discovered. Investigation proved that they had been infected during a visit to a family in Rothwell in which a case had occurred. All three cases were removed at once to the Killingbeck Smallpox Hospital, but, unfortunately, not before they had been in contact with a large number of people. One of the cases, M.T., a little girl six years of age, had attended a Sunday School and a Day School when the rash was on her body. Each contact was offered vaccination and in all 100 children were so treated. The parents of A.R., an un-vaccinated school contact aged 7 years, refused vaccination and in due course A.R. fell a victim to the disease. In spite of this the parents again declined to allow another daughter, B.R., who in turn had been in contact with A.R., to be vaccinated with the result that B.R. followed her sister into hospital 16 days later. Similarly, W.W., a young man, aged 21 years, un-vaccinated, preferred to take the risk to his subsequent discomfiture. Unfortunately, his unreasoning attitude was the means of infecting his father, aged 61 years, who had not been vaccinated since infancy.



This latter case is of special interest since the period of incubation was definitely proved to be 19 days, and thereafter our policy of isolating smallpox contacts for a period of 16 days was extended to 21 days.

The infection of E.S. was also definitely traced to Rothwell although, fortunately, in this case a ready response on the part of all contacts to our offer of vaccination prevented further spread.

In the case of J.L. aged 25 years, un-vaccinated, strong presumptive evidence came to light that he was infected at the Huddersfield Feast Ground where he was employed as a labourer. On his arrival at Leeds he stayed at a common lodging-house and must have been in an infective condition during the last three days of his stay. Thanks to the efforts of the Public Vaccinator no further cases occurred amongst the inmates of the lodging-house.

L.W. was a domestic, aged 22 years, unvaccinated, who was infected during a visit to her father's home in an infected area.

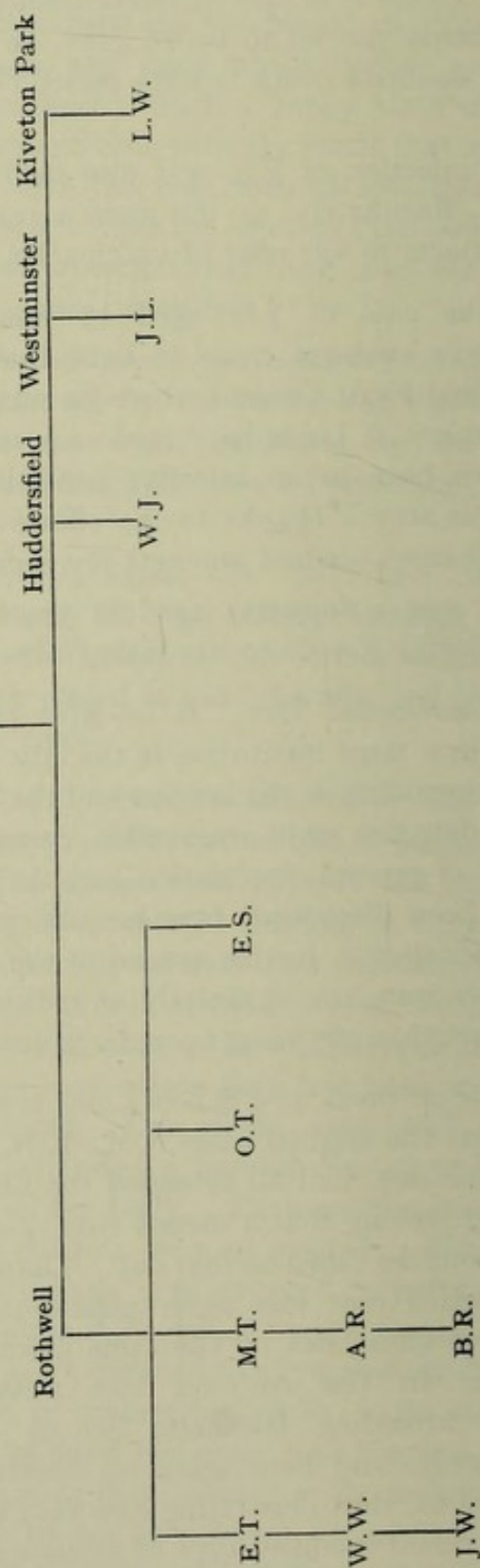
*Epidemiological Tree "B".*—Most of the cases in this Tree occurred in a large institution in the city. The first case E.S. had been masquerading as chickenpox and the true nature of the disease was not detected until irreparable damage had been done. As the result of prompt vaccination and the following up of contacts who had been discharged from hospital previous to the discovery of the original case, further spread of the disease was limited. In all 18 cases were traced directly or indirectly to this missed case and no fewer than 985 visits to contacts were made by the inspectors.

A little outbreak at a School Clinic is interesting from the point of view that the original cases N.M., K.H., and S.S., who sickened on the same day, had all attended the Clinic exactly twelve days previously, proving that a missed case or cases unknown had been moving about the Clinic on that day. Despite all efforts the identity of the original case was never established. M.F. was doubtless infected five days later by the same unknown case or by another such case. In the Autumn two unvaccinated infants J.M. and J.H. attending Blenheim School contracted the disease simultaneously, and here again all efforts to find the source of infection failed, thus illustrating how easy it is for a child suffering from the present modified type of smallpox, with one or two spots on its face to move about in school undetected.

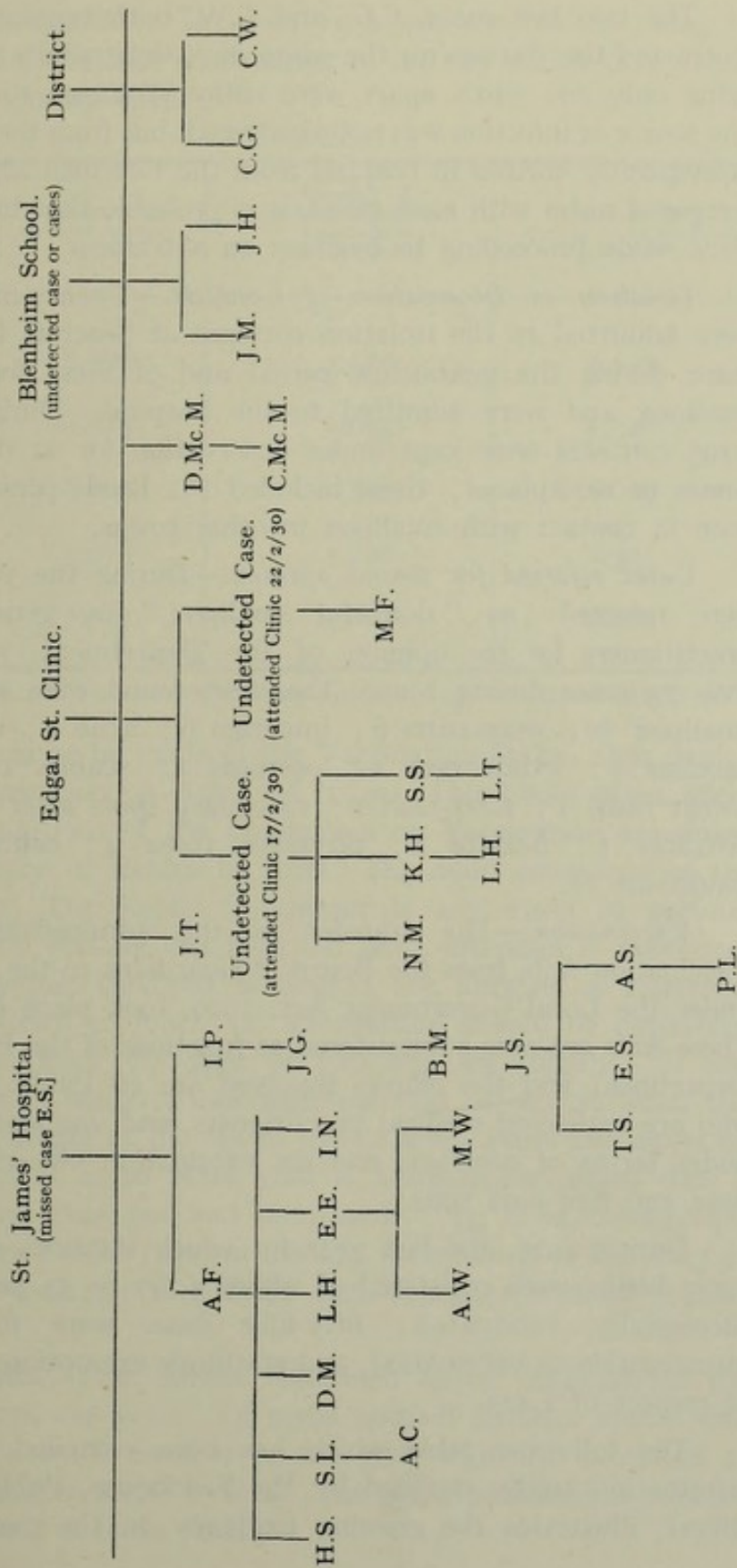


EPIDEMIOLOGICAL TREE A.

SOURCES OF INFECTION ESTABLISHED OUTSIDE LEEDS.



PROBABLE SOURCES WERE PREVIOUS UNRECOGNISED AND UNREPORTED CASES.





The two last cases, C.G. and C.W. both unvaccinated, who contracted the disease on the same day, were adults who though living only 200 yards apart were entire strangers to each other. The source of infection was not discovered, but from the information subsequently elicited in hospital from the two men after they had compared notes with each other, it is probable that infection took place while proceeding to business on a tramcar.

*Isolation or Observation of Contacts.*—Twenty-nine contacts were admitted to the isolation cottages at Seacroft for detention there during the quarantine period and of these five developed smallpox and were admitted to the hospital. During the year 1,795 contacts were kept under observation for 21 days in their homes or workplaces; these included 161 Leeds persons who had been in contact with smallpox in other towns.

*Cases referred for second opinion.*—During the year 87 cases were referred as "doubtful smallpox" by general medical practitioners for the opinion of the Department, as compared with 73 cases during 1929. The cases found were as follows:—smallpox 30; dermatitis 6; impetigo 6; acne 4; erythema 2; vaccinia 1; iodide rash 1; psoriasis 1; scabies 1; sudamina (sweat rash) 1; food rash 1; secondary spots after smallpox 1; urticaria 1; fleabite 1; pityriasis rosea 1; colitis 1; other conditions 28.

*Vaccination.*—The transfer of the administration of the Vaccination Acts from the Board of Guardians to the City Council under the Local Government Act, 1929, took place on April 1st. These Acts are now administered as functions of the Public Health Department and the officers involved are 26 Public Vaccinators, who are registered medical practitioners, and vaccinate the public under terms of contract, and six vaccination officers, one whole time and five part time.

During 1929, the last year for which statistics are available 7,727 births were registered of whom 4,127 or 53 per cent. were successfully vaccinated; fifty-four cases were found to be insusceptible to vaccination, and statutory exemptions were issued in respect of 2,423.

The following table which has been compiled partly from information kindly supplied by Mr. Fieldhouse, Public Assistance Officer, illustrates the growing tendency on the part of parents



to neglect vaccination. 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

\*Quite an appreciable number of these children may be vaccinated in 1930

Mention must be made of the Vaccination Order, 1930, which came into operation on April 1st, 1930. This Order gives effect to recommendations of the Committee on Vaccination appointed by the Ministry of Health in 1926. The main provisions of the Order are (1) The Public Vaccinator is authorised to perform vaccination by making one insertion only, although if maximum protection against smallpox is desired the number of insertions may be increased to four. (2) Vaccination should be performed in infancy between the ages of two and six months. If one insertion only is made re-vaccination should be offered when the child goes to school at the age of five to seven years and again on leaving school at 14-16 years, that is, at an earlier period than if more insertions than one had been made. (3) If in consequence of vaccination a child requires medical attention it is the duty of the Public Vaccinator to provide such attention without cost to the parents.

**Chickenpox.**—This disease continued to be notifiable in the city throughout the year. Of 2,768 notified all were visited and reported upon by a member of the staff with the exception of vaccinated children under 5 years. The writer examined 48 selected cases and found 6 to be smallpox.



## DIPHTHERIA AND MEMBRANOUS CROUP.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1920	885	1.97	64	0.14	0.15
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

**Diphtheria.**—The only infectious disease which gave rise to any anxiety during the year was diphtheria. The year began with an increased number of cases and at no time during its course did the incidence fall to normal proportions. In all 994 cases were notified, the highest number since 1911. The increased incidence was fairly equally distributed during the year, although the first, third and fourth quarters produced the most cases. A sharp rise in the number notified occurred during the first three weeks in July.

In type the disease was more virulent than usual and no fewer than 54 deaths occurred, equivalent to a death-rate of 0.11.

With a view to obtaining more precise information on the incidence and mortality of diphtheria in the various parts of the city the following table has been compiled.

# DIPHTHERIA, 1930.

WARD.	Density of population per acre.	Attack—rate per 1,000 population.	Death-rate per 1,000 population.	Case fatality rate per 100 cases	Percentage proportion of secondary cases to primary cases	Proportion of children 0-5 to total cases.
<b>A. Central Area :—</b>						
Central ..	60.5	1.03	..	..	..	46.15
North East ..	28.9	1.53	0.16	10.71	10.71	23.21
East ..	21.9	2.33	0.22	9.52	25.00	25.00
South ..	37.8	1.31	..	..	23.53	23.53
West Hunslet ..	25.8	5.13	0.30	5.88	21.93	21.93
Holbeck ..	58.6	2.86	0.10	3.53	20.00	20.00
Mill Hill ..	22.6	3.60	0.19	5.26	36.84	36.84
West ..	75.9	1.27	..	..	14.29	14.29
North West ..	43.3	2.87	0.28	9.89	16.48	16.48
Brunswick ..	48.2	1.37	0.08	6.06	18.18	18.18
New Wortley ..	43.7	1.22	..	..	18.18	18.18
<b>B.—Outer Ring :—</b>						
North ..	7.2	1.65	0.09	5.48	13.69	24.66
New ..	1.7	2.82	0.14	5.13	15.38	15.38
East Hunslet ..	12.6	2.27	..	..	25.58	25.58
Armley and Wortley ..	23.4	0.80	0.05	6.67	13.33	13.33
Bramley ..	5.5	0.97	0.12	12.50	29.17	29.17
Headingley ..	8.0	1.96	0.05	2.80	17.76	18.69
Central Area Total ..	35.14	2.39	0.15	6.30	19.69	21.73
Outer Ring Total ..	6.97	1.69	0.07	3.90	18.94	21.45
City Total ..	12.60	2.08	0.11	5.43	19.42	21.63



The wards of the city have been divided into two groups, namely, the central area, comprising the wards in the centre of the city and the outer ring containing the more residential wards. In the two groups a marked difference in the density of population per acre will be noted.

The following inferences may be drawn:—

- (1) *Incidence*.—The increase of the attack rate per 1,000 in the central area, 2.39 as compared with 1.69 in the outer ring, may be explained chiefly by the greater density of the population in the former area and supports the contention that congested districts with overcrowded conditions are more favourable for the spread of the disease.
- (2) *Death-rate*.—The death-rate in the outer ring is less than one half of that in the central area, a difference which is doubtless due to the earlier detection and treatment of the disease in the more residential districts.
- (3) *Case fatality*.—The marked difference in the case fatality figures can be explained in the same way.
- (4) *Proportion of secondary cases to primary cases*.—By this is meant the proportion of second and subsequent cases in a house to the first case. The difference between the corresponding figures, namely 19.69 and 18.94 is too small to draw any valid conclusions.
- (5) *Proportion of children 0-5 to total cases*.—It is noteworthy that little or no difference exists as between the two areas in respect of this figure.

*Outbreaks of Diphtheria*.—Several small outbreaks occurred during the year, two in a children's holiday camp outside the city and four in institutions within its boundaries. Experience of these outbreaks has convinced me of the fallacy of relying entirely on swabbing and isolation in preventing the spread of infection. No matter how thoroughly the swabbing is carried out and how accurate are the laboratory methods of the bacteriologist it is not uncommon to find a case with a negative swab showing unmistakable signs of diphtheria. In view of this probability of error it is easy to understand that in swabbing all contacts in an institution for every carrier detected, there may be another undetected and capable of spreading infection. This is what happened in one of the outbreaks mentioned below.



Into a children's home which had been free from the disease for several years diphtheria was introduced on the 18th March. During the following six months, that is, until September 9th, no fewer than 27 clinical cases occurred in a sporadic fashion, suggesting the existence of a carrier as the original focus. Wholesale swabbing at different times revealed virulent carriers who were isolated in hospital for varying periods and discharged after the nose and throat produced two negative swabs. Despite all these precautions further cases continued to occur.

The protection of all the children in the institution by active immunisation was advised at an early stage in the outbreak but the offer was declined. It was not until a death had occurred that consent was finally given and Schick testing and immunisation of all susceptible children were carried out without delay. No cases have occurred since. From an economic point of view alone this procedure was amply justified; the cost of Schick testing and immunising all the children amounting to £11 5s., as compared with the sum of £405 13s. od. expended in keeping 27 patients in hospital, examining 383 swabs and carrying out 10 virulence tests.

Despite the high incidence and mortality of diphtheria during the year the increase in the number of children immunised at the Central Clinic against the disease was disappointingly small—152, as compared with 73 during the previous year. Since the inauguration of the Council's scheme for immunising free of charge, 258 children under five years of age at the Central Clinic have been protected in this way. This proportion is, of course, too small to have any appreciable effect on the incidence and death-rate from diphtheria in the city. In other cities where immunisation has been carried out on a large scale very promising results are reported. It is to be regretted that Leeds parents have not taken fuller advantage of the facilities offered. Diphtheria is a preventable disease and the means of prevention lie within the grasp, free of charge, of every parent in the city.

**Scarlet Fever.**—The year 1930 witnessed a welcome reduction in the number of scarlet fever cases, 2,383 cases being notified as compared with 3,515 and 3,473 during 1928 and 1929 respectively. The decline in the number of notifications is explained probably by the fact that the reservoir of susceptible children in the city had been fairly well exhausted during the two preceding years.



## SCARLET FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1920	1,363	3·04	17	0·04	0·04
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

Further, it is well known that scarlet fever epidemics usually follow summers with a low rainfall, and on referring to the meteorological table on page 106 it will be seen that the rainfall for the months of June, July, August and September 1930 was 13·62 inches in contrast to the corresponding figure for 1929 of 4·84.

The cases occurred chiefly in the first quarter of the year and were distributed more or less evenly throughout the city.

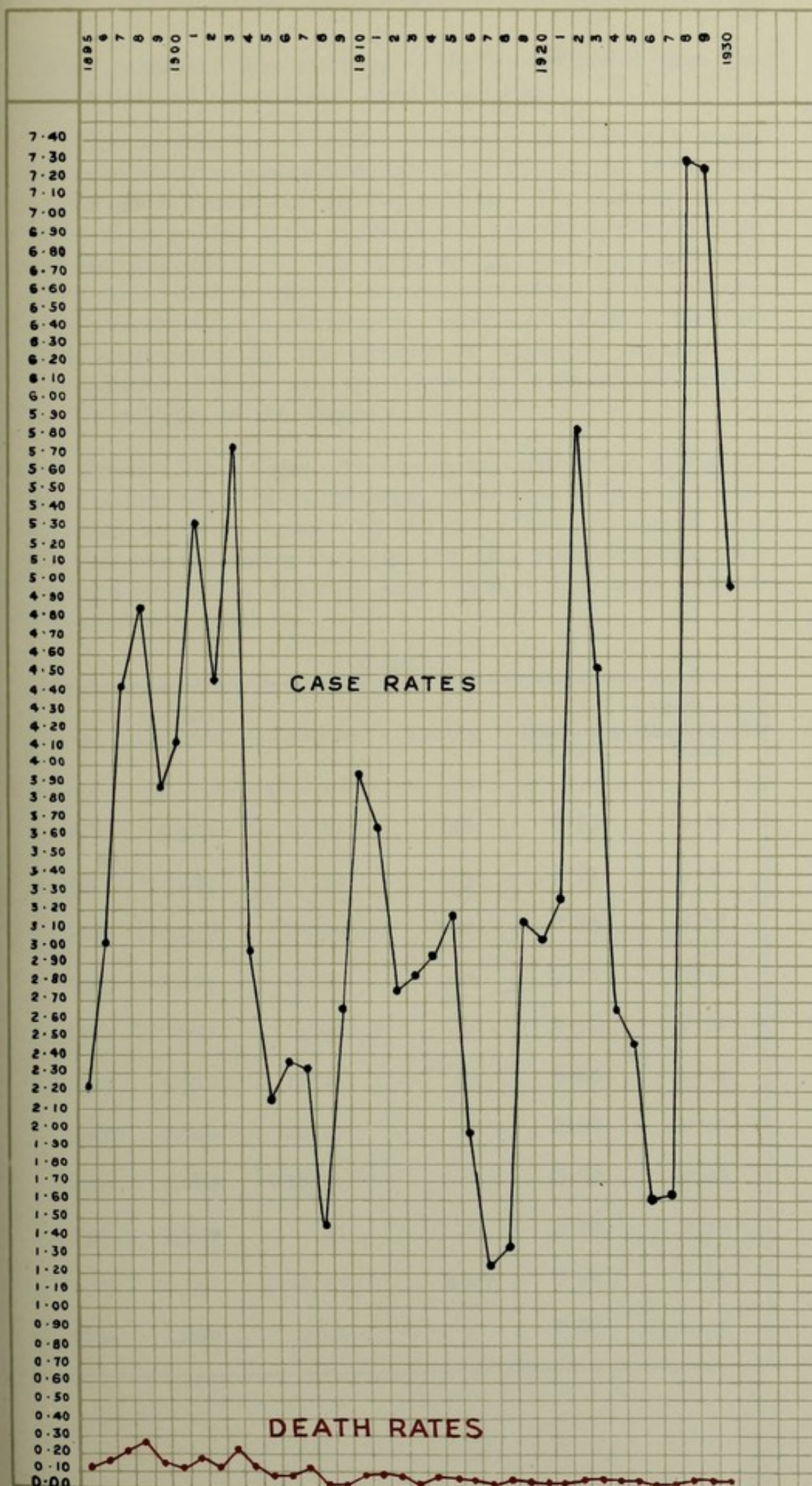
*Outbreaks of Scarlet Fever.*—A small outbreak which took place in a large clothing factory was confined to girls working in the booking office in one of the departments. Information elicited by enquiries strongly suggested that the spread of infection was through the medium of office books passed from one girl to another and by the habit of pencil sucking during work.

Two other small epidemics occurred in Institutions.

In the first the infection was traced to a case transferred from another hospital. In the other, suspicion fell on a night sister as a carrier of the disease. Bacteriological examination of the



# SCARLET FEVER CASE AND DEATH RATES 1895 - 1930.





1910-1911

Year	Death Rate
1910	1.0
1911	1.0
1912	1.0
1913	1.0
1914	1.0
1915	1.0
1916	1.0
1917	1.0
1918	1.0
1919	1.0
1920	1.0
1921	1.0
1922	1.0
1923	1.0
1924	1.0
1925	1.0
1926	1.0
1927	1.0
1928	1.0
1929	1.0
1930	1.0
1931	1.0
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2011	1.0
2012	1.0
2013	1.0
2014	1.0
2015	1.0
2016	1.0
2017	1.0
2018	1.0
2019	1.0
2020	1.0
2021	1.0
2022	1.0
2023	1.0
2024	1.0
2025	1.0
2026	1.0
2027	1.0
2028	1.0
2029	1.0
2030	1.0
2031	1.0
2032	1.0
2033	1.0
2034	1.0
2035	1.0
2036	1.0
2037	1.0
2038	1.0
2039	1.0
2040	1.0
2041	1.0
2042	1.0
2043	1.0
2044	1.0
2045	1.0
2046	1.0
2047	1.0
2048	1.0
2049	1.0
2050	1.0
2051	1.0
2052	1.0
2053	1.0
2054	1.0
2055	1.0
2056	1.0
2057	1.0
2058	1.0
2059	1.0
2060	1.0
2061	1.0
2062	1.0
2063	1.0
2064	1.0
2065	1.0
2066	1.0
2067	1.0
2068	1.0
2069	1.0
2070	1.0
2071	1.0
2072	1.0
2073	1.0
2074	1.0
2075	1.0
2076	1.0
2077	1.0
2078	1.0
2079	1.0
2080	1.0
2081	1.0
2082	1.0
2083	1.0
2084	1.0
2085	1.0
2086	1.0
2087	1.0
2088	1.0
2089	1.0
2090	1.0
2091	1.0
2092	1.0
2093	1.0
2094	1.0
2095	1.0
2096	1.0
2097	1.0
2098	1.0
2099	1.0
2100	1.0

throat confirmed this suspicion. She was removed from the Institution and the outbreak came to an end.

The introduction of scarlet fever into the children's wards of one of our large general hospitals in the last quarter of the year caused much concern to the Department. The sporadic nature of the cases pointed to the probability of a carrier or carriers being the source of infection. The entire nursing staff and ward maids came under close scrutiny. Several were found to be suffering from sore throats, a bacteriological examination of which disclosed in a small percentage the presence of hæmolytic streptococci. The isolation of these cases was followed by a remarkable decline in the incidence of the disease.

*Return Cases.*—Cases occurring in the same house within the limit of four weeks of the discharge of the case from hospital are regarded as return cases. Of the 2,320 cases discharged from Seacroft hospital during the year 109 were infected in this way, giving a return rate of 4·7 per cent. Ten of these cases were re-admitted to hospital.

#### MEASLES.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1920	5,523	12·30	148	0·33	0·19
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	7,937	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	0·10



**Measles and German Measles.**—It is now generally recognised that epidemics of measles follow each other in cycles of about ninety-two weeks so that in view of the outbreak of this disease during 1929 a decrease in incidence was expected during the year under review. These expectations were fully realised for the number of cases notified, namely 1,256, proved to be the lowest since 1921 and the death-rate 0·004 was the lowest on record. Nine cases with broncho-pneumonic complications were removed to hospital as adequate home nursing was impossible.

#### WHOOPING COUGH.

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1920	100	0·22	0·12
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

#### AGES AT DEATH FROM WHOOPING COUGH.

1930	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of deaths	16	9	4	2	..	1	..	32

**Whooping Cough.**—Coincident with the decrease in the incidence of measles was a diminution 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, did not exceed 32, the lowest recorded since 1923, and we can assume that the number of cases suffering from the disease must have been relatively small. Ten cases complicated with broncho-pneumonia were removed to hospital. The reduced incidence and fatality of measles and whooping cough, two of the chief killing diseases of infancy and early childhood contributed largely to the fall in the infantile mortality rate.

#### ERYSIPELAS.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate.	Death-rate England and Wales.
1920	254	0·57	15	0·03	0·02
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	

**Erysipelas.**—During the year 423 cases were notified as compared with 349 during 1929. Of these 196 cases were removed to hospital. There were 23 deaths which is equivalent to a mortality rate of 0·05. Both the incidence of and death-rate from this disease were the highest for many years. Puerperal fever, scarlet



fever, and erysipelas have this in common, that each is associated with a similar kind of microorganism. From a study of the tables relating to these diseases (see pages 54, 57 and 59) it will be seen that the incidence and death-rate of all three diseases have fluctuated in very much the same way during the past eleven years. Further, there is a close similarity in their seasonal incidence, the minimum number of cases occurring in summer and the maximum in winter.

**Encephalitis Lethargica.**—One case only was notified during the year as compared with seven during 1929. Deaths numbered 8, equivalent to a death-rate of 0.02.

**Acute Anterior Poliomyelitis.**—No case of this disease was notified during 1930.

**Cerebro Spinal Meningitis.**—During the year two cases only were notified as compared with nine during the previous year. Deaths numbered 11, equivalent to a death-rate of 0.03.

**Malaria and Dysentery.**—One case of malaria was notified, the patient being an ex-service man who had contracted the disease abroad.

A small outbreak of dysentery of the B.Flexner type occurred in the children's ward of one of the City's largest institutions. Four cases in all were affected, two of whom belonged to Leeds. Prompt measures taken to prevent the spread of infection were successful.

**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	
	1929	1930	1929	1930	1929	1930	1929	1930
Puerperal Fever ..	31	51	0.06	0.11	10	10	0.02	0.02
Puerperal Pyrexia ..	66	46	0.14	0.10	..	..	..	..

Of the 51 cases of puerperal fever 32 (62.7 per cent.) occurred in institutions, 14 (27.5 per cent.) in doctors' practices, and five (9.8 per cent.) in the practice of midwives. Fifteen cases or 29.4 per cent. were treated in hospital.

## 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



The cases of puerperal pyrexia were distributed as follows :— 17 (37·0 per cent.) in institutions, 17 (37·0 per cent.) in doctors' practices, and 12 (26·1 per cent.) in midwives' practices. As compared with 1929 there was an increase of 20 cases of puerperal fever and a decrease of 20 cases of puerperal pyrexia.

This subject is further dealt with in the Section on Maternity and Child Welfare on page 153.

**Ophthalmia Neonatorum.**—The expression ophthalmia neonatorum is held to include any inflammation which occurs in the eyes of an infant within 21 days from the date of its birth and is accompanied by a purulent discharge. Forty-nine cases were notified during 1930 as compared with 38 in 1929. The subjoined table sets forth comparative figures in respect of cases notified as suffering from ophthalmia neonatorum and of female cases of gonorrhœa under treatment at the Venereal Diseases Clinic since 1926, the year when ophthalmia neonatorum first became notifiable by the medical practitioner. It will be seen that since 1927 the figures in each column vary in indirect proportion, that is, the more cases of female gonorrhœa treated, the fewer cases of ophthalmia neonatorum notified, thus emphasising the importance of prophylactic treatment.

OPHTHALMIA NEONATORUM.

Year.	Ophthalmia Neonatorum cases notified.	Gonorrhœa new cases (females) under treatment.
1926	73	50
1927	86	69
1928	66	105
1929	38	134
1930	49	105

The prevention of ophthalmia neonatorum begins with the treatment of the expectant mother. In Leeds women found at the ante-natal clinics to be suffering from gonorrhœal discharge are passed to the Venereal Diseases Clinic for treatment, and later



prophylaxis is continued by the midwife who takes the necessary precautions during labour. Immediately on receipt by this Department of the doctor's notification treatment is at once instituted. The most severe types are admitted to hospital and the remainder receive treatment at home by the district nurse under an agreement with the local District Nursing Association. Of the forty-nine cases notified, 34 were treated at home and 15 in hospital, viz., six in the Maternity Hospital, five in the Leeds General Infirmary, one in St. Mary's Infirmary, and three in St. James' Hospital. Nine cases (18·4 per cent.) occurred in institutions, 20 cases (40·8 per cent.) in doctors' practices, and 20 cases (40·8 per cent.) in the practices of midwives.

#### DAY OF ONSET FROM BIRTH.

1930.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	-	-	2	2	2	3	5	4	3	6	12	4	6

The results of treatment were as follows:—

Recovery apparently perfect	..	..	46
Died (one from convulsions and one from congenital syphilis)	..	..	2
Sight of both eyes affected	..	..	1
Still under treatment	..	..	—
Result not known	..	..	—

**Enteric Fever.**—A gradual decline of this disease has taken place during the past quarter of a century. In 1930 the number of cases was the lowest on record, namely four, compared with 14 in 1929. Of the four cases, three were due to an infection by B. Typhosus and one by Para Typhoid B. One of the former died, and, in addition, an un-notified case complicated by endocarditis had a fatal termination. The death-rate was 0·004. All five cases were unconnected with each other and were evenly distributed throughout the year.

Two cases, a woman aged 30 and a boy aged nine, were probably infected during a visit to the seaside. Further enquiries from the Medical Officers of Health concerned failed to elicit the source of infection.



Investigation into the source of infection of the un-notified case, a girl aged 17, cast suspicion on the mother. The latter had had a genuine attack of typhoid thirty years previously and it was thought that she might still be a carrier. Her blood test, however, was negative and bacteriological examination of her fæces and urine on two separate occasions failed to show the presence of B. Typhosus

Of the four notified cases, one case was removed to hospital.

#### ENTERIC FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1920	29	0.06	4	0.01	0.01
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

#### CASES OF ENTERIC FEVER MONTH BY MONTH.

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

**Influenza.**—This disease is not notifiable but a rough idea of its prevalence can be obtained from the death returns. During the year there were 59 deaths which is the lowest since 1917. Following the epidemic of influenza in 1929 a low death-rate was predicted and it is satisfactory to report that no more than 59 deaths occurred.

A glance at the following table reveals the interesting fact that during the last decade serious epidemics of influenza have occurred at intervals of five years, namely, 1919, 1924 and 1929, with minor fluctuations between.

#### INFLUENZA.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	623	1.45	1.22
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	0.12

#### AGES AT DEATH FROM INFLUENZA.

1930	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	—	1	1	4	1	7	17	28	59



Of the deaths, seven occurred in persons under 25, seven between 25-45, 17 between 45-65 and 28 over 65 from which it is clear that the mortality increases with the advance of age.

**Diarrhœa and Enteritis (Summer Diarrhœa).**—During the year 34 children under two years of age died from these diseases equal to a death-rate of 4·5 per thousand births, as compared with 11·6 during 1929. A perusal of the table appended shows that this is the first time that the death-rate in Leeds has been less than that for England and Wales. This reduced death-rate contributed to the low infant mortality recorded for the year. The cooler and damper summer doubtlessly had a favourable effect on the incidence of and fatality from what is commonly known as "Summer Diarrhœa" though the growing appreciation of mothers of the importance of cleanliness in the home and attention to infant nurture also played a part in the prevention of what is eminently a preventable disease.

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

Year.	Deaths.	Rate per 1,000 Births.	
		Leeds.	England and Wales.
1920	140	12·5	8·9
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	6·0



**Epidemic Catarrhal Jaundice.**—An interesting outbreak of this disease involving five cases occurred during the year. This is not a notifiable disease in the city and unfortunately the cases were not reported to the Department until three months after the occurrence of the first case. A youth, aged 16, fell ill in the second 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.

About four weeks afterwards, his brother, aged 14, who slept with him, developed similar signs and symptoms.

On September 7th the father fell a victim to the disease, although his attack was much milder and he managed to carry on without going to bed. On the 2nd and 10th October, two sisters aged 17 and 18 respectively, who slept with each other, were attacked and the symptoms were almost identical with that of their brothers.

The writer was called in during the convalescence of the last case, when it was too late to make any examination of blood and stools. No further case occurred.

The outstanding features of all the cases were the sudden onset, the severe abdominal pains, with sickness and vomiting, followed by improvement on the third to fourth day after the onset, when the jaundice appeared. The incubation period was a long one ranging from 20 to 35 days and infection appeared to depend on close contact. No clue as to the source of infection was found.

**Psittacosis (Parrot Disease).**—Small isolated outbreaks of this disease have been reported in England from time to time since the middle of 1928 and have been traced by the Ministry of Health to the introduction of a cargo of diseased parrots, mostly of the green Amazon type, from South America. On May 2nd a case strongly suggestive of psittacosis was reported in the North part of the city and further investigations appeared to support this diagnosis. The patient, a woman aged 46 years, had purchased a green Amazon parrot from a bird dealer in London on April 19th. She was very much attached to the bird and was in the habit of fondling it. On April 29th when working in the garden, she was suddenly attacked with a violent headache, shivering and abdominal



pains and for the next two weeks her condition was critical. The signs and symptoms of her illness corresponded very closely to those described by the Ministry in previous outbreaks, namely, persistent and severe frontal headache, abdominal pain, high temperature, slow pulse and profuse sweating, followed later by pneumonic symptoms.

The parrot, which on close examination did not appear to be in good health, was immediately destroyed and forwarded together with specimens of the blood and sputum of the patient to the Bacteriological Department, Ministry of Health, where investigations into the nature of the infection were carried out.

The patient ultimately made a complete recovery and no further cases occurred.

On May 20th the importation of parrots into England was prohibited.

**Pneumonia.**—There is no notifiable disease about which so much confusion exists at the present time as pneumonia. In medical language the term pneumonia connotes any inflammation of the lung involving either the whole substance of a lobe or lobes (lobar pneumonia) or the lung tissue surrounding a bronchiole (broncho pneumonia). Many forms of pneumonia exist, depending upon the associated causal organism. These may be classified into:—  
 (1) pneumonias which are unconnected with any previous condition, *e.g.*, acute lobar pneumonia or acute lobular or broncho-pneumonia where the chief causal factor is the pneumococcus,  
 (2) pneumonias which are the sequelæ of the various infectious diseases, *e.g.*, measles, whooping cough, influenza, etc.,  
 (3) pneumonias which constitute the terminal stage of chronic diseases like cancer and nephritis.

Recognising the infectious nature of pneumonia and the important part played by it as a cause of mortality, the Ministry of Health by regulations dated 1919 and 1927 made acute primary pneumonia and acute influenzal pneumonia notifiable, the term acute primary pneumonia being defined as acute lobar or croupous pneumonia or acute lobular or broncho-pneumonia unconnected with any previous pathological condition. In Leeds the term primary has been interpreted in the strict sense of the Regulations and circulars sent to general practitioners in the city from time to time have been drafted accordingly. It is apparent, however,



that some local authorities have interpreted the definition more widely and have included also broncho-pneumonia resulting from whooping cough and measles. It is clear, therefore, that the statistics in regard to the incidence of acute primary pneumonia in local government areas throughout the country are not strictly comparable; neither can the incidence rate of acute primary pneumonia of the country as a whole be a true one.

The matter is further complicated by the fact that the Registrar General in his Manual of the International List of Causes of Death recognises no fewer than forth-six types of pneumonia, so that the number of deaths in the subjoined table showing deaths from pneumonia, include any or all of these varieties.

Until the Ministry of Health see fit to introduce a more satisfactory system of notification, too much importance should not be placed on the comparative analysis of the incidence of pneumonia.

The number of notifications received during the year was 645 primary and 65 acute influenzal, the majority of which are referable to the first quarter of the year. The attack rate for the two varieties of pneumonia based on the notifications received was 1.35 and 0.14 respectively, as compared with 2.82 and 0.91 for the previous year and 2.11 and 0.50, the average of the previous five years.

In common with other Northern cities the death-rate in Leeds from pneumonia (all forms) has invariably been greater than that of England and Wales, a difference which was very marked in 1929 when the death-rate in Leeds was 1.72 as compared with 1.11 for the country as a whole and was the highest death-rate in the city since 1918. Happily, the year 1930 witnessed a complete change in the swing of the zymotic pendulum and only 413 deaths occurred giving a death-rate of 0.86, the lowest on record. 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 68 and it will be noted that no fewer than 103 or 24.9 per cent. were amongst children under five years of age, whilst 226 or 54.7 per cent. were over 45 years. As compared with the previous year these figures represent a decrease of 219 in the group under five years of age and 120 in the age groups over 45. It should be observed that the figures given above relate to all forms of pneumonia.



## PNEUMONIA (ALL FORMS).

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1920	622	<b>1·39</b>	0·99
1921	562	<b>1·21</b>	0·92
1922	502	<b>1·08</b>	1·07
1923	440	<b>0·94</b>	0·87
1924	619	<b>1·31</b>	1·00
1925	503	<b>1·06</b>	0·95
1926	484	<b>1·02</b>	0·83
1927	477	<b>1·00</b>	0·95
1928	485	<b>1·02</b>	0·79
1929	825	<b>1·72</b>	1·11
1930	413	<b>0·86</b>	

## AGES AT DEATH FROM PNEUMONIA.

1930	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	54	28	21	17	14	53	139	87	413

**Bronchitis.**—Yet another record was broken during 1930 when the number of deaths from bronchitis fell to 278, equivalent to a death-rate of 0·58. More than half the deaths occurred in the age group 65 and upwards.

It is doubtless a coincidence that the number of deaths from pneumonia and bronchitis during 1930 is in each case almost

exactly half that of the preceding year. A comparison of the tables on pages 68 and 69 dealing with bronchitis and pneumonia, illustrate how fluctuation in the death-rate of these two diseases correspond.

## BRONCHITIS.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	741	1.72	1.24
1920	625	1.39	1.01
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	

## AGES AT DEATH FROM BRONCHITIS.

1930	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	23	5	3	-	5	12	72	158	278



**Cancer.**—During a year in which so many records have been broken as regards lowered incidence and mortality, it is disappointing to have to record an increase in cancer. Whilst 492 persons died in the city from this disease in 1920, no less than 728 deaths occurred in 1930, equivalent to an increase of 48 per cent.

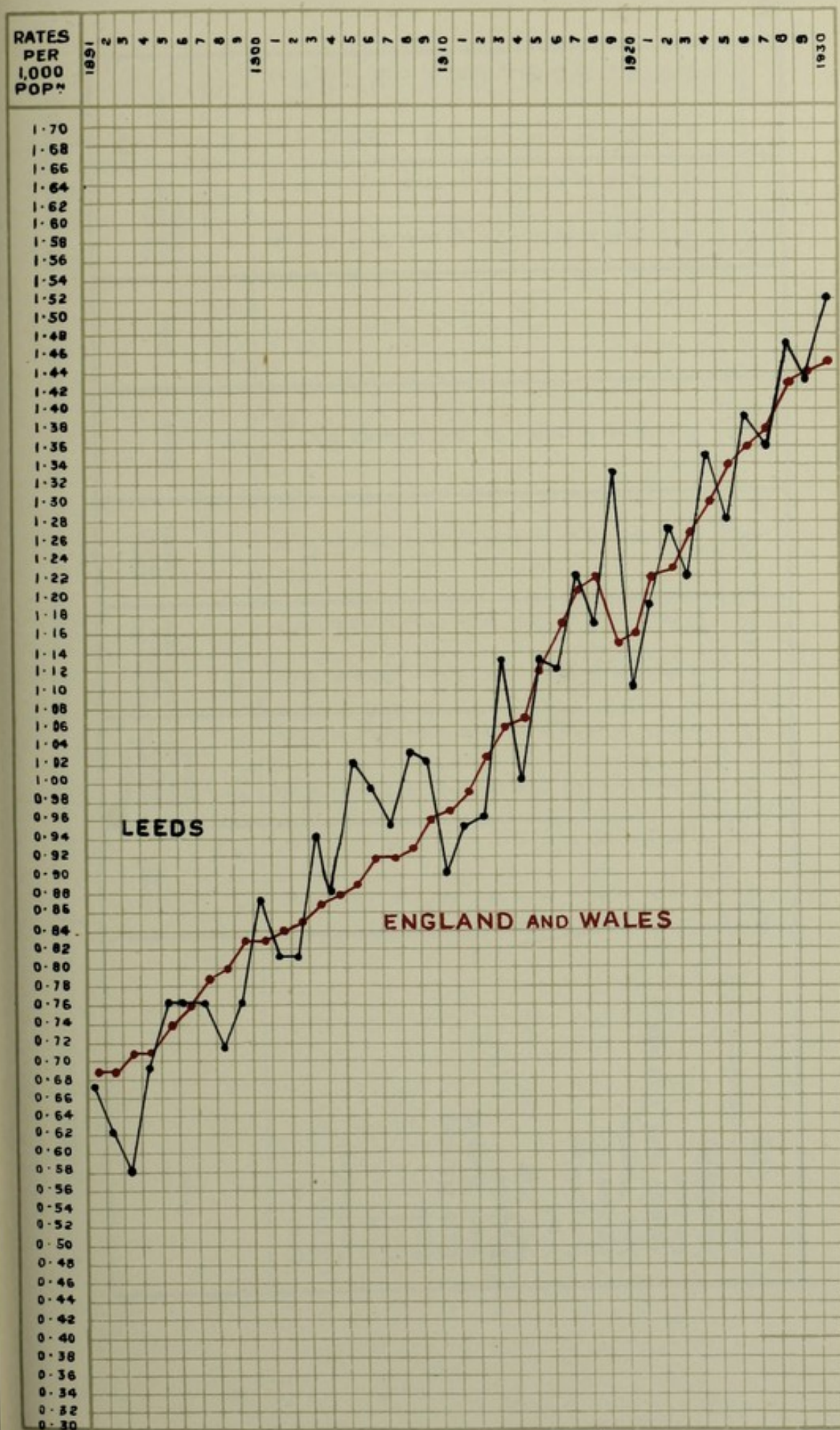
## CANCER.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1920	492	1·10	1·16
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

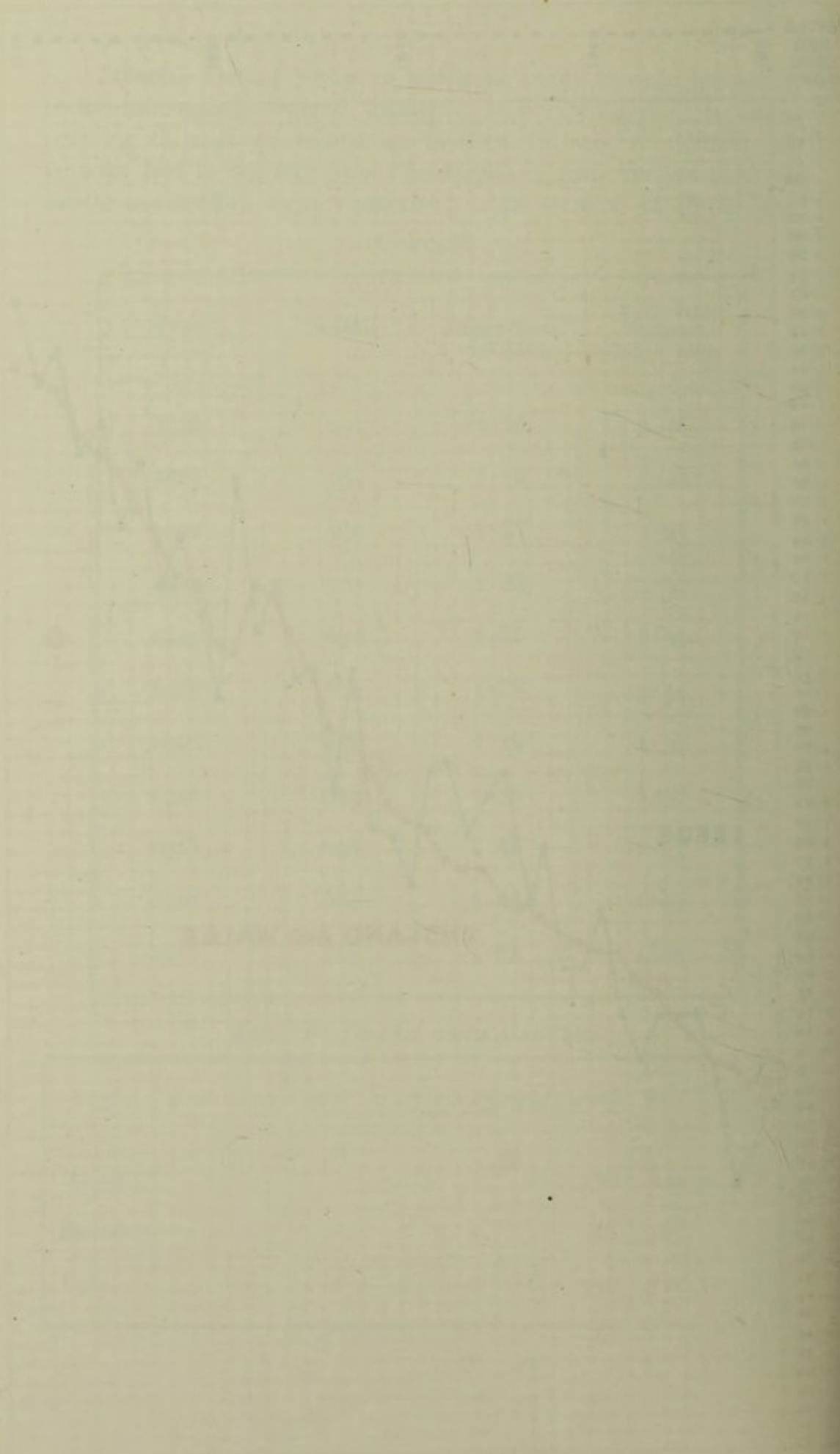
## AGES AT DEATH FROM CANCER.

1930.	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
Males	..	..	..	..	..	28	156	144	328
Females	..	..	1	1	1	34	196	167	400
Total	..	..	1	1	1	62	352	311	728

# CANCER DEATH RATE.— 1891-1930.







1930.—DEATHS FROM CANCER IN WARDS CLASSIFIED ACCORDING TO ANATOMICAL SITE OF THE DISEASE.

Ward.	Buccal cavity.		Pharynx, œsophagus, 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.
Central	3	..	4	2	3	2	1	..	..	..	5	2	15	7
North ..	3	..	12	6	12	8	11	9	1	..	7	4	35	38
North-East	2	..	11	2	4	9	4	10	..	..	6	3	23	28
New ..	1	..	5	3	3	7	1	3	..	..	1	3	10	17
East ..	4	2	7	5	8	2	8	3	..	..	6	4	25	24
South ..	..	..	1	3	..	2	7	3	..	..	2	4	3	19
East Hunslet	5	..	7	7	10	6	2	3	..	..	8	6	30	24
West Hunslet	..	..	6	3	7	5	7	6	..	..	6	3	19	24
Holbeck	1	..	9	5	4	1	3	4	1	1	7	4	22	18
Mill Hill	1	..	2	1	..	1	2	..	..	..	..	..	3	4
West ..	1	..	6	1	2	7	1	3	..	1	5	5	14	18
North-West	..	..	5	5	6	9	9	6	..	..	7	2	18	31
Brunswick	2	2	3	1	4	7	2	2	..	..	4	2	13	16
New Wortley..	1	..	3	5	2	5	..	2	..	..	4	2	10	14
Armley and Wortley	4	1	5	5	8	9	8	9	1	..	8	4	26	36
Bramley	2	1	8	6	5	8	7	2	1	..	6	7	22	31
Headingley	2	2	12	7	11	12	10	10	..	..	15	10	40	51
City ..	32	8	106	67	89	100	83	75	4	2	97	65	328	400



Of the 728 deaths, 400 were females and 328 males. For many years the number of female deaths has exceeded the male deaths which is accounted for partly by the preponderance of females over males in the population, partly by the susceptibility of the female reproductive organs to the disease, and partly by the greater reluctance on the part of women to seek treatment at a stage of the disease when cure by radical means is possible. It is notorious how diffident many women are to reveal the fact that there is something wrong, and it is only when, owing to increasing pain or discomfort, concealment is no longer possible and necessity drives them to a full disclosure, that they consent to be examined medically, by which time the disease is so well established as to make the possibility of cure extremely doubtful. It is interesting to note that 91 per cent. of the deaths were in persons over 45 years and that the mean age at death for both sexes was about 59 years.

After making a generous allowance for an inevitable increase in the incidence of cancer, due to the better means of diagnosis and to the fact that more people now reach an age which renders them more liable to be attacked, there is no doubt that cancer is steadily gaining ground.

It is indisputable that a large proportion of the deaths which take place from cancer can be prevented. Perhaps the most disquieting feature in last year's figures is that there was an increase in cancer affecting the breast, tongue, lip and skin—sites of the disease which are recognised to be the most accessible and therefore offer greater facilities for early detection and treatment. The natural conclusion is that the average citizen is still ignorant of the true nature of the disease and has failed to grasp the all-important fact that the only known method at the present time of decreasing the number of deaths is the detection and removal of the disease in its early stages.

**Food Poisoning.**—Experience of previous outbreaks of food poisoning in the city has emphasized the importance of immediate investigation into the cause and spread of the condition. The Leeds Corporation Act, 1930, makes food poisoning notifiable by medical practitioners, a provision which is of material help in setting on foot such investigations without loss of time.



The term food poisoning is meant to cover cases of 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. Though in general parlance the term food poisoning has come to mean food poisoning which is bacterial in origin, for the purpose of the Act it has been taken to include cases of illness arising from the metallic poisons, *e.g.*, lead, arsenic, antimony.

Since August, 1930, when the Act received the Royal Assent, five cases of food poisoning have been notified to the Department. Investigation and laboratory examinations proved that four of these were not due to food poisoning within the meaning of the Section, but were merely cases of dietetic upset. In the fifth case the history and symptomatology were rather suggestive of food poisoning. A whole family was implicated with the exception of the father and a child aged five years. Over a period of four days, five children together with the mother, exhibited signs and symptoms characteristic of food poisoning, *e.g.*, sickness, vomiting, abdominal pains, headache and dizziness. Suspicion fell on the only article of food, bread, which had been consumed in common by all those infected, as the probable cause. It was found that the bread had been made by the mother from flour, baking powder, and yeast purchased from a local store. Examination of the baking powder and flour, however, failed to show any metallic poison nor were organisms of the salmonella group found in the fæces of the patients, but it should be pointed out that, as the fæces examined were taken from the patients late in the illness, too much weight cannot be placed on the negative findings. All the sufferers eventually recovered.

**Handling of Food, etc. by infected persons carrying on business.—**

Mention may be made here of another section of the Act of 1930, which prohibits any person suffering from an infectious disease from engaging in the cooking, preparation or handling of food intended for consumption by persons other than himself or members of his household in such a manner as to be likely to spread the infectious disease. During the latter part of the year six persons falling within this category were removed to hospital for isolation.

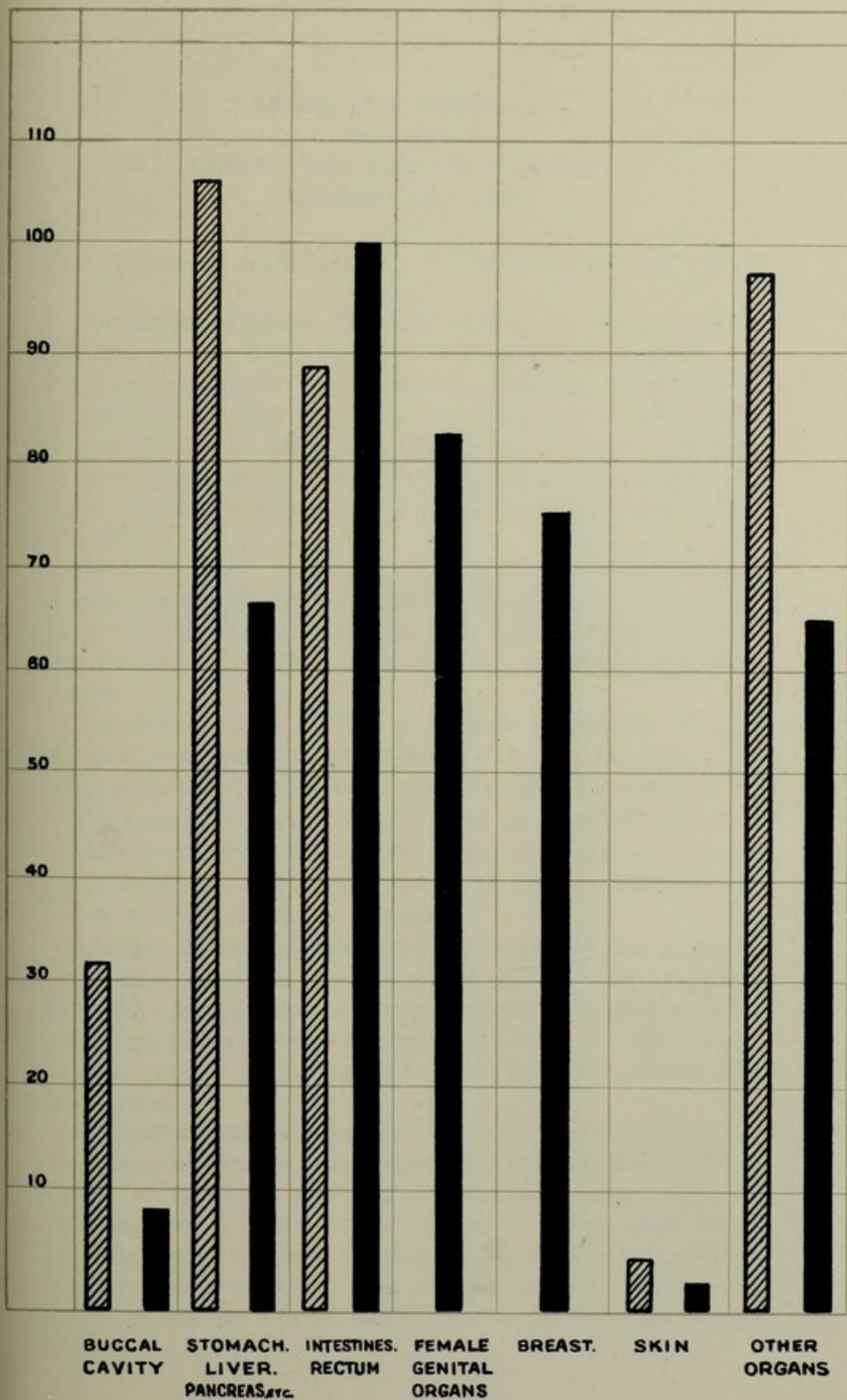


CANCER DEATH-RATES, ELEVEN LARGE TOWNS, ALSO ENGLAND  
AND WALES.

	Year 1919.	Year 1920.	Year 1921.	Year 1922.	Year 1923.	Year 1924.	Year 1925.	Year 1926.	Year 1927.	Year 1928.	Year 1929.
London ..	1.25	1.25	1.33	1.33	1.39	1.42	1.44	1.46	1.49	1.52	1.55
Birmingham..	1.09	1.11	1.10	1.16	1.18	1.31	1.29	1.31	1.39	1.37	1.37
Liverpool ..	1.03	1.07	1.10	1.06	1.13	1.13	1.21	1.18	1.16	1.33	1.34
Manchester ..	1.17	1.28	1.28	1.29	1.41	1.40	1.40	1.49	1.45	1.49	1.56
Sheffield ..	0.97	1.08	1.17	1.18	1.19	1.26	1.33	1.19	1.39	1.37	1.42
<b>Leeds</b> ..	<b>1.35</b>	<b>1.09</b>	<b>1.19</b>	<b>1.29</b>	<b>1.24</b>	<b>1.37</b>	<b>1.28</b>	<b>1.41</b>	<b>1.37</b>	<b>1.46</b>	<b>1.44</b>
Bristol ..	1.18	1.15	1.26	1.21	1.32	1.28	1.32	1.26	1.43	1.45	1.39
Hull ..	1.15	0.97	1.21	1.21	1.04	1.29	1.20	1.46	1.45	1.47	1.40
Bradford ..	1.38	1.28	1.39	1.49	1.33	1.56	1.42	1.63	1.59	1.55	1.58
Newcastle ..	1.13	0.94	1.10	1.08	1.16	1.24	1.32	1.19	1.20	1.54	1.38
Nottingham ..	1.23	1.36	1.43	1.23	1.46	1.40	1.25	1.38	1.49	1.44	1.52
England and Wales ..	1.15	1.16	1.22	1.23	1.27	1.30	1.34	1.36	1.38	1.42	1.44

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

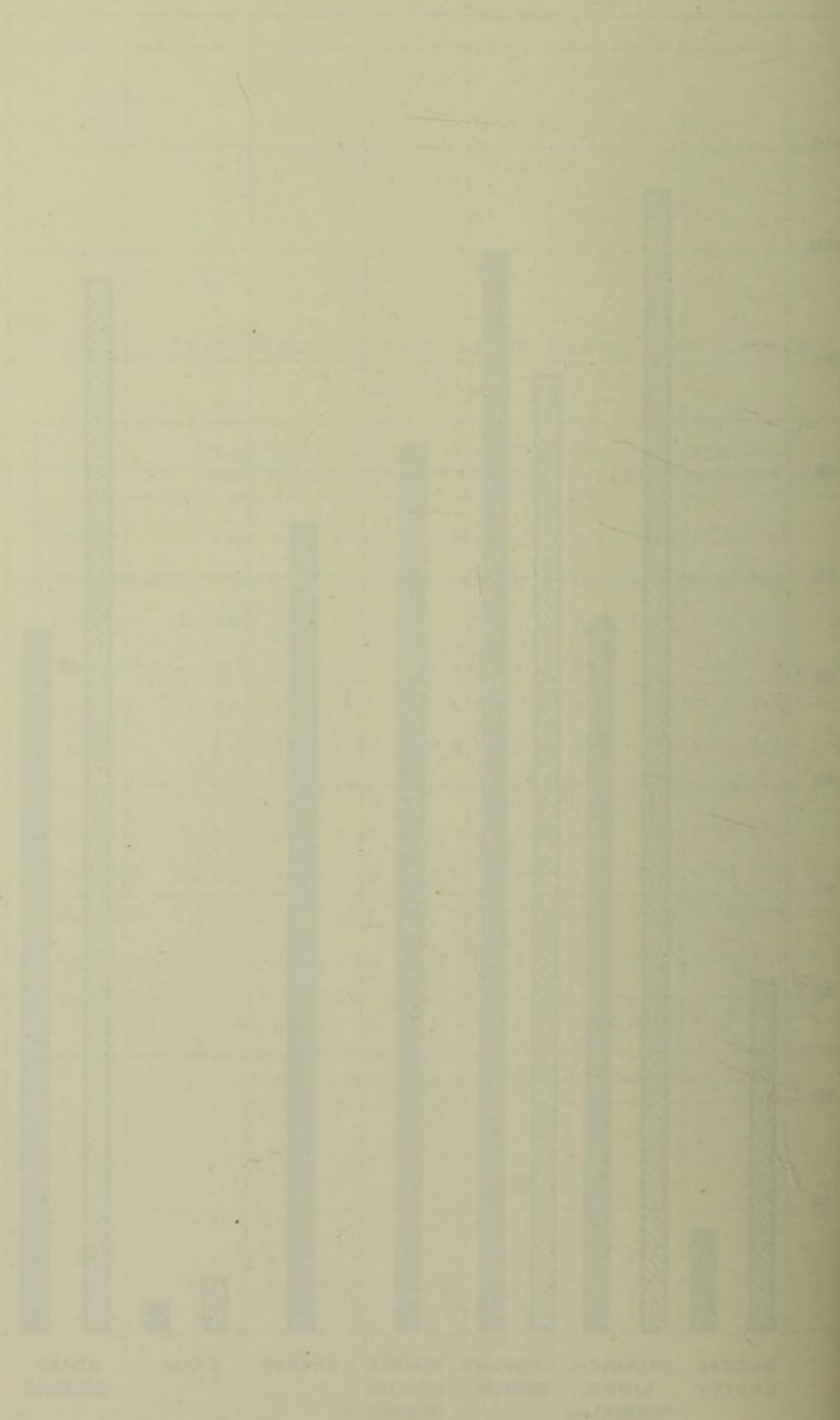
CHART SHOWING NUMBER OF DEATHS FROM  
CANCER OF DIFFERENT PARTS OF THE BODY 1930.



 MALES  
 FEMALES



CHART SHOWING NUMBER OF DEATHS FROM  
CAUSES OF DIFFERENT PARTS OF THE BODY 1920



**LEEDS CITY HOSPITAL**  
(Seacroft).  
**REPORT FOR THE YEAR ENDING**  
**DECEMBER 31st, 1930**

BY

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

**Admissions.**—Patients admitted during the year numbered 3,596, this number being exclusive of 29 persons admitted to the quarantine cottages for observation for smallpox. The number of admissions, although it shows a decrease of 599 on the previous year, was still abnormally high for the hospital, and was attributable to a prolongation of the scarlet fever epidemic which commenced in 1928, combined with a distinctly greater prevalence of diphtheria in the city.

Direct admissions from outside the city's boundaries numbered 13, consisting largely of patients suffering from puerperal conditions. During the annual period, 114 patients were admitted from the Leeds General Infirmary, and 99 from other medical institutions in Leeds.

The daily average number of patients in Seacroft Hospital was 342·8 compared with 388·4 during the previous year. The greatest daily number of patients was 474 and the lowest 229.

The average length of stay in hospital for 3,558 patients whose treatment was completed, was 36·1 days, as compared with 35·5 days in 1929. Patient days in respect of patients who were discharged or died amounted to 129,594.

**Smallpox Hospital.**—Patients treated during the year numbered 42 as against 25 in the previous annual period. The number of patient days for 39 patients whose treatment was completed was 1,066, giving an average stay in hospital of 26·9 days. The greatest number of patients on one day was 19, and the lowest nil, the daily average being 3·2.

**Quarantine Cottages.**—Persons admitted for observation during the year numbered 29 as against nine in the previous annual period. Of these, six developed smallpox and were subsequently admitted to the Smallpox Hospital. The number of patient days for all admissions during the year was 657, giving an average period of observation of 22·7 days. The greatest number of persons in isolation on one day was 14, and the lowest nil, the daily average being 1·9.



**Death-rates.**—The case mortality in respect of all admissions during the year was 2·7 per cent. as against 2·4 per cent. recorded in 1929.

**Meteorological Records.**—These continue to be kept in Seacroft Hospital. The year was characterised by a rainfall above the average and a consequent reduction in the amount of sunshine.

**Scarlet Fever.**—The epidemic which commenced in June, 1928, continued throughout the year, but showed signs of abating in the later months. At no time, however, was the accommodation in the Hospital overtaxed. During the year, 2,223 patients were admitted as compared with 3,076 in 1929. Patient days in respect of individuals who had completed treatment, numbered 86,215, equivalent to an average stay in the hospital for recovered patients of 37·4 days. It may be noted that the average duration of treatment was exactly the same as in the preceding year, indicating a continuance of the policy of discharging patients from the hospital in the course of the fifth week of the disease, if free from visible indications of infection. The decline in the period of isolation during recent years is shown in the accompanying table :—

Year.				Days.
1919-1920	..	..	..	55·2
1920-1921	..	..	..	51·7
1921-1922	..	..	..	52·7
1922-1923	..	..	..	47·2
1923-1924	..	..	..	49·7
1924-1925	..	..	..	50·2
1925-1926	..	..	..	49·0
1926-1927	..	..	..	44·2
1927-1928	..	..	..	44·2
1928-1929	..	..	..	39·0
1929	..	..	..	37·4
1930	..	..	..	37·4

The Annual Report covered a period up to 31st March, until 1928-1929.

*Return Cases.*—These numbered 90 or 3·9 per cent. of patients discharged, as compared with 2·4 per cent. in the previous annual period. An examination of the records of the primary cases showed that 37 or 41·1 per cent. showed evidence of complications while under treatment, rhinitis taking a prominent place.

It has not been the custom in Leeds to issue notices to relatives of patients discharged after suffering from scarlet fever, advising precautionary measures. In view of the apparently large numbers of return cases during the present epidemic, it was decided early in 1930 to issue a notice, a copy of which is given herewith.

CITY OF LEEDS. SEACROFT HOSPITAL.

NOTICE TO RELATIVES OF PATIENTS RECENTLY SUFFERING  
FROM SCARLET FEVER OR DIPHTHERIA.

Patients are discharged from hospital free from infection as far as is humanly ascertainable. As, however, it is not possible to detect a slight lingering trace of infection in every case, relatives are advised, that for a minimum period of 14 days after discharge, patients,

1. Should not be allowed to sleep in the same bed as other children.
2. Should not be allowed to play with other children in such a way as to come into close personal contact with them, nor should they be allowed to kiss other children or older persons.
3. Should not use the same pocket-handkerchief, towel, eating and drinking utensils, unless previously washed.

Relatives are further advised that, should any discharge from the nose or ears appear, whether within the period of 14 days or not, the individual should be separated from other children, and the advice of a doctor obtained.

The practice was commenced at the beginning of May, and it is interesting to analyse the results and make a comparison with the previous year.

Period following discharge of Primary Case.	Number of Return Cases.			
	1930.			1929.
	Jan.-April.	May-Dec.	Total.	
First Week ..	20	20	40	32
Second Week ..	23	12	35	29
Third Week ..	4	8	12	15
Fourth Week ..	3	—	3	2
Total ..	50 (4·4%)	40 (3·3%)	90 (3·9%)	78 (2·4%)



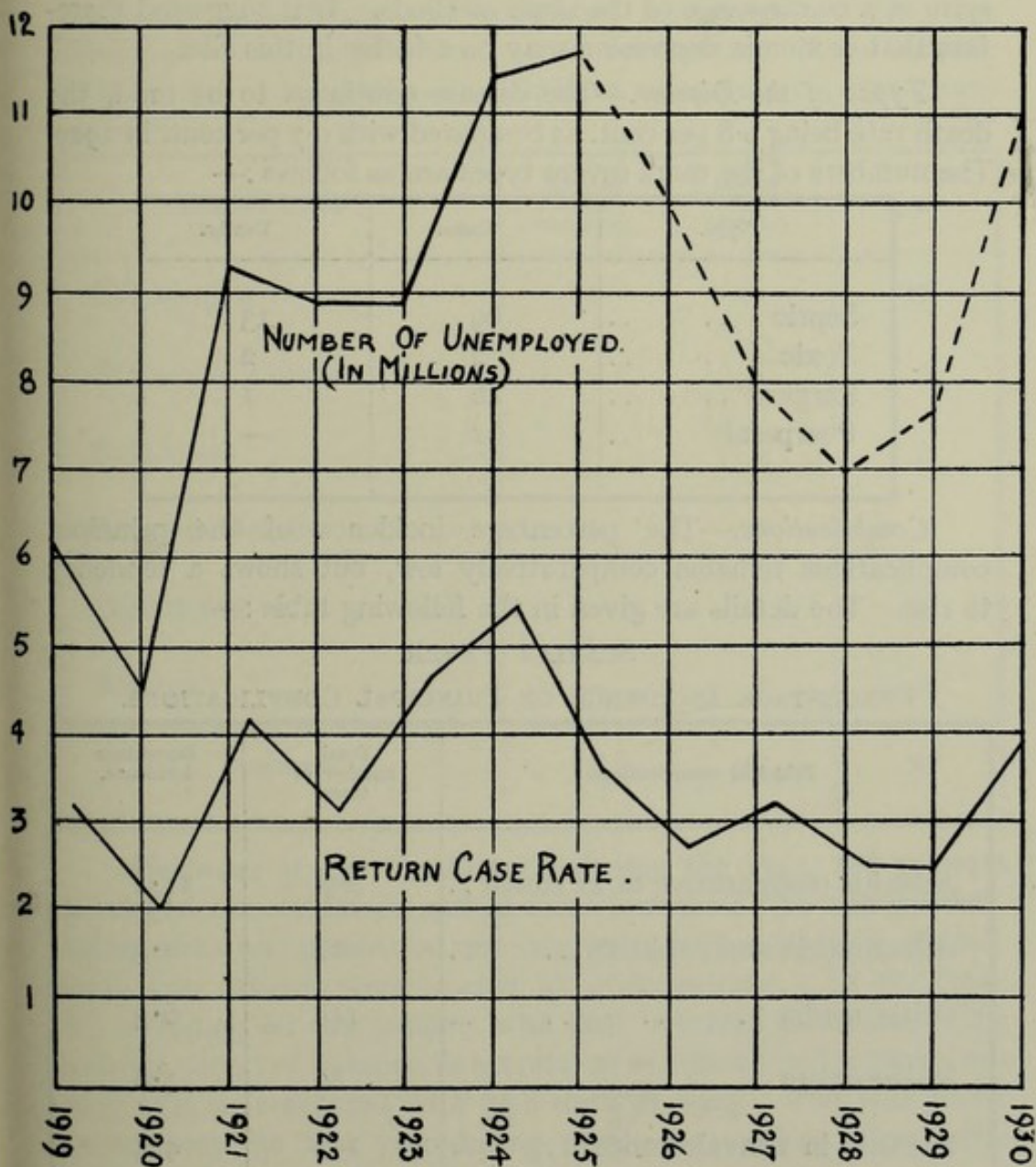
It will be noted that the return case rate fell from 4·4 per cent. to 3·3 per cent. in the latter half of the year, a fall probably attributable to the fact that the summer months are included in the latter half. There is no evidence that the recommendation to take precautionary measures for a minimum period of 14 days after discharge has had any effect as judged by the distribution of the return cases this year as compared with the previous year. The issue of recommendations appears to be of doubtful utility, as, in a considerable proportion of cases, housing conditions render difficult the observation of relatively simple precautions.

A considerable increase in the return case rate occurred in 1930. No alteration has been made as regards the criteria for the discharge of scarlet fever patients or the procedure of discharge. It would appear therefore that some other factor was a contributory cause of this increase. The return case rate in recent years is given below.

Year.		Return Case-rate.
1919-1920	..	3·2
1920-1921	..	2·0
1921-1922	..	4·2
1922-1923	..	3·2
1923-1924	..	4·6
1924-1925	..	5·4
1925-1926	..	3·6
1926-1927	..	2·7
1927-1928	..	3·2
1928-1929	..	2·5
1929	.. ..	2·4
1930	.. ..	3·9

The Annual Report covered a period up to March 31st until 1929.

Return cases are inevitable in fever hospital practice and a rate up to five per cent. need not arouse much comment. It is not quite clear, however, how the rate should vary to such an extent within short periods of time. An examination of the figures given above does not suggest that the variation is accounted for by the occurrence of epidemics of scarlet fever. It seemed possible that the state of prosperity of Leeds might be reflected in the rise or fall of the return case rate and accordingly, taking the number of unemployed for England and Wales as an index of prosperity, or rather lack of prosperity, the results were shown graphically.





Up to, and including, 1925, the figures are the official figures provided by the Ministry of Labour. Beyond that year, they are provisional. With regard to the return case rates, it is to be noted that until 1929, the case rate is based on a year ending 31st March.

The period covered is short, but, if any conclusion is to be drawn, it would appear that social conditions cause a variation of the return case rate. In times of trade depression, the standard of diet tends to fall and children receive less of the fats and oils which contain the vitamin essential for resistance to infection. It has been noted that a considerable rise occurred in the 1930 rate in spite of a continuance of the same methods. It is suggested therefore that economic depression may be a factor in this rise.

*Types of the Disease.*—The disease continues to be mild, the death rate being 0·8 per cent. as compared with 0·7 per cent. in 1929. The numbers of the more severe types are as follows :—

Type.	Cases.	Deaths.
Septic .. ..	69	13
Toxic .. ..	2	2
Surgical .. ..	46	1
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 21 cases) ..	258	11·1
Albuminuria and nephritis .. ..	68	2·9
Otitis media .. .. .	148	6·3
Rheumatism .. .. .	89	3·8
Rhinitis in convalescence .. ..	103	4·4

*Scarlatinal Antitoxin.*—Owing to the mildness of the disease, the use of antitoxin has been restricted as in former years to the more acute cases. A total of 239 patients received this treatment, this number including 12 of the 19 whose deaths were attributed to scarlet fever. Of all patients whose treatment was completed, 10.3 per cent. therefore received antitoxin.

*Cross Infection.*—There were 39 cases of cross infection in the scarlet fever wards including 12 in whom the disease was in the process of incubation on admission. Cross infection was mainly due to chickenpox which was extremely prevalent in the city during the year. Of patients who completed treatment, 1.6 per cent. developed an additional infection, or 1.1 per cent. if the number in the stage of incubation on admission is excluded. The details are as follows:—

Secondary Disease.	Infected before Admission.	Infected in Hospital.	Total.
Chickenpox .. ..	11	16	27
Whooping Cough .. ..	—	5	5
Erysipelas .. ..	—	3	3
German Measles .. ..	1	1	2
Diphtheria .. ..	—	1	1
Mumps .. ..	—	1	1
All Diseases .. ..	12	27	39

*Treatment of Ear Conditions.*—During the year, 148 patients developed ear conditions and of these four died. In 102 patients, otitis media was present on one side, in 44 both sides were effected, while two patients were treated for otitis externa. Of the total, 21, including all the patients who died, received antitoxin. The average period of isolation in hospital of 144 discharged patients was 59.9 days as compared with 59.6 days in 1929. The year under survey was the first year during which the services of an aural



surgeon were available during the whole period, as Mr. W. Maxwell Munby, F.R.C.S., took up duty in the hospital in September, 1929. It is true that a reduction in the average duration of treatment has not been recorded this year, but the significance of this becomes less apparent when it is noted that, whereas in 1929, 43 patients left hospital with persisting otorrhœa, in 1930 only seven were discharged uncured, and of these, one was discharged at the request of the parents with complete cure imminent, while two had long-standing otorrhœa of non-scarlatinal origin. When it is added that in 1928, 30 patients were discharged uncured, the improvement in the treatment of ear conditions becomes still more manifest.

During the whole of the period, a ward has been devoted to ear conditions, and this has proved extremely advantageous and has facilitated surgical work of which a considerable amount has been necessary.

Statistics of the ear cases are given herewith :—

Number of patients .. .. .	148
Deaths .. .. .	4
Average duration of treatment (discharged cases only) .. .. .	59·9
Operations :—	
Mastoid—	
(a) Radical operation .. .. .	14 (3 bilateral)
(b) Wilde's Incision .. .. .	1
(c) Paracentesis tympani .. .. .	1
Removal of tonsils and adenoids :—	
(a) Otorrhœa cured .. .. .	9
(b) Otorrhœa uncured .. .. .	2
Transillumination .. .. .	2
Otorrhœa present on discharge (all cases) ..	7



**Diphtheria.**—During the year 950 patients were admitted suffering from diphtheria as compared with 505 in 1929. There has been a progressive increase in the admission rate for six years, but the disease does not appear to have assumed epidemic characteristics. Allowing for the seasonal fluctuations, admissions kept at a remarkably uniform level throughout the year. The number of patients discharged on the completion of treatment was 849 in respect of whom the average stay in hospital was 39·7 days.

**Death-rate.**—During the year, 48 deaths were attributed to diphtheria, giving a death-rate of 5·4 per cent. as compared with 4·0 per cent. in 1929. Of the deaths, 17 were due to the hæmorrhagic form of the disease, and four followed tracheotomy.

**Type of the Disease.**—In the previous annual report, it was noted that there was a distinct tendency for the disease to assume a more severe type. The increase in the death-rate indicates that this tendency has continued. The reports of medical officers of health throughout the country showed in 1929 higher death-rates than in the previous year with very few exceptions.

There is ground for believing that there are two distinct types of diphtheria infection. In one, the local symptoms are predominant but rarely severe, toxæmia is slight with the result that complications are infrequent, and the response to antitoxin is rapid. In the other type, the local condition may show all grades of severity, toxæmia is prominent, complications are frequent and the response to antitoxin is poor. In the latter, the death-rate is high; in the former deaths are rare unless in laryngeal diphtheria where the mechanical factor of obstruction is present. By a special technique, Professor J. W. McLeod, of Leeds University, has been able to distinguish readily the two types of infecting micro-organism, and at his instigation the clinical and bacteriological findings have been correlated. This work has progressed sufficiently to make it possible to assert that the increased death-rate in Leeds has been almost entirely attributable to an increased prevalence of the more severe type of the disease. Death-rates from 5 to 10 per cent. are common throughout the country. Such rates and the distinction of types referred to above, at once raise the question of the revision of antitoxin standards.



*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 ..	786	87·6	40
Fauces and larynx ..	44	4·9	6
Larynx .. ..	15	1·7	1
Nose .. ..	6	0·7	..
Miscellaneous, bacteriological .. ..	46	5·1	1
Total .. ..	897	100·0	48

*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. In view of the increasing number of very severe cases, and in view of the early hypoglycæmia, which appears to be present in such cases, followed by a hyperglycæmia, a series of patients was treated with glucose solution and antitoxin intravenously accompanied by the intramuscular injection of insulin. This treatment has been favourably commented on by Schwentker and Noel of the Johns Hopkins Hospital. Two of the patients so treated come within the period under review. In both the disease appeared to be of a type from which recovery seldom occurs. One patient died, while the other recovered and was discharged after three months' treatment, but suffered from marked paralysis in the course of the disease. The treatment has not so far met with the success attributed to it.

*Diphtheria Carriers.*—The increased number of admissions brought with it an increase in the number of patients in whom infection persisted in convalescence. These are usually troublesome to deal with as they do not respond readily to the usual methods of treatment on antiseptic lines. Unhealthy tonsils and more especially adenoids are usually present in such patients. Accordingly, in these, routine antiseptic treatment was kept up



for two months, at the end of which the virulence of the infecting micro-organism was verified. If the infection proved virulent, the patient was submitted to the ear, nose and throat specialist for operation if it was considered necessary. The removal of tonsils and adenoids was performed in 29 patients, all of whom, with one exception, were demonstrated to be completely free from infection within a fortnight of the operation and discharged from hospital. In the exception, infection persisted, and the patient was ultimately discharged by arrangement with the family physician and the Medical Officer of Health.

*Return Cases.*—These numbered seven during the year, the rate accordingly being 0·8 per cent. In no case was persisting infection actually demonstrated in the discharged case.

*Complications.*—A list is given of the principal complications. In keeping with the increased severity of the disease, a definite increased incidence of complications was noted. The figures do not include instances of cardiac involvement unaccompanied by paralytic manifestations. Two fatal cases developed hemiplegia and in one of these gangrene of the foot on the affected side occurred. Both these patients suffered from palatal and pharyngeal paralysis in addition.

	Number of patients.	Percentage of total patients.
All complications .. .. .	155	17·3
Paralysis :		
All types .. .. .	136	15·2
Eye .. .. .	93	10·3
Palate .. .. .	63	7·0
Pharynx .. .. .	19	2·1
Other types .. .. .	7	0·8



*Laryngeal Diphtheria.*—Twenty patients suffering from this form of the disease required operative interference. In one, successful intubation was performed. Of 19 patients who were submitted to tracheotomy, four died, giving a mortality rate of 21 per cent. Details of patients treated by tracheotomy are as follows :—

Type of Disease.	Number of patients.	Deaths.	Mortality per cent.
Laryngeal .. ..	1	..	..
Faucial and laryngeal ..	18	4	22
All types .. ..	19	4	21

*Cross Infection.*—During the year, 10 patients in the diphtheria wards developed scarlet fever as a result of infection in the hospital. The majority of these cases occurred in a male ward, where, despite precautions, intermittent cases developed over a period of three months. A bacteriological examination of the flora of the nose and throat of each member of the ward staff of the ward, including the physician in charge, revealed the presence of hæmolytic streptococci in the throat of only one individual, the sister in charge of the ward. As she was the only member of the staff who had been on duty in the ward throughout the entire period, she was presumed to be a carrier of scarlatinal streptococci and taken off duty. No further cases of scarlet fever occurred. The carrier condition persisted in spite of conservative treatment, and ultimately the removal of tonsils and adenoids was resorted to with complete success.

**Measles.**—The year 1930 was an inter-epidemic period, and accordingly admissions numbered only nine, as compared with 166 patients in the previous year. No deaths occurred. The average duration of treatment in discharged cases was 22 days. No opportunity, therefore, arose for the employment of the blood serum of convalescent patients in the control of the disease.

**Enteric Fever.**—The disease continues to be of a rare occurrence in Leeds and only one patient was admitted during the year. The average duration of treatment in respect of this case and of another admitted in 1929 and discharged in 1930 was 56·5 days.

**Cerebro-Spinal Fever.**—Sporadic cases of cerebro-spinal fever occur from time to time and one patient—an adult male—was admitted in 1930. Treatment resulted in complete recovery.

**Tuberculosis.**—It was not found possible to make provision for patients suffering from tuberculosis, and none were admitted during the year.

**Puerperal Fever.**—During the year 33 patients were treated in hospital and of these six died, giving a mortality rate of 18·2 per cent. The number of admissions shows a marked decrease on the previous year, when 59 cases were admitted. On account of this decrease, it has not been found necessary to set apart a ward for the disease, the patients being nursed in an isolation ward instead.

The patients were classified as follows :—

Type of disease.	Number.	Deaths.
1. Local uterine infection .. ..	2	..
2. Pelvic or general peritonitis ..	4	3
3. Pelvic cellulitis .. .. .	3	1
4. General blood stream infections ..	1	1
5. Miscellaneous infections .. ..	23	1
Total .. ..	33	6

The miscellaneous group includes four cases of infection following abortion, four cases of phlegmasia alba dolens and two



cases with urinary complications. Both patients with local uterine infection required operation, one for removal of placental remains and the other required salpingectomy. Of the peritonitis cases, one was moribund on admission and died two hours later. Laparotomy was performed on the others and one made a good recovery. Hæmolytic streptococci were isolated from the peritoneal fluid of the patients who died. Of the pelvic cellulitis group, death resulted in one case from the pulmonary complications. In the case of the two who recovered, operation with drainage was performed.

As detailed above, seven operations were performed on puerperal cases in the course of the year.

The services of Mr. Carlton Oldfield continue to be available in connection with puerperal work.

**Smallpox.**—The 42 patients admitted during the year all suffered from the mild type of the disease so prevalent throughout the country and known as alastrim or minor smallpox. Although in the majority, the eruption was scanty and there was little constitutional disturbance except in the prodromal stage, quite marked disfigurement of the face resulted in three patients, two being females. Actual pitting of the skin was slight, but induration and pigmentation were prominent and likely to persist. Vaccination was performed before admission too late to protect from smallpox in two patients, so that vaccinia and smallpox were concurrent, the intervals between vaccination and the appearance of the eruption being 8 and 10 days. Five patients developed smallpox while under observation in the isolation cottages following contact with infection. One patient developed smallpox after discharge from the isolation cottages and was admitted to the smallpox hospital later. This patient was kept under observation for 16 days when he returned home and developed symptoms later on the same day, the eruption appearing on the 19th day after exposure. It would appear advisable, therefore, to prolong the quarantine period to three weeks with the minor type of smallpox.

Twin babies, aged six days, were admitted to the smallpox hospital with their mother who had developed smallpox. The



history is interesting. The first symptoms appeared two days after parturition, and the rash three days later. The infants had gone to term and weighed 5 lbs. 5½ ozs. and 5 lbs. 10½ ozs. respectively on admission. Both were kept on the breast from birth. As they showed no symptoms, both were vaccinated on admission. This proved successful and both infants failed to develop any symptoms of smallpox.

One death was recorded, the patient being a female aged 77 years. She showed a mild attack of the disease with a scanty eruption. She had been bed-ridden for years, and death was certified to be due to cerebral hæmorrhage and senility. Although the death is classified under smallpox, it is doubtful if the disease even contributed to the fatal event.

In four cases the notified designation of the disease proved incorrect, the diagnosis being amended to acne vulgaris (two cases) and erythema iris (two cases).

A table is appended showing age groups and state of vaccination of patients admitted suffering from smallpox :—

Age Group.			Vaccinated.	Unvaccinated.	Total cases.
-10	..	..	..	14	14
11-20	..	..	..	5	5
21-30	..	..	3	8	11
31-40	..	..	2	..	2
41-50	..	..	2	1	3
51-60	..	..	3	..	3
61+	..	..	3	1	4
All ages	..	..	13	29	42



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

Disease.	Total number of cases.	Deaths.
<b>Infectious Diseases :—</b>		
Erysipelas .. .. .	184	17
Chickenpox .. .. .	17	..
Rubella .. .. .	17	..
Parotitis .. .. .	10	..
Whooping cough .. .. .	8	1
Acute anterior poliomyelitis .. .. .	1	..
Syphilis .. .. .	1	..
Pneumococcal meningitis .. .. .	1	1
Pulmonary Diseases (excluding acute primary pneumonia) .. .. .	5	..
Diseases of nose and throat (septic) .. .. .	23	2
<b>Skin Diseases :—</b>		
Impetigo contagiosa .. .. .	3	..
Erythema iris .. .. .	2	..
Dermatitis .. .. .	2	..
Acne vulgaris .. .. .	1	..
Furunculosis (post variola) .. .. .	1	..
Erythema (food or serum) .. .. .	3	..
Erythema circinata .. .. .	1	..
Urticaria papulosa .. .. .	1	..
Seborrhoeic dermatitis .. .. .	1	..
Scabies .. .. .	1	..
<b>Intestinal Diseases :—</b>		
Gastro-enteritis .. .. .	1	..
Acute constipation .. .. .	1	..
Tuberculosis .. .. .	1	..
<b>Septic conditions :—</b>		
Lymphangitis .. .. .	1	..
Cellulitis .. .. .	1	..
Abscesses .. .. .	2	..
<b>Other Diseases and Conditions :—</b>		
Sub-acute rheumatism .. .. .	3	..
Arthritis .. .. .	1	..
Onychogryphosis .. .. .	1	..
Laryngitis .. .. .	2	..
Asthma .. .. .	1	..
Teething .. .. .	1	..
Chronic albuminuria .. .. .	1	..
Vaccination reaction .. .. .	1	..
Convalescence after operation for dysmenorrhœa .. .. .	1	..
Post-scarlatinal debility .. .. .	1	..
Observation and quarantine .. .. .	5	..
Admitted with mother (one premature child)	6	1
Born in hospital .. .. .	1	..
<b>Total .. .. .</b>	<b>315</b>	<b>22</b>

**Sickness of the Staff.**—The health of the staff remained good on the whole throughout the year; 37 members were “warded” on account of disease of one kind or another, and 848 days were lost thereby to the hospital. These figures compare favourably with the previous year when 39 members were treated and 919 days were lost. It will be noted that certain instances of scarlet fever and diphtheria occurred. Immunisation against these diseases is carried out only in the case of the nursing staff. Reference will be made later to the cases which occurred in the nursing staff. Statistics of staff illnesses are herewith given:—

Nature of Illness.	Staff.			Days in Hospital.			
	Nursing.	Do- mestic.	Male.	Nursing.	Do- mestic.	Male.	All Staff.
Scarlet fever .. ..	3	4	1	106	138	34	278
Diphtheria .. ..	2	..	..	87	..	..	87
Diphtheria carrier state	3	..	..	136	..	..	136
Chickenpox .. ..	1	..	..	20	..	..	20
Rubella .. ..	4	..	..	20	..	..	20
Mumps .. ..	1	..	..	20	..	..	20
Pleurisy .. ..	1	..	..	16	..	..	16
Throat conditions (septic) .. ..	5	3	..	69	51	..	120
Other septic conditions	2	..	..	36	..	..	36
Sub-acute rheumatism	..	2	..	..	43	..	43
Arthritis .. ..	1	..	..	24	..	..	24
Onychogryphosis ..	..	1	..	..	3	..	3
Chronic nephritis ..	..	..	1	..	..	29	29
Dysmenorrhœa ..	..	1	..	..	8	..	8
Post-scarlatinal debility	..	1	..	..	8	..	8
Total .. ..	23	12	2	534	251	63	848

**Immunisation of the Nursing Staff.**—Since April, 1929, an attempt has been made in the hospital to protect members of the staff against scarlet fever and diphtheria when susceptibility was



noted. It is true that these diseases have not been abolished as far as the staff is concerned, but the incidence has reached almost negligible proportions. Immunisation is not an instantaneous process: it requires some time for immunity to develop. Moreover, some individuals require immunisation against both diseases—this was the lot of 19 new members of the Nursing Staff in 1930. A great drawback in dealing with these, is the difficulty in finding a non-infectious atmosphere in which they may perform their duties pending the development of immunity. This difficulty will almost certainly prevent the disappearance of scarlet fever and diphtheria among the staff in infectious disease hospitals, unless in those in which accommodation is also provided for other diseases such as tuberculosis

*Diphtheria.*—The Schick test was applied to 65 new members of the staff during the year, and of these 35 or 53·8 per cent. were found to be susceptible. This appears to be about the normal percentage for the type of girl who takes up nursing at Seacroft Hospital. Of the 35 susceptible individuals, 30 received immunising injections of diphtheria toxoid, doses of 0·5, 1 and 1·5 c.c being given at weekly intervals. This procedure appears to meet with sufficient success in the large staff, to make secondary testing unnecessary, unless in exceptionally susceptible individuals, of whom five were re-tested. It has not been the policy to give a second series of injections, unless in exceptional cases. The statistics regarding the Schick test are as follows :—

Result of Schick Test.	Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+ 26	35 (53·8%)	..	23	30
Ps+ 6		..	5	
± 1		..	1	
Ps± 2		..	1	
- 22	..	30	..	..
Ps- 8	..	(46·2%)	..	..

Pseudo reactions = 16 (24·6%). ± = weakly positive reaction.  
 + = positive reaction. - = negative reaction.



Two nurses developed clinical diphtheria during the year. One was tested and found to be highly susceptible. Four days after the test was performed, she contracted the disease, and thus no opportunity was available for immunisation. Another nurse who developed diphtheria joined the staff before April, 1929, and was accordingly neither tested nor immunised. It has already been mentioned that only new members of the staff were dealt with from that date. One other nurse who was Schick positive and had received one immunising injection, developed suggestive symptoms and received antitoxin but no bacteriological confirmation was obtained.

Three nurses (two Schick negative, one Schick positive and immunised) were discovered to be diphtheria carriers during the year, and were isolated in a diphtheria ward in which they were allowed to assist with the work of the ward.

It will be seen that no immunised nurse contracted diphtheria during the year.

*Scarlet Fever.*—The Dick test was applied to 63 new members of the staff, and of these 24 or 38.1 per cent. were found to be susceptible, as compared with 16.6 per cent. in 1929. Of the 24 susceptible individuals, 21 were immunised with scarlatinal toxin, receiving doses of 500, 2,000, 5,000 and 20,000 skin doses at weekly intervals. Re-testing was not considered necessary.

The statistics regarding immunisation are as follows :—

Result of Dick Test.			Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.
+	16	..	24 (38.0%)	..	14	21
Ps+	1	..		..	1	
±	5	..		..	4	
Ps±	2	..		..	2	
-	36	..	..	39 (62.0%)	..	..
Ps-	3	..	..		..	..

Pseudo reactions = 6 (9.5%).

+ = positive reaction.

± = weakly positive reaction

- = negative reaction.

Three nurses developed scarlet fever in the course of the year. The details are as follows :—

(1) 1/5/30.—Schick + + : Dick +.

10/5/30.—Received diphtheria toxoid 0.5 c.c.

17/5/30.— „ „ „ 1 c.c.

23/5/30.—Contracted Scarlet Fever.



- (2) 2/6/30.—Schick + : Dick  $\pm$ .  
 7/6/30.—Contracted Scarlet Fever.
- (3) Joined staff during a week-end and contracted scarlet fever two days later. Was not tested till later when found to be Schick positive.

It will be observed, therefore, that no immunised nurse contracted scarlet fever during the year. All three to whom reference has been made were susceptible to both scarlet fever and diphtheria, and furnish examples of the difficulty of disposal in wards already mentioned.

**Laboratory.**—For diagnostic and discharging purposes, 6,647 throat, nose and ear swabs were examined for diphtheria bacilli.

The following additional examinations were made :—

Cerebro-spinal fluid .. .. .	3
Fæces (for enterica organisms) .. .. .	3
Urine (for enterica organisms) .. .. .	3
Urine (chemical and bacteriological examinations) .. .. .	15
Other pathological discharges .. .. .	9

Weekly chemical analyses of specimens of milk supplied to the hospitals were made, the constituents of which were as follows :—

Percentages.	Fat.	Non-fatty solids.	Total solids.	Specific Gravity at 60° F.
Highest .. .. .	4·4	9·0	13·1	1032·7
Lowest .. .. .	2·6	8·1	10·9	1029·4
Average .. .. .	3·4	8·6	12·0	1031·3

**Poultry Farming.**—(Killingbeck Smallpox Hospital Farm).—The following produce was used in the hospitals :—

Eggs 5,998 ; Geese 11 ; Chickens 15 ; Ducks 22.

**Publications.**—The following contributions to medical literature by members of the staff during the year :—

- Dr. H. E. de C. Woodcock : " A Case of Simultaneous Diphtheria and Syphilitic Infection of the Throat." *Lancet*, Vol. 2, p. 298.
- Dr. J. S. Anderson : " Post-Vaccinal Encephalitis." *Public Health*, Vol. XLIII., pp. 358-363.

# LEEDS CITY HOSPITALS, SEACROFT, LEEDS.

YEAR 1930.

## ABSTRACT FROM REGISTERS.

	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Tuberculosis.	Enteric Fever.	Pneumonia.	Infantile Diarrhoea.	Other Diseases.	For Quarantine Cottages.	TOTAL.
Patients remaining in Hospitals and Isolation Cottages, on Tuesday, December 31st, 1929 ..	..	1	291	82	..	1	..	..	10	..	385
Admitted from January 1st, 1930, to December 31st, 1930 ..	42	9	2,223	950	..	1	10	1	360	29	3,625
Total treated ..	42	10	2,514	1,032	..	2	10	1	370	29	4,010
Discharged ..	39	10	2,301	849	..	2	6	1	321	29	3,558
Died ..	1	..	19	48	..	..	3	..	28	..	99
Mortality per cent. ..	2.5	..	0.8	5.4	..	..	33.3	..	8.0	..	2.7
Patients remaining in Hospitals and Isolation Cottages, on Wednesday, December 31st, 1930 ..	2	..	194	135	..	..	1	..	21	..	353
Average stay in Hospital for recovered patients ..	26.9	22	37.4	39.7	..	56.5	21.5	14	20.8	22.7	36.1



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.	Tuberculosis.				
1911-12	2,634	..	I	2,635	109	2,744
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	I	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	..	I	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

\*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.

# METEOROLOGICAL RECORD.

(Observations made at 9.30 a.m.).

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

1930.	•BARO- METER, 9-30 a.m.	TEMPERATURE.				RAINFALL.			WIND—No. of Observations.																
		Shade—Minimum and Maximum.			Mean.	Total Inches.	Max. in 24 hrs.	Date.	No. of days on which 'or' or more fell	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.
		Min.	Date.	Max.																					
		Date.																							
January	29.693	40.6	23	15	57	19	4.11	1.12	26	18	—	2	2	—	1	—	1	—	5	9	8	1	—	2	—
February	30.161	35.9	24	21	51	15	0.74	.25	1	10	—	4	9	5	2	2	—	1	1	1	—	—	2	1	
March	29.821	39.7	16	19	56	28-31	3.12	1.26	15	13	—	1	6	3	—	1	1	1	1	3	6	1	—	1	6
April	29.831	44.3	28	22	61	1-26	3.17	.75	24	16	2	7	9	1	—	2	1	1	—	3	1	—	2	1	
May	29.950	49.1	30	8-9	69	26-27	1.38	.24	9	13	—	4	9	3	—	1	1	2	—	1	1	1	4	—	
June	29.980	56.3	39	3-26	79	30	1.45	.34	30	11	1	2	6	2	—	1	2	2	1	1	7	—	2	3	
July	29.786	57.0	42	31	76	2-5	5.75	1.61	22	18	—	5	1	—	—	2	2	—	2	2	7	—	4	3	
August	29.846	59.0	40.0	5-7	88.0	27	3.58	.54	10	20	1	2	1	—	—	1	5	3	1	3	5	1	1	4	3
September	29.931	54.5	40	15-25	70	23	3.15	.50	17	19	—	4	4	2	—	1	2	1	2	1	3	3	3	1	
October	29.784	48.5	31	26	63	9-16	2.74	.51	3	17	—	—	2	3	—	2	3	—	3	2	7	—	7	2	
November	29.783	40.3	19	16	58	10-11	4.13	.83	1	19	—	3	—	2	—	3	1	—	3	4	5	1	—	5	3
December	29.834	38.5	24	5-6	54	18-19	2.74	.53	30	25	—	1	4	—	—	3	—	3	2	4	4	1	7	2	
Year ..	29.866	46.9	16	Mar. 19	88	Aug. 27	36.06	1.61	July 22	199	4	35	53	21	2	9	22	20	21	34	54	9	28	28	23

W = 53.9.

E = 44.3.

\* Corrected to temperature and mean sea level at Liverpool.



## METEOROLOGICAL RECORD.

1930.	SUNSHINE.		SUNSHINE.		WIND—FORCE.		EARTH TEMPERATURE. (4' 0" below surface).			
	SUNSHINE. Total, hr. min.	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	.. 57·50	5·40	19	13	..	..	42	1-13	40	17
February	.. 54·25	8·20	16	8	..	..	41	2	38	24-25
March ..	.. 133·20	8·30	17	5	..	..	40	12-16	38	1-25
April ..	.. 114·5	12·40	29	5	..	..	43	27-30	39·5	1
May ..	.. 180·20	12·20	1	..	..	..	48	31	43·5	1-3
June ..	.. 229·40	13·40	25	1	..	..	53	22-30	48	1-7
July ..	.. 174·40	12·50	5-9	2	..	..	55	13-30	52·5	1
August	.. 204·50	12·30	14	1	..	..	56	28-30	54	1
September	.. 130·10	10·40	2-3	4	..	..	57·5	1-4	54	28
October	.. 129·0	8·30	9	5	..	..	55	1-2	51	29-31
November	.. 73·40	7·50	5	6	..	..	50·5	1	45	25-30
December	.. 22·10	4·10	28	19	..	..	45	1	41	18-30
Year	.. 1504·10	13·40	June 25	69	..	..	57·5	Sept. 1-4	40	Jan. 17

\* 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 Klebs Loeffler bacillus .. .. .	4,661
Scarlet—	
Swabs for Haemolytic Streptococci .. .. .	36
Tuberculosis—	
Sputum for tubercle bacillus .. .. .	1,775
Urine for tubercle bacillus .. .. .	11
Pus and other Fluids for tubercle bacillus .. .. .	10
Fæces for tubercle bacillus .. .. .	1
Typhoid—	
Fæces for Typhoid group of organisms .. .. .	9
Urine for Typhoid group of organisms .. .. .	5
Agglutination (Widal) Test for typhoid group .. .. .	23
Other—	
Pus and Fluids for organisms .. .. .	19
Urine for organisms .. .. .	2
Blood for organisms .. .. .	1
Guinea Pig Inoculations—	
Fluids for culture and guinea pig inoculation .. .. .	96
Milk for Guinea pig inoculation .. .. .	88
Food Investigations—	
Milk for bacterial count .. .. .	19
Milk direct examination .. .. .	7
Food Poisoning Investigations—	
Fæces for salmonella .. .. .	5
Blood for salmonella .. .. .	1
Crab for salmonella .. .. .	1
Water Investigations—	
Water bacteriological examinations .. .. .	49
Other—	
Hair for ringworm .. .. .	1
Swabs for organisms .. .. .	3
Miscellaneous .. .. .	5
TOTAL .. .. .	6,828



### **AMBULANCE WORK AND DISINFECTION.**

**Ambulance Work.**—During the year under review 4,647 cases were removed by the ambulances to Seacroft Hospital, Killingbeck Sanatorium and other hospitals or lying-in institutions. In addition 29 contacts were conveyed to the isolation cottages at Seacroft Hospital, and four puerperal cases to Seacroft on behalf of the West Riding County Council. Over and above these, 220 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 .. .. .	46
Scarlet Fever .. .. .	2,213
Diphtheria .. .. .	1,316
Typhoid .. .. .	8
Measles .. .. .	14
Tuberculosis .. .. .	177
Other Diseases .. .. .	274
Maternity .. .. .	599
<b>TOTAL .. .. .</b>	<b>4,647</b>

(As compared with 4,875 in 1929).

The total mileage run by the ambulances was 43,584, compared with 42,327 during 1929. During the year a new Crossley Limousine was put into commission to replace the small Austin 12 car which was handed over for use by the Veterinary Section. There are now three Daimler ambulances, one maternity ambulance and three bedding vans.

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

Houses disinfected .. .. .	3,889
Rooms .. .. .	8,480
Beds and Mattresses .. .. .	4,619
Articles of bed linen .. .. .	31,907
Articles of clothing .. .. .	50,495
Other articles .. .. .	5,838

Disinfectant baths were provided and disinfection of clothing carried out in respect of 607 infectious disease contacts.

The total mileage run by the disinfection and bedding vans was 23,221.

**Verminous Persons.**—The number of verminous persons dealt with at the cleansing station was 652, while 155 rooms in 47 houses, and 8,757 articles of clothing and bedding were disinfested. One notice was served during the year under Section 46 of the Public Health Act, 1925.



## Venereal Diseases.

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The number of deaths attributable to syphilis during the year was 18, which is equal to a death-rate of 0.04 per thousand of the population. Of these, four were children under one year of age—two males and two females; 14 adults—seven males and one female between 25 and 45, four males and one female between 45 and 65, and one female over 65. The number of deaths in 1930 shows an increase of one 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 contributory areas during the year was 1,807. Decreases were recorded in gonorrhœa, male 13, female 26; and syphilis, female 19; and increases in syphilis, male 16; and other diseases not venereal, male 23, female 13. There was, therefore, a total decrease of six cases of all kinds as compared with the figure for the previous year.

Turning to Leeds cases the total number of new cases registered was 1,441, comprising 243 males and 102 females suffering from syphilis, 481 males and 105 females suffering from gonorrhœa, and 413 males and 97 females suffering from other diseases not venereal. These figures represent a decrease in the case of gonorrhœa of 28 males and 29 females, in syphilis a decrease of 20 females and an increase of 10 males, and in other diseases not venereal an increase of 25 males and 15 females.

The total attendances of all Leeds cases was 66,375, an increase of 5,217 over the figure for the previous year.

The number of cases ceasing to attend before completion of treatment was 411 as compared with 520 for the previous year. The decline in the number of defaulters is gratifying and one hopes will continue as every case which defaults represents a considerable loss of time and money, besides adding to the amount of floating infection in the community.

The number of in-patients treated at the Leeds General Infirmary during the year was seven as compared with three for the previous year, and the corresponding number of in-patient days were 119 and 235.



**Institutions.**—*Maternity Hospital.*—The number of new cases admitted as in-patients to the Leeds Maternity Hospital decreased from 52 in 1929 to 12 in 1930, namely, eight syphilis, three gonorrhœa, and one syphilis and gonorrhœa. The in-patient days decreased from 676 to 137. The number of cases attending for examination at the out-patient department was 29 (12 positive and 17 negative) as compared with 155 (30 positive and 125 negative) for the previous year.

*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 51 as against 48 for the previous year whilst the number of new admissions decreased from 33 to 31. The number of in-patient days increased from 6,059 in 1929 to 6,635. 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.

Plans for extending and improving the accommodation for lying-in cases and for babies were considered by the Hospital Committee during the year and submitted for the approval of the Health Committee. The capital expenditure involved in the new proposals amounts to the sum of £2,200, and as the premises used by the hospital are not the property of the Committee but are held on lease, the question of purchase arose. The matter had not been decided at the end of the year.

As to the necessity of the extension there can be no dispute, because for some years it has been recognised that the present accommodation is unsuitable and inadequate. No institution can do good work unless it has the proper facilities, and I hope by the end of the current year to be in a position to report that the proposed extensions have been agreed to by the Council.

On behalf of the Health Committee I should like once more to acknowledge our indebtedness to the Hospital Committee, which is purely voluntary, for the good service it has rendered during the year and to express our sincere thanks for the same.

Further particulars of the cases admitted to and treated in the Maternity and Hope Hospitals are given in the table on page 105.

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 pages 60 and 182.



**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 47. The amount of salvarsan substitutes distributed to practitioners was 1,151 doses, a decrease of 17 on the figure for 1929.

LEEDS GENERAL INFIRMARY (LOCAL TREATMENT CENTRE).

Cases on the register on January 1st, 1930 ..	1,964
Old cases re-admitted .. .. .	38
New cases admitted .. .. .	1,807
Cases ceased to attend .. .. .	411
Transferred to other centres .. .. .	164
Discharged on completion of treatment .. ..	1,142
Cases on the register on January 1st, 1931 ..	2,092

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 .. .. .	56
for practitioners .. .. .	1
for institutions .. .. .	..
For detection of gonococci—	
for treatment centre .. .. .	2,270
for practitioners .. .. .	228
for institutions .. .. .	287
For Wassermann reaction—	
for treatment centre .. .. .	2,835
for practitioners .. .. .	306
for institutions .. .. .	2,596
Other examinations—	
for treatment centre .. .. .	1,534
for practitioners .. .. .	47
for institutions .. .. .	38
TOTAL .. .. .	10,198



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

				Year 1929.		Year 1930.		Increase or decrease.	
				M.	F.	M.	F.	M.	F.
Syphilis ..	first cases	..	..	296	169	312	150	+ 16	- 19
Soft chancre	"	..	..	..	..	..	..	..	..
Gonorrhœa	"	..	..	593	172	580	146	- 13	- 26
Other diseases									
not Venereal	"	..	..	475	108	498	121	+ 23	+ 13
Total	..	..	..	1,364	449	1,390	417	+ 26	- 32
Total attendances of all cases				73,542		79,163		+ 5,621	
Aggregate No. of In-patient days .. ..				355		119		- 236	
No. of doses of Salvarsan substitutes .. ..				15,074		16,483		+ 1,409	
Pathological specimens examined :—									
Spirochetes .. ..				40		66		+ 26	
Gonococci .. ..				4,094		4,653		+ 559	
Other organisms .. ..				2		2		- +	
Blood—Wassermann re- action .. ..				3,355		3,551		+ 196	

**LEEDS PATIENTS.**

	Year 1929.		Year 1930.		Increase or Decrease.	
	M.	F.	M.	F.	M.	F.
Syphilis .. .. first cases	233	122	243	102	+ 10	- 20
Soft chancre .. ..	..	..	..	..	..	..
Gonorrhœa .. ..	509	134	481	105	- 28	- 29
Other diseases, not Venereal .. ..	388	82	413	97	+ 25	+ 15
Total .. ..	1,130	338	1,137	304	+ 7	- 34
Total attendances of all cases	61,158		66,375		+ 5,217	
Aggregate No. of In-patient days .. ..	28		35		+ 5	
No. of doses of Salvarsan sub- stitutes .. ..	11,293		12,534		+ 1,241	
Pathological specimens examined :—						
Spirochetes .. ..	34		56		+ 22	
Gonococci .. ..	3,451		3,804		+ 353	
Other organisms .. ..	..		..		+	
Blood—Wassermann re- action .. ..	2,642		2,835		+ 193	

## MATERNITY HOSPITAL, 42, HYDE TERRACE.

	Cases in residence on Dec. 28th, 1929.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 3rd, 1931.
Syphilis .. ..	1	8	7	2
Gonorrhœa .. ..	2	3	3	2
Syphilis and Gonorrhœa .. ..	..	1	1	..
Other disease .. ..	..	..	..	..
Total .. ..	3	12	11	4

Total days in residence .. .. 137  
 No. of doses of Salvarsan substitute .. 91

## Pathological specimens examined :—

Spirochetes .. .. —  
 Gonococci .. .. 25  
 Other organisms .. .. —  
 Blood—Wassermann reaction.. .. 93

## HOPE HOSPITAL, 126, CHAPELTOWN ROAD.

	Cases in residence on Dec. 28th, 1929.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 3rd, 1931.
Syphilis .. ..	5(+2)	9(+4)	10(+2)	4(+4)
Gonorrhœa .. ..	15(+5)	18(+12)	21(+14)	12(+3)
Syphilis and Gonorrhœa .. ..	..	4	..	4
Other disease .. ..	..	..	..	..
Total .. ..	20(+7)	31(+16)	31(+16)	20(+7)

Total days in residence .. .. 6,635(+2,724)  
 No. of doses of Salvarsan substitute .. 119

## Pathological specimens examined :—

Spirochetes .. .. —  
 Gonococci.. .. 69  
 Other organisms .. .. 3  
 Blood—Wassermann reaction.. .. 43

Of the 31 women admitted, 16 had babies shown in the above table in brackets.



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

1930.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths .. ..	1	3	3	3	..	2	2	3	6	7	2	2	34
Barom. (inches) ..	29.56	30.10	29.69	29.74	29.86	29.91	29.70	29.76	29.83	29.73	29.67	29.68	29.76
Attached Ther. °F. ..	54.18	51.50	54.48	56.23	58.85	65.40	65.91	67.52	64.81	59.91	54.65	52.56	58.74
Dry Bulb .. ..	43.71	39.69	44.56	49.57	54.67	63.62	62.32	64.10	59.02	53.51	45.48	41.84	51.70
Wet Bulb .. ..	41.75	37.75	41.65	46.80	50.60	58.12	58.03	59.65	55.48	50.89	42.98	40.20	48.57
Humidity .. ..	85.28	84.33	79.19	82.17	75.48	70.83	76.40	76.00	80.10	83.06	81.67	87.02	80.37
Mn. of highest reading ..	47.40	43.04	48.96	55.46	60.21	69.96	67.57	70.50	64.43	57.91	51.32	45.57	56.67
.. lowest ..	37.40	34.36	36.68	41.49	45.07	51.03	53.00	53.86	51.72	46.71	39.11	35.03	43.69
.. daily range ..	10.00	8.68	12.28	13.97	15.14	18.93	14.57	16.64	12.71	11.20	12.21	10.54	12.98
Total rainfall (inches) ..	4.83	0.27	1.32	2.29	1.79	0.76	6.48	2.86	3.52	3.61	2.92	1.82	32.47
Sunshine (hours) ..	36.75	36.42	86.67	83.25	138.25	167.75	124.91	157.42	86.58	100.50	50.67	13.42	1082.58

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.



## Tuberculosis.

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The total number of names on the tuberculosis register on December 31st, 1930, was 5,248 as compared with 6,076 at the corresponding period of last year, a decrease of 828.

There were added to the register during the year on account of fresh notifications and inward transfers 893 names and removed from the register on account of cancellations owing to death, removal from the city, and cure or change in diagnosis, 1,721 names. Every effort is made by constant revision to keep the register as far as possible a live register. There must always be a certain number of entries about which there is some doubt. Most of these relate to persons who at one time received treatment at one or other of the city's tuberculosis institutions or from their family practitioner, but who have since so far recovered their health as to be able to return to their employment and to continue in it. They may have been invited—many have been invited—to come up to the tuberculosis dispensary for examination but have failed to do so, either because they have felt so well that they saw no necessity for re-examination or because it was inconvenient just at the time for them to attend. In other cases there has been a change of address and in the absence of any information regarding the new address it has not been possible to trace them. The number of these cases is, however, relatively few and the accuracy of the register is not seriously affected by them.

**Statistics.—Notifications.**—During the year, 642 cases of pulmonary and 251 of non-pulmonary tuberculosis were notified, making a total of 893 cases of which 474 were males and 419 females. Compared with the previous year this is a decrease of 101 in the number of notifications of pulmonary tuberculosis and an increase of 95 in non-pulmonary, and compared with the average of the previous five years a decrease of 426 pulmonary and an increase of 95 non-pulmonary. Of the total cases notified 676 were by medical practitioners and 217 came from institutions. The former figure is less than the corresponding figure of last year by 132 and



the latter in excess of last year's figure by 126. The explanation of the increase in the non-pulmonary notifications is the better observance by the institutions in the city of the rule with regard to the notification of cases rather than an actual rise in the incidence of this type of the disease.

Of the total cases of pulmonary tuberculosis notified during the year, 11.4 per cent. were children under 15 years of age and 88.6 per cent. persons over 15 years, the corresponding figures for the previous year being 14.5 per cent. and 85.5 per cent. As regards the non-pulmonary type of the disease 49.8 per cent. were children under 15 years of age and 50.2 per cent. persons over 15 years. The corresponding figures for the previous year were 62.8 per cent. and 37.2 per cent.

This is the fifth successive year in which a fall in the number of notifications of pulmonary tuberculosis has to be recorded. With regard to the non-pulmonary type of the disease, the number of notifications received during the year (251) was the highest since 1917, when the number was 336. The increase was mostly in the age groups 5-15 and 15-25, the greatest increase being in the former. As stated in a previous paragraph, the increase in the non-pulmonary notifications was more apparent than real. That there was some increase cannot be disputed, but it was not so marked as might appear at first sight. The impression left on the mind by a study of the figures is that there is probably more disease of the non-pulmonary type in the city than has come to the knowledge of the department. This is probably due on the one hand to incomplete or faulty diagnosis, and on the other to failure on the part of those responsible to notify cases as soon as a definite diagnosis is made.

The number of cases of pulmonary tuberculosis not heard of until the time of death was 21 and the number of non-pulmonary 29. In addition there were four posthumous notifications of pulmonary tuberculosis and 11 of non-pulmonary. There was, therefore, a total of 65 cases of all forms not heard of until after death, a decrease of 24 on the figure for the previous year. The table on page 117 gives the deaths from all forms of tuberculosis with the year of notification. Out of a total of 533 deaths from tuberculosis of all forms, 198, or 37.1 per cent., were 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. In the previous year there were 229, or 36.9 per cent., notified in the same year that death occurred, 99, or 15.9 per cent., in the same month, and 66, or 10.6 per cent., in the same week.

It is pleasing to note that greater attention is being paid to notification of both types of the disease than has been the case in recent years. Unless information respecting the existence of the disease is conveyed promptly to the department we can do very little in the way of preventing other cases or in assisting those who have the disease in their search for relief or cure. That as many as 20 per cent. of the total cases notified should have been notified in the same month as death occurred is regrettable, as notification at this late date is of little use and hinders rather than helps our efforts to make the tuberculosis service efficient.

An analysis of the notifications in age groups will be found in the table on page 110.

*Deaths.*—The total deaths from tuberculosis of all types during the year numbered 533, of which 311 were males and 222 females. In the previous year the total was 621, comprising 361 males and 260 females. Of the total, pulmonary tuberculosis accounted for 432, or 81.1 per cent., and non-pulmonary 101, or 18.9 per cent. The death-rate from pulmonary tuberculosis was 0.90 and from non-pulmonary 0.21, making a total death-rate from all forms of the disease of 1.11. These rates represent a decrease of 0.16 in the pulmonary and 0.03 in the non-pulmonary, and on the total a decrease of 0.19 as compared with the figures for the previous year. Set against the average rates of the previous five years the decrease was 0.11 in the pulmonary whilst the rate for the non-pulmonary remains the same. The death-rates from pulmonary tuberculosis (0.90) and from tuberculosis of all forms (1.11) were the lowest on record, whilst the death-rate from non-pulmonary was only 0.02 above the lowest figure previously recorded. No one will, I think begrudge the tuberculosis service in Leeds the credit for this achievement, and if there be any who entertain doubts as to whether the money expended on this service is worth while these results should surely dispel these doubts for ever, whilst those who not only doubt the value of the service but also decry it as being a useless expenditure of public money have in these figures a complete answer to their criticism.



1907 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 ..	..	1	29	81	80	63	68	30	8	360
Females	1	1	41	79	71	51	22	13	3	282
Totals ..	1	2	70	160	151	114	90	43	11	642

NON-PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	..	19	47	29	7	6	3	2	1	114
Females	..	18	41	32	17	9	8	9	3	137
Totals ..	..	37	88	61	24	15	11	11	4	251

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.
1920	552	1.23	146	0.33	698	1.56	962	2.14	209	0.47	1,171	2.61
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

## PULMONARY TUBERCULOSIS.

## AGES AT DEATH.

1930.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	3	..	..	17	27	88	119	10	264
Females	6	2	3	30	21	84	20	2	168
TOTALS	9	2	3	47	48	172	139	12	432
Average 10 years 1920-1929	15	7	12	49	59	204	136	22	504

## NON-PULMONARY TUBERCULOSIS. DEATHS.

1930.	Tubercular meningitis.	Abdomin- al.	Bones and Joints.	Other tuber- culosis.	Total.
Males ..	21	8	3	15	47
Females ..	12	9	5	28	54
Totals ..	33	17	8	43	101

## AGES AT DEATH.

1930	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	19	4	3	7	4	8	2	..	47
Females	17	6	3	3	6	9	8	2	54
Totals ..	36	10	6	10	10	17	10	2	101
Average 10 years 1920-1929	49	12	8	12	7	13	11	3	115



The provisional death-rates for England and Wales for the year were, for pulmonary tuberculosis 0·74, for non-pulmonary 0·16, making a total death-rate for all forms of 0·90. 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 31·3 per cent. in non-pulmonary, and by 23·3 per cent. in all forms of the disease. No urban area, particularly of the industrial type such as Leeds is, can hope to compete with England and Wales as a whole in the rate of mortality from tuberculosis. The very fact that Leeds has a population densely packed in a small area surrounding the centre of the city is a sufficient explanation for her failure to produce figures which will compare favourably with those of areas more fortunately placed as regards density of population and freedom from overcrowding. Tuberculosis, it must be recognised, is one of the penalties nature imposes on man for defying her laws. By fresh air and sunshine we cure the disease and it is only by resort to similar natural agencies that we can prevent it.

With reference to the death-rate for pulmonary tuberculosis it will be noticed on referring to the table on page 41 that amongst the large towns of England and Wales, Leeds occupied fifth place, the towns with lower being London, Birmingham, Sheffield and Bradford, and with higher, Liverpool, Manchester, Bristol, West Ham, Hull, Newcastle, Stoke-on-Trent and Nottingham.

*Death-Rates in Wards.*—The wards with the highest death-rates from pulmonary tuberculosis were West, South, East, West Hunslet and East Hunslet, whilst those with the lowest were Mill Hill, Headingley, Holbeck, New Wortley and Central. It will be noted that the wards with the highest rates, with the single exception of West Hunslet, were those in which there is the greatest congestion and possess the largest amount of old and insanitary property. The incidence of tuberculosis is an index of poverty, overcrowding, and a low standard of life generally, and these conditions are inseparable from the housing of the people which, as has been mentioned in previous reports, is at the root of many of our social evils.

The tables on pages 111 and 115 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, the reader is referred to the table on page 118.

**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 187 were occupied by pulmonary cases during the year, whilst the latter has 50 beds which are devoted to the treatment of pulmonary and non-pulmonary cases as they arise. During 1930, an average of 47 beds was used for pulmonary cases, the remaining three being used by non-pulmonary. Early pulmonary tuberculosis in children is treated in the children's sanatorium at "The Hollies," which possesses 40 beds. In addition to pulmonary, Killingbeck Sanatorium takes a certain varying number of non-pulmonary cases, but the accommodation for these is by no means ideal, a circumstance to which the attention of the Health Committee has been drawn during the year by the Ministry of Health. Owing to the demand for beds for pulmonary cases it has not always been possible to provide for that complete separation of the pulmonary and non-pulmonary cases which is necessary and desirable, but where the two types have had to be nursed in the same ward, care has been taken to see that the pulmonary cases were of the non-infectious variety.

This raises again the old complaint with regard to the inadequacy of the hospital provision in Leeds for the treatment of non-pulmonary cases. I have mentioned the matter again and again in previous reports and one has always hoped that something would be done to relieve the situation. The scheme for the provision of a new hospital at Elmet Hall to accommodate these has now been before the Health Committee for some years. Much time has been devoted to the preparation of plans and estimates and to the discussion of these, both in the committee room and on the site itself, but so far nothing of a concrete nature has resulted. We are still to-day where we were in 1918, when a comprehensive report of the subject, including the provision of increased and better accommodation for pulmonary tuberculosis, was prepared and submitted to the Council. The reason for the failure to carry out the recommendations of that report has largely been one of finance. At the



same time one must point out that other cities have been faced with a similar problem and have solved it by the adoption of a bold and resolute policy. They have, so to speak, accepted the inevitable and recognised that the provision of adequate facilities for the treatment of the disease was a responsibility laid upon them by Act of Parliament and therefore one from which they could not escape whatever the cost might be. The financial position in Leeds is certainly no worse than in some of those areas but somehow progress has halted and we are still without adequate provision for the non-pulmonary type of case. That there is need for this provision, no one acquainted with the facts can deny, and the scheme to which I have already alluded offers all the accommodation necessary with, in addition, accommodation for orthopædic cases of a non-tubercular type as well as for special cases of crippling. Meanwhile until such time as the city possesses its own hospital, arrangements have been made with outside institutions to increase the number of beds reserved for Leeds cases.

On the question of accommodation for cases of tuberculosis it should be pointed out that the four wood and iron structures at Old Killingbeck, which have served as wards for the accommodation of female cases of pulmonary tuberculosis since 1913, are at the end of their useful life and are becoming so expensive to maintain as well as being out-of-date in their design that they should be dispensed with at an early date and replaced by new and more up-to-date pavilions. This will entail additional expenditure but, as far as one can see, in a few years the Committee will be left with no alternative but to face this expenditure if the number of beds available for female cases is to be maintained. This matter is also referred to in the report by the Chief Clinical Tuberculosis Officer on page 120.

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

**Special.**—Before leaving the subject I should like to refer to the great loss sustained by Killingbeck Sanatorium through the sudden death in December of this year of the Medical Superintendent, Dr. William Todd. Dr. Todd was appointed to the post of Medical Superintendent in the year 1920 and throughout the whole of the period up to his death rendered faithful and loyal service to the Corporation. He was well liked by both patients and staff and his passing was mourned by all that knew him.



## 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.
Central .. ..	10	0·79	2	0·16	12	0·95
North .. ..	44	0·99	7	0·16	51	1·15
North-East .. ..	33	0·90	13	0·35	46	1·25
New Ward*	11	0·80	3	0·22	14	1·01
East .. ..	40	1·11	13	0·36	53	1·47
South .. ..	15	1·16	3	0·23	18	1·39
East Hunslet ..	38	1·00	15	0·40	53	1·40
West Hunslet ..	38	1·04	3	0·08	41	1·12
Holbeck .. ..	23	0·77	8	0·27	31	1·04
Mill Hill .. ..	3	0·57	1	0·19	4	0·76
West .. ..	28	1·27	2	0·09	30	1·36
North-West .. ..	28	0·88	6	0·19	34	1·07
Brunswick .. ..	21	0·87	4	0·17	25	1·04
New Wortley ..	14	0·78	2	0·11	16	0·89
Armley and Wortley	30	0·80	9	0·24	39	1·04
Bramley .. ..	21	0·85	3	0·12	24	0·97
Headingley .. ..	35	0·64	7	0·13	42	0·77
City .. ..	432	0·90	101	0·21	533	1·11

\* Roundhay, Seacroft, Shadwell, Crossgates, and Templenewsam.



The housing conditions of 866 of the 893 cases of tuberculosis (all forms) notified, are shown in the table subtended :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total cases.
1 room .. ..	..	..	3	0.6	0.3
2 rooms .. ..	7	2.2	124	22.9	15.1
3 rooms .. ..	40	12.3	225	41.5	30.6
4 rooms .. ..	90	27.8	139	25.6	26.4
5 rooms .. ..	79	24.4	27	5.0	12.2
6 rooms .. ..	58	17.9	21	3.9	9.1
7 or more rooms	50	15.4	3	0.6	6.1
Total .. ..	324	100.0	542	100.0	100.0

In addition to the 324 through houses and 542 back-to-back houses, there were 27 cases notified from common lodging houses, etc., making a total of 893 cases of all forms of tuberculosis notified during the year.

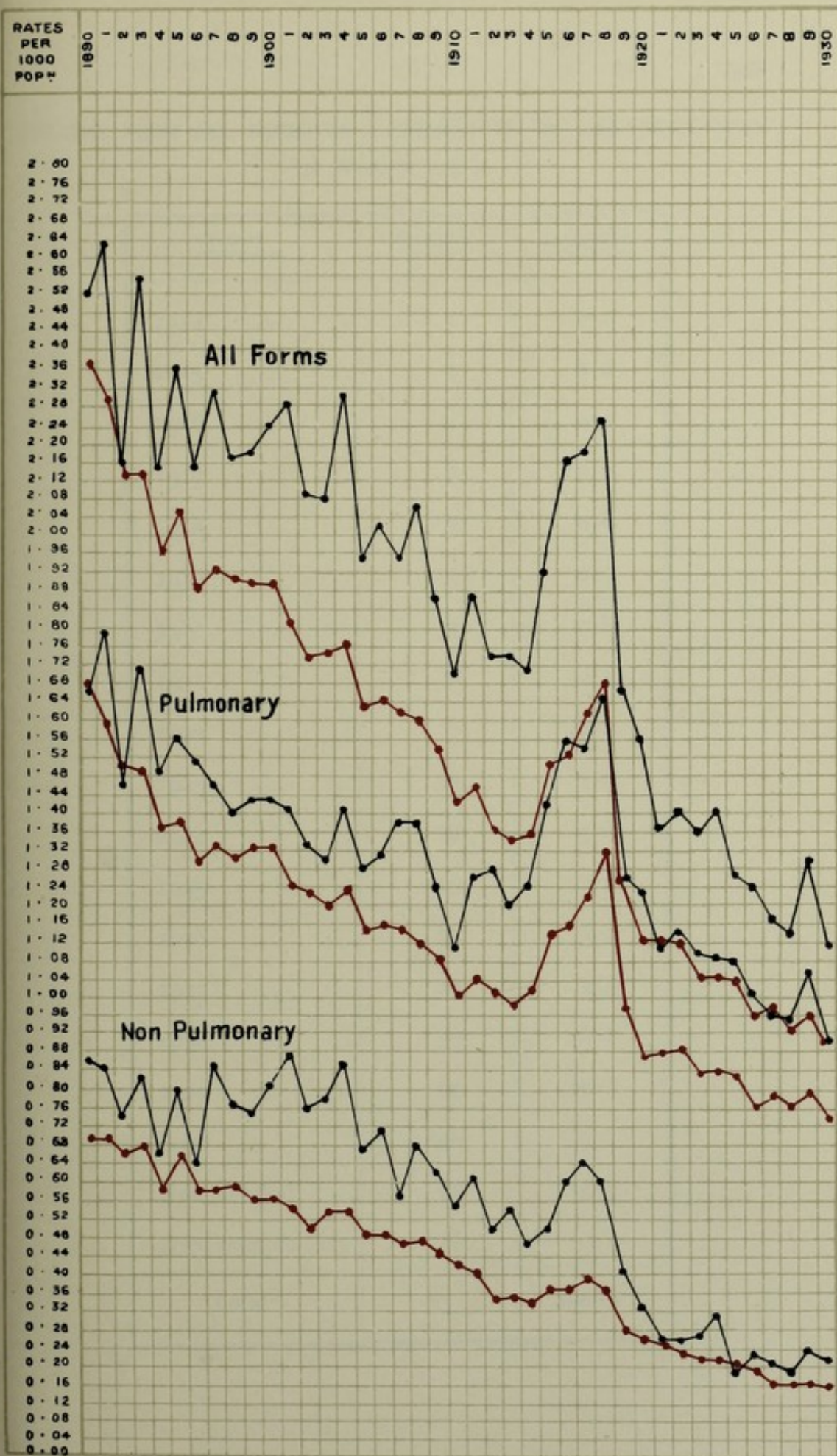
The sub-joined table indicates the type of house occupied by 198 persons who were notified during 1930 as suffering from tuberculosis of all forms and who died during the year :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total deaths.
1 room .. ..	..	..	1	0.8	0.5
2 rooms .. ..	4	6.6	32	25.0	19.0
3 rooms .. ..	10	16.4	57	44.5	35.4
4 rooms .. ..	14	23.0	32	25.0	24.3
5 rooms .. ..	11	18.0	5	3.9	8.5
6 rooms .. ..	16	26.2	..	..	8.5
7 or more rooms	6	9.8	1	0.8	3.7
Total .. ..	61	100.0	128	100.0	100.0

In addition to 61 through houses and 128 back-to-back houses, there were 9 deaths in which the home address was given as common lodging houses, etc.

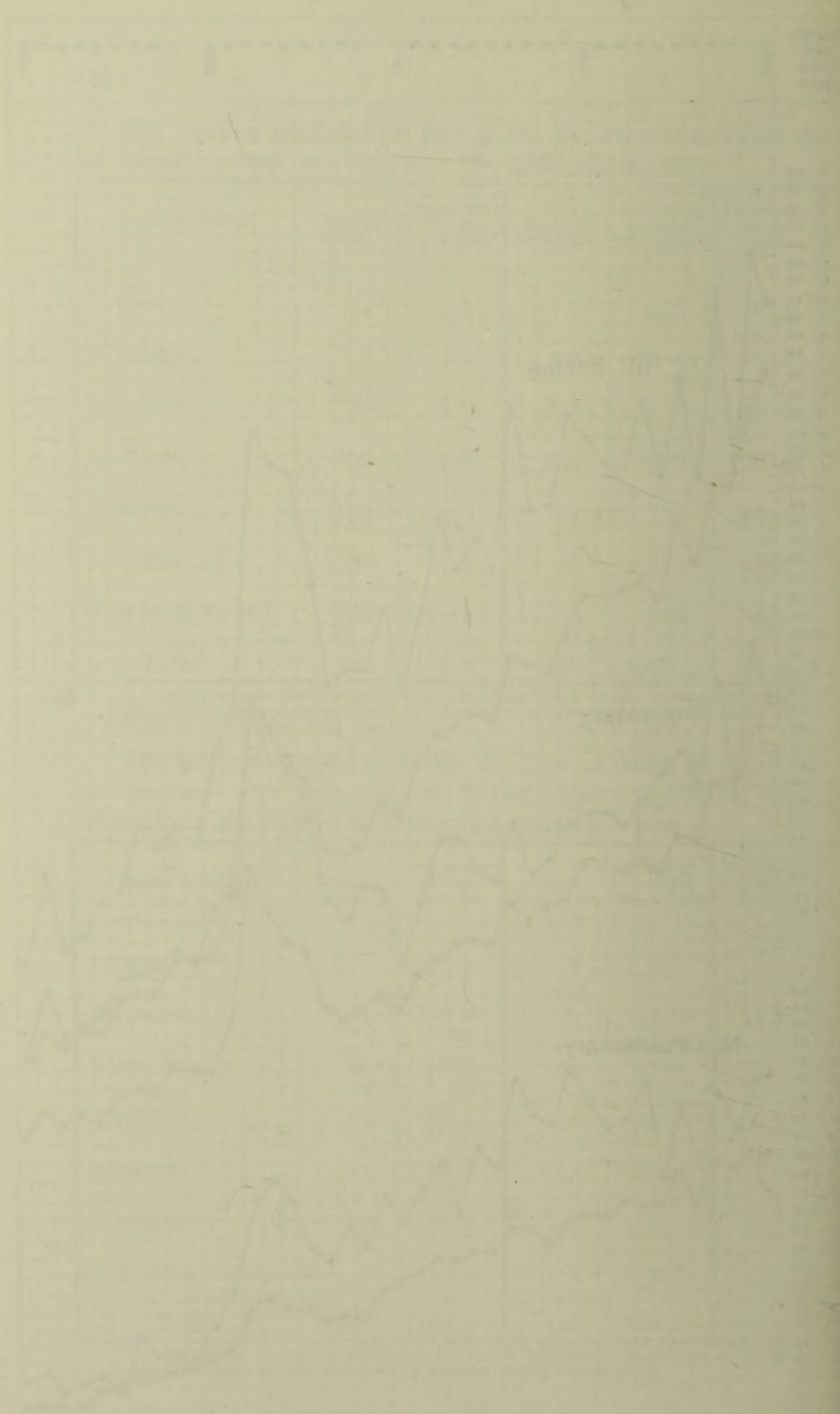


# TUBERCULOSIS DEATH RATE. - 1890 - 1930.



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





DEATHS FROM ALL FORMS OF TUBERCULOSIS IN 1930 WITH YEAR  
OF NOTIFICATION.

Year of Notification.			No. dying in 1930.	Percentage of total deaths.
1914	..	..	1	0.2
1915	..	..	1	0.2
1916	..	..	1	0.2
1917	..	..	2	0.4
1918	..	..	3	0.6
1919	..	..	5	0.9
1920	..	..	3	0.6
1921	..	..	5	0.9
1922	..	..	6	1.1
1923	..	..	10	1.9
1924	..	..	16	3.0
1925	..	..	15	2.8
1926	..	..	16	3.0
1927	..	..	24	4.5
1928	..	..	35	6.6
1929	..	..	109	20.5
1930	..	..	198	37.1
Not notified	..		65	12.2
Died outside City			18	3.4
Total	..		533	100.0



NOTIFICATIONS AND DEATHS FROM ALL FORMS OF TUBERCULOSIS  
OCCURRING IN 1930 CLASSIFIED ACCORDING TO OCCUPATION.

Occupation.	Notifications.		Deaths.	
	Number.	Percentage of total Notifications.	Number.	Percentage of total deaths.
Textile Workers ..	142	15.9	84	15.8
Leather „ ..	18	2.0	16	3.0
Metal „ ..	61	6.8	49	9.2
Coal „ ..	14	1.6	11	2.1
Stone „ ..	7	0.8	9	1.7
Wood „ ..	7	0.8	6	1.1
Other dusty Trades ..	30	3.4	15	2.8
Printers .. ..	14	1.6	20	3.8
Clerks, Typists, etc. ..	39	4.4	23	4.3
House Workers ..	149	16.7	103	19.3
Nurses .. ..	1	0.1	1	0.2
Food Trades, etc. ..	25	2.8	26	4.9
Labourers .. ..	72	8.1	42	7.9
Out-door Workers ..	58	6.5	41	7.7
Various .. ..	42	4.7	6	1.1
School Age .. ..	144	16.1	29	5.4
Infants .. ..	47	5.3	45	8.4
No Occupation ..	23	2.6	7	1.3
No Trace .. ..	..	..	..	..
Total ..	893	100.0	533	100.0

## REPORT ON THE WORK OF THE TUBERCULOSIS DISPENSARY AND SANATORIA

BY

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

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**General.**—It is gratifying to note that the death-rate from all forms of tuberculosis during 1930 showed a satisfactory decline and was the lowest ever recorded in the city. It was suggested in last year's report that the increased death-rate in 1929 was a temporary set back due to the Influenza epidemic and a period of exceptional climatic conditions. This appears to be borne out by the reduction now observed, which brings the present figure into line with the steady decline of the last ten years.

Not only is the death-rate from tuberculosis falling steadily, but the rate of fall is becoming accelerated. This is shown when the decrease is measured in proportion to the total extent of mortality remaining.

In the period 1891-1900 the death-rate fell by 0.4 per 1,000 of population, which represented a decrease of 15 per cent. on the death-rate existing at the commencement of that period.

Between 1901-1910 the fall was 0.54 per 1,000, which was a drop of 24 per cent. In the last decade the fall has been 0.45 per 1,000 which is a reduction of 29 per cent. on the death-rate of ten years ago. Such a decline in spite of the economic difficulties of the post-war period is most encouraging and suggests that the general lines of attack on the disease are based on sound principles.

This success, however, can only be maintained if the pressure is kept up. The economic saving to the community consequent upon the falling death-rate is far in excess of the money expended. In 1920 there were 552 deaths in Leeds from pulmonary tuberculosis; in 1930 the number was 432, a reduction of nearly 22 per cent.

It has been estimated that a death from pulmonary tuberculosis represents an economic loss to the community of over £3,000.



If the death-rate of 1920 had persisted until 1930 and taking into account the increased population, there would have been 899 more deaths in that period than actually occurred, representing on the above basis a loss to the community of over two and a half million pounds, or over £250,000 a year—the equivalent of a "rate" of 1s. 8d. It is certainly not an extravagance to spend public money on schemes which show such a return, but if these results are to be consolidated and further progress maintained it is essential that the machinery shall be kept up-to-date.

The most important factor in the causation of tuberculosis is intimate contact with an already existing infectious case.

It follows that the provision of ample bed accommodation, under sufficiently attractive conditions to ensure the acceptance of prolonged isolation, should be the main line of attack. The accommodation available at Killingbeck, especially for women patients, is inadequate. That patients suffering from active disease should have to wait for two or three months before treatment can be started is a reproach which must be met if the progress in past years towards stamping out tuberculosis is to be maintained. The buildings at Old Killingbeck have long outlived their originally estimated existence and are getting very costly to maintain. They should be replaced by up-to-date pavilions planned as to lay-out and design so as to make the most use of the site.

**Central Tuberculosis Dispensary.**—Statistical details of the work of the Dispensary for 1930 are given on pages 123 and 124.

The total number of new cases referred for an opinion, 1,181, was practically the same as in the previous year. Of these 572 (48·4 per cent.) were found within one month of their first attendance to be definite cases of tuberculosis, and during the whole year 567 cases of pulmonary tuberculosis and 119 cases of non-pulmonary disease were added to the register.

Home visits by the Medical staff again showed an increase, which is largely due to pneumothorax work. It not uncommonly occurs that a case is seen who is suitable for this form of treatment if it is carried out at once, but the long waiting list for institutional treatment prevents early admission. If such a case is allowed to remain untreated at home, the time when collapse treatment can be of most use may have passed by the time admission can be obtained. In a number of such cases the induction of



pneumothorax has been done at home and treatment maintained by two or three visits a week until an institutional bed became available.

The work entailed is considerable but the result is that such patients can be admitted to Sanatorium with a hopeful outlook whereas if this special treatment had been delayed until admission, the disease would probably have made such progress as to render its utility doubtful or its application impossible.

It is satisfactory to note that requests for personal consultations with doctors at the patients' homes have increased, the visits under this heading being 50 per cent. more than in the previous year.

Further revision of old and "lost sight of" cases has been actively carried out during the year on the lines detailed in last year's report, resulting in a further slight reduction of the total number of names on the Dispensary Register. As those remaining are of the type most likely to spread infection it follows that their effective control is more easily carried out by the health visitors when useless visits to cases no longer requiring supervision can be excluded.

It is a common experience of all Tuberculosis Dispensaries that a large number of the sputum positive cases are already in an advanced stage of the disease when first referred by their doctors for an opinion. Careful enquiry shows that in the majority of such cases the fault lies in the neglect of the patient to consult his doctor for slight symptoms of ill-health rather than the failure of the doctor to recognise the disease. It cannot be too strongly pointed out that tuberculosis can spread extensively in the lung without producing definite signs on ordinary examination and often with only slight symptoms. Onset of cough, which is usually the first symptom which takes the patient to his doctor, in most cases indicates that the disease has passed its most favourable period for treatment. Practically every case referred for an opinion is X-Rayed and it is now common knowledge that by this means early disease can often be diagnosed weeks or months before the onset of marked activity.

The stage of disease, when first seen, of the sputum positive cases has shown a slight but definite improvement in the past year, and this is probably due to increased X-Ray examinations. The Ministry of Health classification divides such cases into groups 1, 2 and 3, which may be broadly said to represent slight, moderate



and advanced disease. In 1929 the new cases falling into these three groups were, 7 (2 per cent.), 219 (73 per cent.), and 76 (25 per cent.). In 1930 the staging of the same group of cases was 14 (5 per cent.), 235 (82.7 per cent.), and 35 (12.3 per cent.). It is thus seen that twice as many "slight" cases were found and only half as many "very advanced," at their first examination.

Another favourable indication is that the number of cases occurring in the city who were not notified before death shows a reduction from 89 last year to 65 in 1930, the latter representing 12 per cent. of the deaths as compared with 14 per cent. for 1929. It must be remembered that this figure includes a considerable number of cases, especially children, dying of very acute disease in which a definite diagnosis was only possible post-mortem. Although the present percentage is too high there will always remain a certain number of such cases.

*Treatment.*—The most striking feature to be recorded under this heading is the great increase in treatment by Artificial Pneumothorax. This has been carried on with increasing vigour at both the Sanatoria, and when cases are discharged from the institutions their subsequent "refills" have to be carried on at the Dispensary. During 1930, 308 such treatments were carried out (247 at the Dispensary and 61 in patients' homes). This represents three times the amount of work done in this direction during the previous year. As X-Ray control is essential this work entails much screening and taking of films. It is inevitable that this work will increase in future years and it already represents a considerable addition to the work done at the Dispensary.

The operation of phrenic evulsion is rapidly assuming a position of considerable importance as a method of treating certain cases of pulmonary tuberculosis. Owing to the kindly interest of Mr. A. Richardson a certain number of cases have been admitted to the General Infirmary for this operation, but it would be used much more widely if the facilities for carrying it out were easier. It is impossible to get many such cases admitted to the Infirmary owing to the heavy waiting list. It was hoped that, if the Poor Law Hospitals had come under the control of the Health Committee, such facilities might easily have been provided at these institutions. Unfortunately that has not materialised, and it therefore becomes a matter of urgency that an operating theatre and some suitable bed accommodation shall be provided at Killingbeck.



EXTRACTS FROM THE MINISTRY OF HEALTH ANNUAL RETURN, 37/I. Table I. FOR THE YEAR ENDED  
31st DECEMBER, 1930. SHOWING UNDER HEADINGS A. AND B. THE STATE OF DIAGNOSIS AT ONE  
MONTH FROM DATE OF FIRST ATTENDANCE.

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.	..	M.	F.	..	M.	F.	..	..
Definitely Tuberculous	..	..	..	14	17	..	18	26	..	33	25	..	270	213	47	42
Doubtfully Tuberculous	..	..	..	..	..	..	..	..	..	..	..	..	82	81	48	33
Non-Tuberculous	..	..	..	..	..	..	..	..	..	..	..	..	175	119	43	28
TOTALS	..	..	..	14	17	..	18	26	..	33	25	..	527	413	138	103
B. New Contacts examined during the year:—																
Definitely Tuberculous	..	..	..	7	12	..	..	2	..	2	1	..	7	15	9	13
Doubtfully Tuberculous	..	..	..	..	..	..	..	..	..	..	..	..	22	30	43	47
Non-Tuberculous	..	..	..	..	..	..	..	..	..	..	..	..	52	131	92	81
TOTALS	..	..	..	7	12	..	..	2	..	2	1	..	81	176	144	141
C. Cases written off Dispensary Register:—																
Cured	..	..	..	192	166	..	..	17	..	9	11	..	211	183	40	31
Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error)	..	..	..	..	..	..	..	..	..	..	..	..	412	436	230	189
TOTALS	..	..	..	..	..	..	..	..	..	..	..	..	623	619	270	220
Number of Persons on Dispensary Register:—																
Diagnosis completed	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,859
Diagnosis not completed	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	82
TOTAL	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,941



**PATIENTS (EXCLUDING CONTACTS) EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY**  
**FROM JANUARY 1st, 1930 TO DECEMBER 31st, 1930.**

**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.		
	M.	F.	G.	M.	F.	B.	M.	F.	B.	M.	F.	G.	M.	F.	B.	M.	F.	G.
Insured	460	274	..	137	79	..	93	54	..	211	129	..	19	12	..	206	60	..
Non-Insured	49	113	100	21	29	..	3	34	16	13	46	77	3	4	7	21	36	32
																		35

**OTHER FORMS OF TUBERCULOSIS.**

	New patients.			Bones and Joints.			Abdominal.			Other Organs.			Glands.			Number admitted to Sanatoria.		
	M.	F.	G.	M.	F.	B.	M.	F.	B.	M.	F.	G.	M.	F.	B.	M.	F.	G.
Insured	15	15	..	7	4	..	..	2	4	..	1	2	5	5	..	4	2	..
Non-Insured	3	11	38	2	5	12	10	..	3	7	5	..	1	1	19	..	2	24
																		11

Total attendances at Central Tuberculosis Dispensary for—  
 (a) Light treatment .. .. 6,201  
 (b) Other special treatments .. .. 822  
 (c) Ordinary clinics: .. .. 9,579

16,602

Total Number of Clinical Examinations  
 (included in attendances) .. .. 7,313  
 Number of cases making the clinical attendances  
 (excluding Light and Special treatments) 4,398



Surgery is daily playing a greater part in the treatment of pulmonary tuberculosis. Leeds is rightly proud of its surgical prestige and it is very disappointing, therefore, to find that other centres are going ahead in respect of these developments whilst Leeds is dropping behind.

Other treatment at the Dispensary has progressed on the lines indicated in the reports of previous years.

*Contacts.*—The table below gives details of contact examinations during 1930 and it is satisfactory to note that the high level reached last year has been maintained:—

“CONTACTS” EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY  
FROM JANUARY 1ST, 1930 TO DECEMBER 31ST, 1930.

	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 observa- tion.
Malcs .. ..	81	1	8	..	70	2
Females ..	176	6	11	2	153	4
Boys .. ..	144	..	8	3	120	13
Girls .. ..	141	..	15	2	114	10
Total ..	542	7	42	7	457	29

51 cases remaining under observation on December 31st, 1929, were re-examined, with the following results:—

Definitely diagnosed as tubercular .. ..	11
Marked off as non-tubercular, died, lost sight of, etc. .. ..	40
Remaining under observation .. ..	nil.
Total examinations made = 907 (591 cases).	

The proportion of definite cases amongst contacts shows almost exactly the same percentage as last year, approximately one contact in ten examined showing definite evidence of disease. In this connection a large amount of very interesting X-Ray evidence is being accumulated which throws much light on the earliest evidence of infection of the lung in children, and the frequency with which such infections heal completely even in poor surroundings. It is abundantly clear that whether or not we “acquire” increased resistance to tuberculosis with advancing age and frequency of contact, there is a “natural” resistance, which



probably plays a more important part than is usually admitted, in preventing infection from developing into active disease.

Another part of contact examination which has been intensively prosecuted in the past year has been the effort to trace the source of infection when a case of acute tuberculosis, usually meningitis, has occurred in a family where no previous case of tuberculosis was known to exist. The health visitors make exhaustive enquiries about the health of the other members of any such household, and this has resulted in bringing to light several cases of infectious tuberculosis which were quite unsuspected either by the patients or their medical attendants.

*Surgical Tuberculosis.*—The number of new cases of non-pulmonary tuberculosis seen during the year, was 119, practically the same figure as in the previous year. A considerable number of cases of bone and joint disease have again been referred to us from the General Infirmary, usually with a request for immediate transfer to an Orthopædic hospital. The problem of surgical tuberculosis in Leeds was fully dealt with in last year's report. It only remains to add that the accommodation which the city urgently requires for the prolonged treatment for these cases has not yet been provided.

*X-Ray Department.*—Reference has already been made to the extended use of radiology in the routine work of the Dispensary. During 1930 1,476 films were taken, an increase of 15 per cent. on the previous year, and in addition a very large number of screen examinations were made, especially in connection with pneumothorax treatment. A large increase in the number of cases sent down from Killingbeck to the Dispensary for X-Ray was noted at the end of the year and has since further increased. It is obvious that the installation of an X-Ray apparatus at Killingbeck is essential and urgent. Examination by X-Ray is often required for patients who are too ill to undertake the journey to the Dispensary without serious detriment, and are also necessary for the control of the increasing amount of pneumothorax work done at the Sanatorium. Attempt is made to bring a number of patients down by ambulance but this is not only attended with some risk to the patients themselves, but is a severe tax on the available transport. It is hoped that the New Year will see this long overdue addition to the equipment at Killingbeck made good.



My special thanks are due to Dr. Thompson, who takes the majority of the films, for the high standard of his work.

*Artificial Sunlight.*—During the year 165 patients have been under treatment, of whom 106 completed the full course or ceased attending for various reasons. The total attendances numbered 6,201. The equipment (two Carbon Arc Lamps, and one Kromayer lamp) remained unchanged.

The following is a summary of those cases who completed a full course of treatment :—

*Pulmonary Tuberculosis.*—Twelve cases of quiescent disease in children were treated in the hope of improving their general condition. No marked benefit was observed.

*Bone and Joint Tuberculosis.*—Twenty-four cases received treatment for various lesions. The results were very varied, some cases showing remarkable improvement, with healing of sinuses, even after other means of treatment had failed. Other cases failed to show any definite improvement.

*T.B. Glands of Neck.*—Forty-one cases were treated, 19 of them with skin involvement. Both groups gave satisfactory results, and in those cases with discharging sinuses the healing was complete and with a minimum of scarring.

*Abdominal Tuberculosis.*—Eight cases were treated, all of which showed marked improvement.

*Lupus.*—Three cases were treated with the Kromayer lamp, and several others are still attending. Considerable improvement was noted in those cases who completed treatment, but not to the extent of cure.

*General Conclusions.*—The results confirm the findings of previous years that in cases of abdominal and glandular tuberculosis the results on the whole are excellent. In bone and joint tuberculosis results are varied, and it is difficult to assess the factor which underlies the marked improvement of some cases as compared with the failure of others to respond.

*Dental Department.*—Mr. W. L. Fleming has continued to work on the lines indicated last year, dividing his time between the Tuberculosis and Child Welfare Departments. The work of the year is summarised in the subjoined table :—

	Ex- tractions.	Fillings.	Scalings.	Dentures.	Examina- tions.
T.B. Dispensary ..	417	8	2	120	139
Killingbeck .. ..	352	18	6	4	622
" The Hollies " ..	75	4	..	..	92



*Domiciliary Work.*—The Nurse Visitors made a total of 19,657 visits of which 966 were for environmental reports, 1,053 to contacts, and 202 to houses where death had occurred from tuberculosis.

*Minor Surgical Measures.*—Attendances in the Surgery were 822, a considerable increase on the previous year, mainly due to the increased amount of pneumothorax work. The total includes 247 Pneumothorax refills, 17 injections of Sanocrysin, 30 applications of plaster, and the remainder for dressings, aspirations, etc.

*Clerical.*—My thanks are due to the Panel Doctors for their help in completing National Health Insurance Forms G.P. 17 and 35, when referring Panel patients to the Dispensary. With the exception of two all the 1,170 National Health Insurance Forms G.P. 36, were completed and returned in accordance with the Regulations, which is extremely satisfactory, and very helpful in classifying the cases under domiciliary supervision regarding their progress.

Contact has again been maintained with the Welfare and Education Departments, Ministry of Pensions, Hospitals, and other medical institutions in the city, by the issue of reports, 5,812 in number. In addition 3,664 letters and 13,374 appointment cards, etc., were sent to patients, institutions, and Doctors.

The revision of old cases, referred to in last year's report, is still in progress, and it is hoped to complete this extra work during 1931.

**Mortality of Children in Tuberculous Households.**—Reference has been made for several years to the research which is being conducted into the fate of children born into contact with tuberculosis. These children are being followed until they reach five years of age, and complete figures will not be available for another four years.

A striking difference is noticed in the mortality from tuberculosis when the children are born into the homes of sputum positive cases, as compared with those in contact with cases who have not been proved bacteriologically.



The only group of which completed figures are now available is the age group 0-1 year, during which period over 1,000 children have been observed. The results are most easily illustrated in the accompanying table:—

Years 1925-1929.	Number observed.	Died of Tuberculosis.	Died of other causes.	Total deaths.	Death-rate per 1,000 births.		
					Tuberculosis.	Other causes.	Total.
Contacts to sputum positive cases ..	240	7	20	27	29·2	83·3	112·5
Contacts to sputum negative cases ..	866	4	43	47	4·6	49·7	54·3

Infantile mortality (Leeds)—average 1925-1929 = 88·2.

The table shows very clearly the grave risk of exposure of young children to contact with sputum positive cases, their mortality being seven times that of the sputum negative group, and the death-rate from all causes being significantly higher than the infantile mortality of the city during the same period.

A similar investigation conducted in Lancashire gave a death-rate of 17·6 per thousand for contacts to sputum positive cases and 7·0 per thousand for the contacts to sputum negative cases.

Whilst both these investigations clearly point out the danger of contact they prove that the assertion of Professor Calmette "that 24 per cent. of children born of tuberculous mothers, or reared in an infected household, died of tuberculosis in the first year of their existence" is not a true finding for industrial communities in this country. This study is only concerned with mortality in early years and gives no information of the degree of infection and ultimate fate of these children. It is hoped that the group of children in contact with proved infection may be followed up right through childhood, in which case further valuable findings should accrue. The figures, however, are already amply sufficient to lend added weight to the plea made earlier in this report for increased facilities for isolation of infectious cases of tuberculosis.

**Institutions.**—The bed provision at the various Sanatoria has remained unchanged during the year. The total of 310 beds providing accommodation for 138 males, and 78 females, and 94 children.



**"The Hollies" Sanatorium School.**

PERIOD ENDED 31st DECEMBER, 1930.

(Ministry of Health Form T.54 (B)—modified).

					Remaining Jan. 1st, 1930.	Admitted.	Discharged.	Remaining Dec. 31st, 1930.
Pulmonary	Boys	{	Under 5	..	2	..	2	..
			Over 5	..	11	20	19	12
	Girls	{	Under 5	..	1	1	1	1
			Over 5	..	8	26	28	6
Non-Pulmonary	Boys	{	Under 5	..	1	3	3	1
			Over 5	..	1	11	9	3
	Girls	{	Under 5	..	..	..	..	..
			Over 5	..	7	13	12	8
Observation Cases	Boys	{	Under 5	..	..	..	..	..
			Over 5	..	3	12	14	1
	Girls	{	Under 5	..	..	1	1	..
			Over 5	..	3	11	13	1
Totals .. ..					37	98	102	33

**ANALYSIS OF CASES DISCHARGED.**

**DURATION OF RESIDENTIAL TREATMENT.**

(Ministry of Health Form T.55—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.		
Under 3 months.	Boys	{ Under 5 ..	..	..	..	1	..	1	
		{ Over 5 ..	2	2	1	..	4	1	10
	Girls	{ Under 5 ..	..	..	..	..	..	..	..
		{ Over 5 ..	..	3	..	..	2	..	5
3-6 months.	Boys	{ Under 5 ..	1	..	..	1	1	..	3
		{ Over 5 ..	6	2	..	..	2	..	10
	Girls	{ Under 5 ..	..	..	..	..	..	..	..
		{ Over 5 ..	16	5	..	5	3	..	29
6-12 months.	Boys	{ Under 5 ..	..	..	..	..	..	..	..
		{ Over 5 ..	3	1	..	1	1	..	6
	Girls	{ Under 5 ..	..	..	..	..	..	..	..
		{ Over 5 ..	1	2	..	1	..	..	4
Over 12 months.	Boys	{ Under 5 ..	1	..	..	..	..	..	1
		{ Over 5 ..	1	1	..	..	..	..	2
	Girls	{ Under 5 ..	..	1	..	..	..	..	1
		{ Over 5 ..	..	1	..	1	..	..	2
Totals .. ..			31	18	1	9	14	1	74
Observation and Negative Cases .. ..									28
Grand Total .. ..									102



**" The Hollies " Open-Air School.**—The work of this institution is mainly that of what is spoken of in America as a Preventorium. The bulk of the children are contacts with infectious cases of tuberculosis who show slight signs of ill-health but often quite indefinite evidence of disease by ordinary examination. A period of treatment under the delightful conditions provided at " The Hollies " helps to raise their resistance and to prevent the development of what might be serious disease. The available accommodation has been fully used during the past year and the arrangement of separate classes for younger and older children has been continued.

The figures of attendances, etc., as given by the Head Teacher are :—

The number of children admitted to the school register was 98 (boys 44 and girls 54).

The number of school sessions was morning 255, afternoon 255, total 510.

The total number of attendances was 15,911, and the average attendance per session was 31.

The average number on the school register was 38.28.

During the year the school was inspected by Dr. Muriel Bywaters who reported that " the School continues to be conducted on sound and efficient lines which are productive of good results. The children are responsive and interested in their work and satisfactory progress is maintained."

**Killingbeck Sanatorium.**—Owing to the very sudden and unexpected death of Dr. W. A. Todd shortly before the end of the year a summary of the work of the institution has been prepared by his successor, Dr. W. S. Gilmour, as follows :—

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 729, comprising 336 males, 246 females and 147 children, as compared with 818 for the previous year, comprising 353 males, 302 females and 163 children. Of the 729 cases treated during the year 70 were surgical cases, divided as follows :—9 males, 14 females and 47 children. The accommodation for adult females is evidently becoming insufficient to meet the demand, as the waiting list for the 78 available beds has averaged 24 cases, i.e., 30 per cent. throughout the year. The average percentage of bed cases was : adults 67.8 and children 49.1 as compared with 64.7 and 30.5 respectively in 1929.

The average length of stay of patients was : surgical cases 143 days and pulmonary cases 132 days. The average stay of surgical cases is by circumstance rather short as some patients go on to other orthopaedic institutions after a short period in this one.







As has been noted in previous reports the provision of X-Ray and Artificial Sunlight apparatus at this institution would be of great value as an aid to satisfactory treatment.

*Dental Treatment.*—Patients to the number of 622 were examined during the year and 396 received treatment.

*School Report.*—The school was open 486 times during the year, the number of attendances being 13,736. The teaching staff remains the same but changes have been made in the administration. Owing to the larger number of bed cases admitted to the hospital the school was, in October, divided into two parts, one portion being the bed cases taught in the Ward, the other being the "walking" cases who received instruction at school. This arrangement of both educational tuition and handicrafts instruction for the bed cases has provided the occupation of mind that is essential.

During the year the school was inspected by Dr. Muriel Bywaters.

### Killingbeck Sanatorium.

#### GRADE OF EXERCISE ATTAINED BY ADULT CASES.

					Males.	Females.	Total.
No exercise	..	..	..	..	17	28	45
Walking	..	..	..	..	28	42	70
Work	{ Grade A.*	..	..	..	29	18	47
	{ Grade B.†	..	..	..	16	2	18
	{ Grade C.‡	..	..	..	33	4	37
Treatment not completed	..	..	..	..	76	50	126
Total	..	..	..	..	199	144	343

\* Light work in wards and garden, or vocational.

† Slightly heavier than "A."

‡ Moderately heavy work in wards and garden.

**Gateforth Sanatorium.**—The Medical Superintendent, Dr. H. E. Reburn, writes ;—

The tables on page 135 show the number and classification of patients discharged during the year.

Of the pulmonary cases treated, 40 per cent. were T.B.+. The proportion of bed patients was 20 per cent.

In the majority of cases the treatment commences with a period of rest in bed which varies from two weeks to several months according to the condition of the patient. This is followed by walking exercise beginning with five minutes twice a day and gradually increasing to



80 minutes twice a day. When a patient can do this without abnormal symptoms arising, he starts light work in the garden and gradually passes on to heavy work in the garden or on the farm. In some cases rest in bed has to be supplemented by special treatment.

*Artificial Pneumothorax.*—Three patients who had an artificial pneumothorax induced last year continued to have refills here, and nine commenced this treatment during the year. Nine were much improved, three showed no improvement. The total number of refills given here was 205.

*Sanocrysin.*—Only one patient was given sanocrysin. The immediate result was excellent but the patient relapsed on returning home.

*Heliotherapy.*—A few patients were given sun baths on the balcony with excellent results.

The rate of sedimentation of the blood corpuscles was measured in 32 patients. This test appears to be a reliable guide in diagnosis, prognosis and treatment.

*Staff.*—The staff consists of a Matron and three nurses. Owing to the increase in the clinical work of the sanatorium this is somewhat small and it is hoped to appoint an additional nurse next year.

The health of the staff has been good. Nine were ex-patients and only one had any sick leave due to chest trouble.

Considerable difficulty is experienced in obtaining suitable nurses. The reason for this is that the staff is so small that all the nurses have to perform duties usually done by probationers, and trained nurses do not expect this. An increase in the staff would solve the problem, but the cost per patient would rise unless the number of patients were increased at the same time. Such an increase would make for greater efficiency and economy.

*Electric Light.*—I am pleased to be able to report that at last the old and unsatisfactory electric lighting plant has been disposed of and a constant and unlimited supply of current is now obtained from the Yorkshire Electric Power Company. This has made possible the extension of electric lighting to all the patients' sleeping shelters, the installation of an electrically heated low pressure steam sterilizer for dressings and instruments, and of an electric motor to drive the circular saw and lathe.

Other improvements carried out during the year are the installation of electric bells in all the wards and sleeping shelters and the covering of all the ward floors with linoleum.

*Farm and Garden.*—About 250 hens, and breeding pens of turkeys, geese and ducks are kept so that patients have an opportunity of learning poultry farming. During the year over 32,000 eggs were collected. Eggs were supplied to the Infants' Hospital at Wyther and "The Hollies" Sanatorium, and the remainder were used at Gateforth or sold.

Sufficient turkeys and geese were reared to supply Wyther, "The Hollies," the Day Nurseries and Gateforth at Christmas.

The cost of poultry food for the year was £135 and the value of eggs and birds used and sold was £285.

Produce from the garden valued at £61 was used in the Sanatorium and £8 was received for flowers sold. Crops of oats and hay were grown and used for feeding the horse and poultry.



**Gateforth Sanatorium (Males only).**  
**PERIOD ENDED 31st DECEMBER, 1930.**  
 (Ministry of Health Form T.54 (B) modified).

	Remaining Jan. 1st, 1930.	Admitted.	Dis- charged.	Died.	Remaining Dec. 31st, 1930.
Pulmonary ..	29	119	100	1	47
Non-Pulmonary ..	2	3	3	..	2
Observation Cases...	..	4	4	..	..
Totals .. ..	31	126	107	1	49

**ANALYSIS OF CASES DISCHARGED.**  
**DURATION OF RESIDENTIAL TREATMENT.**  
 (Ministry of Health Form T.55—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.	9	12	6	1	13	5	..	1	..	47	
3 months ..	21	3	..	3	9	1	..	..	..	37	
6-12 months..	4	2	1	3	1	1	..	..	2	14	
Over 12 mths.	3	..	..	..	1	1	..	..	..	5	
Total ..	37	17	7	7	24	8	..	1	2	103	
Observation and Negative Cases .. .. .											4
Grand Total .. .. .											107

**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		
2	2	2	14	1	40	25	86

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.



**The Factory-in-the-Field.**—The equipment for making fire-lighters was installed early in 1930 and two girls were employed on this work during the greater part of the year. The employees in the various departments at the end of the year were grouped as follows :—

Department.			Tuberculosis.			Non-Tuberculosis.
Firewood	..	..	..	17	..	3
Brushmaking	..	..	..	4	..	1
Printing	..	..	..	5	..	2
Firelighter	..	..	..	2	..	—
Other employees	..	..	..	2	..	6
				—		
				30	..	12
				—		

The number of non-tuberculous employees appears high at first sight but this consists mainly in administrative staff, canvassers, and motor drivers. Should further extension be carried out at the Factory, so as to employ a larger personnel, there would be no need to increase the non-tuberculous employees, in which case the proportion would be more satisfactory.

The alterations made during the previous year have proved effective in operation especially as regards the working conditions of the brush department. The canteen has, on the whole, been successful, serving an average of 25 meals per day without incurring a loss.

Owing to the heavy trade depression and the large extent of unemployment in the city it has not been considered advisable to hurry the return to the open labour market of such employees as have appeared fit for it. Under the conditions at the Factory-in-the-Field they remain well but would be certain to join the ranks of the unemployed if they were discharged, with a probability of becoming unemployable.

*Tuberculous Employees.*—During the year 52 patients with definite tuberculosis were employed for varying periods and 30 remained at the end of the year. The 22 who ceased to work did so for the following reasons :—

One discharged as fit for work in the open labour market, one resigned employment, one suspended owing to shortness of work, four proved unsuitable for employment for various reasons, and



fifteen had to give up owing to failure of health—seven being admitted to Sanatorium. Three of those who gave up work died during the year.

*Loss of Time through Ill-Health.*—In addition to those workers who had to cease employment entirely there was a certain amount of loss of time through sickness amongst the remainder of the staff. Of the 30 tuberculous employees remaining at the end of the year 12 lost varying periods of time as is shown in the following table :—

	No. Employed.	Worked Full Time.	Absent.
Firewood Department—			
Bundlers .. ..	10	3	7 lost 164 days.
Labourers .. ..	3	1	2 lost 24 days.
Travellers .. ..	3	3	
Foreman .. ..	1	1	
Brush Department ..	4	4	
Printing Department ..	5	3	2 lost 111 days.
Firelighter Department	2	1	1 lost 7 days.
Other Employees—			
Gardener .. ..	1	—	1 lost 2 days.
Transport .. ..	1	1	

The average time lost per head of the tuberculous employees was 9.9 days in the year. The average time lost in each department was Firewood 11.1 days, Brushmaking nil, Printing 22 days, and Firelighting 3.5 days.

The nett Annual cost of the Factory-in-the-Field to the Corporation was £2,524 5s. od. which works out at £78 17s. 7d. per head of the tuberculous persons employed. The total cost includes about nine persons not suffering from tuberculosis.

**Care Work.**—The Care Committee has again done very valuable work, and the continued trade depression has involved them in a still rather large number of cases.

Close co-operation is maintained with many other official and charitable bodies so that assistance is obtained for cases from many other sources besides the funds of the Care Committee. Every case which is helped receives careful investigation and the various ways in which help is given are too numerous to mention in detail.



Grateful appreciation must once more be expressed to the services of the voluntary workers on the Care Committee who devote so much of their time and thought to solving the difficult problems submitted to them.

Some of the most valuable work is the making of arrangements for the housing of children or carrying on the home whilst the mother is away for treatment, and many such cases have been dealt with. The Care Committee also administers the official fund for provision of extra nourishment, assesses the ability of patients to pay something towards the cost of splints, surgical appliances and dentures. During the year the Health Committee had under consideration the utilization of a bequest of the late Miss E. A. P. Gerich, which, with accrued interest, amounted to £548 18s. 1d. As it was a condition of the bequest that it should be devoted exclusively for the welfare of soldiers and sailors blinded, crippled or otherwise incapacitated, the Health Committee at its meeting in May decided to hand over to the Care Committee the sum of £100 to be expended during the ensuing twelve months in accordance with the terms of the bequest. Cases to the number of 31 have been assisted from this fund during the year.

Useful propaganda work has been carried out by Mrs. West, to whom special thanks are due.

Convalescence was provided for 121 children and adults, mostly contacts to infectious cases who were showing slight signs of ill-health without definite evidence of disease.

Many examples can be given of the practical help afforded to numerous patients, domestic difficulties tided over, rent paid, home helps supplied, and risk of contact prevented.

The following short summary is only a bald statement which does not convey any true impression of the vast amount of careful enquiry and practical sympathy involved :—

Food 445, Home Help 37 ; Homes found 23 ; Convalescence 121 ; Clothing 163 ; Beds and Bedding 27 ; Dentures 25 ; Sick-room requisites 24 ; Surgical appliances 47 ; Money grants 96 ; Help re-employment 4 ; Letters to Societies, directing and advising 818.



## Maternity and Child Welfare.

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The most notable achievement in the section of Maternity and Child Welfare during the year was the reduction of the infant mortality rate to 68. This is the lowest rate which has ever been recorded in the city, the previous lowest record being 79 in 1928.

Twenty years ago the rate was 159, 10 years later it was 110, and five years ago 91, so that there has been a constant and steady fall throughout the whole of the period. The decline in the rate represents an average yearly saving of child life of 458 as compared with the rate of 20 years ago. That is no small achievement and one of which, I think, the city may justly be proud. There is another aspect of the subject however that is just as important and should not be overlooked and that is the reduction in the amount of damage and crippling amongst babies that has taken place *pari passu* with the drop in mortality. The saving in this direction cannot be estimated, because no data are available for the purpose, but those whose work is amongst the children of the city in the infant welfare centres and schools assure us that the type of child passing from infancy into school life is getting better every year. The number found with gross defects on admission to school is still too high but it is nothing to what it was even ten years ago.

**Statistics.**—The number of children under one year of age who died during 1930 was 512 (males 297 and females 215) as compared with 722 (males 445 and females 277) for 1929. The infant mortality rate was 68 as compared with 97 for the previous year and an average of 88 for the previous five years. As already stated, this is the lowest infant mortality rate ever recorded in the city.

Compared with the other large towns in England and Wales, Leeds occupied seventh place, the towns with lower rates being Bristol, London, Birmingham, West Ham, Sheffield and Hull. The infant mortality rate for England and Wales was 60 or 11·8 per cent. lower than that for Leeds.

**Causes of Infant Death.**—The principal causes contributing to the infant death-rate in order of numerical importance were premature birth (152), pneumonia (54), atrophy, debility and



marasmus (45), congenital malformations (37), and diarrhoea and enteritis (31). As compared with the previous year the principal decreases to be recorded were pneumonia (96), diarrhoea and enteritis (40), premature birth (21), whooping cough (18) and measles (16). On examining the list of causes of death given on page 150 it will be noticed that 94, or 18.4 per cent. of the total deaths of children under one year, were due to such diseases as pneumonia, bronchitis, whooping cough and influenza. Last year the number dying from this group of diseases was 218, or 30.2 per cent. of the total deaths, and the average for the previous five years was 170 deaths or 24.7 per cent. Herein lies the explanation of the difference between the rate of 1929 and that of 1930 and wherever there is a difference between one year and another it is usually traceable to the varying incidence of respiratory illness.

Prematurity was the most important single cause of death during the year. The number of deaths attributed to it was 152, or 29.7 per cent. of the total deaths under one year as compared with 173, or 24.0 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 1920-1930.

Year.	Births.	Deaths from prematurity.	Death-rate per 1,000 births.
1920 .. ..	11,229	255	22.7
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

The average death-rate per thousand births for the ten years, 1920-1929, was 19.9.

It will be observed from a study of the table that there has been practically no change in the rate of prematurity during the last 10 years. Indeed, one might go further back than that and still find much the same rate as we are having to-day.



Pneumonia (all forms) was the second most important single cause of death. There were 54 deaths, or 10.5 per cent. of the total deaths under one year, from this disease, as compared with 150, or 20.8 per cent. for the previous year and an average of 115, or 13.9 per cent. for the previous decade.

The deaths from diarrhoea and enteritis in children under one year of age numbered 31 as compared with 71 for the previous year and an average of 106 for the previous ten years. This is the lowest figure recorded in the city and the decline is probably accounted for by the cool Summer and the fact that the rainfall in the third quarter was much above the average.\*

In no single cause of infant death in the last ten years has the reduction been so gratifying as in that from Summer or epidemic diarrhoea. There was a time not so very many years ago when epidemic diarrhoea accounted for as much as 15 per cent. of the total infant deaths, but all that has been changed by the improvement in sanitation, the better cleansing of streets, ashpits and manure dumps, the improved quality and cleanliness of the milk supply, and above all, the more intelligent handling of the babies' food by the mothers. For the last mentioned credit is due to the valuable educational work carried out at the infant Welfare Centres, but for which, the rate would have been much higher than it is.

*Deaths in Age Groups.*—Of the total (512) infant deaths, 208, or 40.6 per cent. took place in the first week of life; 291, or 56.8 per cent. in the first month; 74, or 14.5 per cent. between one and three months; 57 or 11.1 per cent. between three and six months; 49, or 9.6 per cent. between six and nine months; and 41, or 8.0 per cent. between nine and twelve months. The comparatively high rate in the first month should be noted. This is referred to again in a succeeding paragraph. (*Vide* page 144).

The percentage changes in the infant death-rate per 1,000 births in 1930 as compared with the average of the previous ten years are as follows:—

Under 1 week, increase	14.1%	3-6 months, decrease ..	50.0%
Under 1 month decrease	5.2%	6-9       "       " ..	47.6%
1-3 months       "       "	41.7%	9-12     "       " ..	50.0%
Whole year decrease, 29.2%			

\*The rainfall in the third quarter amounted to 12.86 inches, as compared with 4.28 inches in the third quarter of the previous year, and an average of 7.32 inches in the third quarters of the previous ten years.



## 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

INFANTILE MORTALITY DURING THE ELEVEN YEARS 1920-1930 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.
1920	..	304	27.1	520	46.3	260	23.2	191	17.0	146	13.0	115	10.2	1,232	110
1921	..	249	24.5	419	41.3	184	18.1	180	17.7	116	11.4	98	9.7	997	98
1922	..	206	22.2	401	43.3	159	17.2	125	13.5	127	13.7	123	13.3	935	101
1923	..	204	23.5	363	41.8	110	12.7	125	14.4	92	10.6	83	9.6	773	89
1924	..	185	21.6	331	38.7	156	18.2	155	18.1	150	17.5	129	15.1	921	108
1925	..	184	22.5	309	37.8	141	17.2	119	14.5	88	10.8	91	11.1	748	91
1926	..	187	23.2	312	38.7	134	16.6	118	14.6	96	11.9	88	10.9	748	93
1927	..	170	21.8	274	35.2	103	13.2	87	11.2	84	10.8	81	10.4	629	81
1928	..	201	26.2	286	37.3	102	13.3	94	12.3	72	9.4	52	6.8	606	79
1929	..	210	28.3	314	42.3	111	14.9	107	14.4	108	14.5	82	11.0	722	97
1930	..	208	27.5	291	38.5	74	9.8	57	7.5	49	6.5	41	5.4	512	68



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 149. 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 291, or 23 less than the previous year, and the corresponding rate was 38.5.

Of the total deaths under one year 56.8 per cent. occurred in the first month as compared with 43.5 per cent. for the previous year, and of the deaths in the first month, 71.5 per cent. occurred in the first week and 83.5 per cent. in the first two weeks. The percentage increase in the deaths of children under one month as compared with the previous year is explained by the fact that whereas the number of deaths of infants between one month and 12 months decreased by 187, the deaths under one month decreased by only 23.

In previous reports I have called attention to the neo-natal mortality rate which has remained practically stationary for the last six years and still remains abnormally high. The chief cause of death at this age is prematurity, which belongs to the ante-natal rather than the post-natal period. If, therefore, there is to be any change in the neo-natal rate it can only come as a result of improved conditions in the ante-natal period. In other words, the only hope of bringing down this rate to a more satisfactory figure is by better ante-natal supervision, to achieve which, mother, doctor and midwife must co-operate. This is what is aimed at in the National Maternity Service adumbrated in the report of the Departmental Committee on Maternal Mortality—indeed is the essence of that scheme. There is a very close relationship between the death-rate of children under one month and the maternal death-rate. They spring from the same causes, and anything which brings about a reduction in the one must almost necessarily have a similar effect on the other.

*Illegitimate Death-rate.*—Of the 374 illegitimate births 53, or 14.2 per cent., died before reaching the age of one year, which is equal to an infantile death-rate of 142. This is a decrease of 68 per thousand as compared with 1929 and a decrease of 32 as compared with 1928.



*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.
1920 .. ..	139	95	88	112	110
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

The most striking thing about the quarterly death-rates of infants is that the rates of the first, third, and fourth quarters were the lowest ever recorded in the city. To this fact, as much as any other, must be attributed the very low death-rate for the year as a whole.

**Maternal Mortality.**—The number of mothers who lost their lives in childbirth during the year was 32, a decrease of one under the figure for 1929. The maternal mortality rate was 4.23 as compared with 4.44 for the preceding year. The death-rate of unmarried mothers per thousand illegitimate births for the year was 5.35 as compared with a rate of 4.17 for married mothers. Last year the death-rate of unmarried mothers was 9.76 and that of married mothers 4.13. If the death-rate of unmarried mothers had been the same as that of married mothers the total rate would have been 4.17 instead of 4.23.

During the year the Departmental Committee of Maternal Mortality issued its interim report which made certain valuable suggestions for the improvement of the midwifery services throughout the country. One of the most important of these suggestions was that already referred to in a previous paragraph, namely, the institution of a National Maternity Service in which there would



be close co-operation between doctor, midwife and the Maternity Hospital. I cannot go into the details of the scheme here, except to say that before such a scheme can come into operation it will be essential that the goodwill of the three co-operating parties should be obtained; otherwise friction and misunderstanding will arise leading to confusion and failure.

Most of the recommendations put forward in the report for the improvement of existing maternity services have already been adopted in Leeds. The only gap is on the consultative side. At present there is but one consultative clinic in the city to which doctors at the maternity centres and in private practice can refer difficult or doubtful cases and that is at the Maternity Hospital. Unfortunately the Hospital is not very easy of access and in consequence there is a certain reluctance on the part of expectant mothers to attend there regularly. A second clinic to serve the South side of the River might improve matters in this respect and might in addition act as an incentive to the medical practitioners to make greater use of the service. A scheme with this end in view is at present under consideration by the Maternity and Child Welfare Committee.

In the same connection it is very gratifying to note the remarkable increase during the year in the number of expectant mothers attending the ante-natal clinics. There is, however, still abundant room for improvement in this direction. It cannot be too strongly emphasised that these clinics are intended for the use of general practitioners as well as midwives, and that their object is not only to remove the possibility of a fatal issue to mother or child but also to render the operation of childbirth safer as far as damage to either is concerned.

At this point I should like to mention that during the year the question of the utilisation of the ante-natal clinics for the teaching of methods of birth control was considered by the Maternity and Child Welfare Committee, when it was decided that it was no part of the function of these institutions to enlighten the public on matters of this sort. It was also thought undesirable to inaugurate special clinics or sessions for the purpose. For those women whose condition of health is such as to make further pregnancy dangerous the special clinic at the Maternity Hospital is available and to that clinic all such women are referred.

Further reference is made to this subject on page 161.



INFANTILE MORTALITY IN WARDS AT DIFFERENT PERIODS OF THE FIRST YEAR OF LIFE,  
CALENDAR YEAR, 1930.

WARD.	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.
Central ..	183	4	21.9	6	32.8	3	16.4	..	..	4	21.9	1	5.5	14	77
North ..	710	19	26.8	22	31.0	5	7.0	5	7.0	4	5.6	6	8.5	42	59
North-East ..	637	13	20.4	17	26.7	9	14.1	5	7.8	2	3.1	8	12.6	41	64
*New Ward ..	262	9	34.4	11	42.0	2	7.6	1	3.8	1	3.8	1	3.8	16	61
East ..	775	17	21.9	27	34.8	9	11.6	5	6.5	5	6.5	10	12.9	56	72
South ..	233	10	42.9	12	51.5	1	4.3	2	8.6	2	8.6	2	8.6	19	82
East Hunslet ..	706	31	43.9	41	58.1	8	11.3	7	9.9	3	4.2	..	..	59	84
West Hunslet ..	477	13	27.3	22	46.1	5	10.5	5	10.5	1	2.1	1	2.1	34	71
Holbeck ..	475	13	27.4	20	42.1	4	8.4	6	12.6	2	4.2	2	4.2	34	72
Mill Hill ..	56	1	17.9	1	17.9	3	53.6	2	35.7	..	..	..	..	6	107
West ..	378	13	34.4	17	45.0	5	13.2	1	2.6	2	5.3	..	..	25	66
North-West ..	461	9	19.5	14	30.4	8	17.4	..	..	10	21.7	1	2.2	33	72
Brunswick ..	344	9	26.2	14	40.7	2	5.8	3	8.7	2	5.8	4	11.6	25	73
New Wortley ..	325	10	30.8	14	43.1	4	12.3	3	9.2	3	9.2	1	3.1	25	77
Armley & Wortley ..	473	12	25.4	17	35.9	..	..	8	16.9	5	10.6	2	4.2	32	68
Bramley ..	348	8	23.0	11	31.6	2	5.7	2	5.7	2	5.7	..	..	17	49
Headingley ..	725	17	23.4	25	34.3	4	5.5	2	2.8	1	1.4	2	2.8	34	47
CITY ..	7,568	208	27.5	291	38.5	74	9.8	57	7.5	49	6.5	41	5.4	512	68

\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.



## BIRTHS AND DEATHS UNDER ONE YEAR WITH RATES.—CALENDAR YEAR 1930.

WARD.	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.
Central ..	183	14.48	171	12	14	77	13	76	1	83
North ..	710	16.04	679	31	42	59	41	60	1	32
North-East ..	637	17.37	613	24	41	64	38	62	3	125
*New Ward ..	262	18.97	253	9	16	61	16	63	..	..
East ..	775	21.46	747	28	56	72	53	71	3	107
South ..	233	17.99	219	14	19	82	14	64	5	357
East Hunslet ..	706	18.60	671	35	59	84	54	80	5	143
West Hunslet ..	477	13.09	456	21	34	71	31	68	3	143
Holbeck ..	475	16.00	450	25	34	72	32	71	2	80
Mill Hill ..	56	10.62	52	4	6	107	5	96	1	250
West ..	378	17.12	345	33	25	66	19	55	6	182
North-West ..	461	14.54	430	31	33	72	27	63	6	194
Brunswick ..	344	14.33	313	31	25	73	18	58	7	226
New Wortley ..	325	18.05	303	22	25	77	23	76	2	91
Armley & Wortley ..	473	12.61	460	13	32	68	28	61	4	308
Bramley ..	348	14.10	335	13	17	49	17	51	..	..
Headingley ..	725	13.26	697	28	34	47	30	43	4	143
CITY ..	7,568	15.82	7,194	374	512	68	459	64	53	142

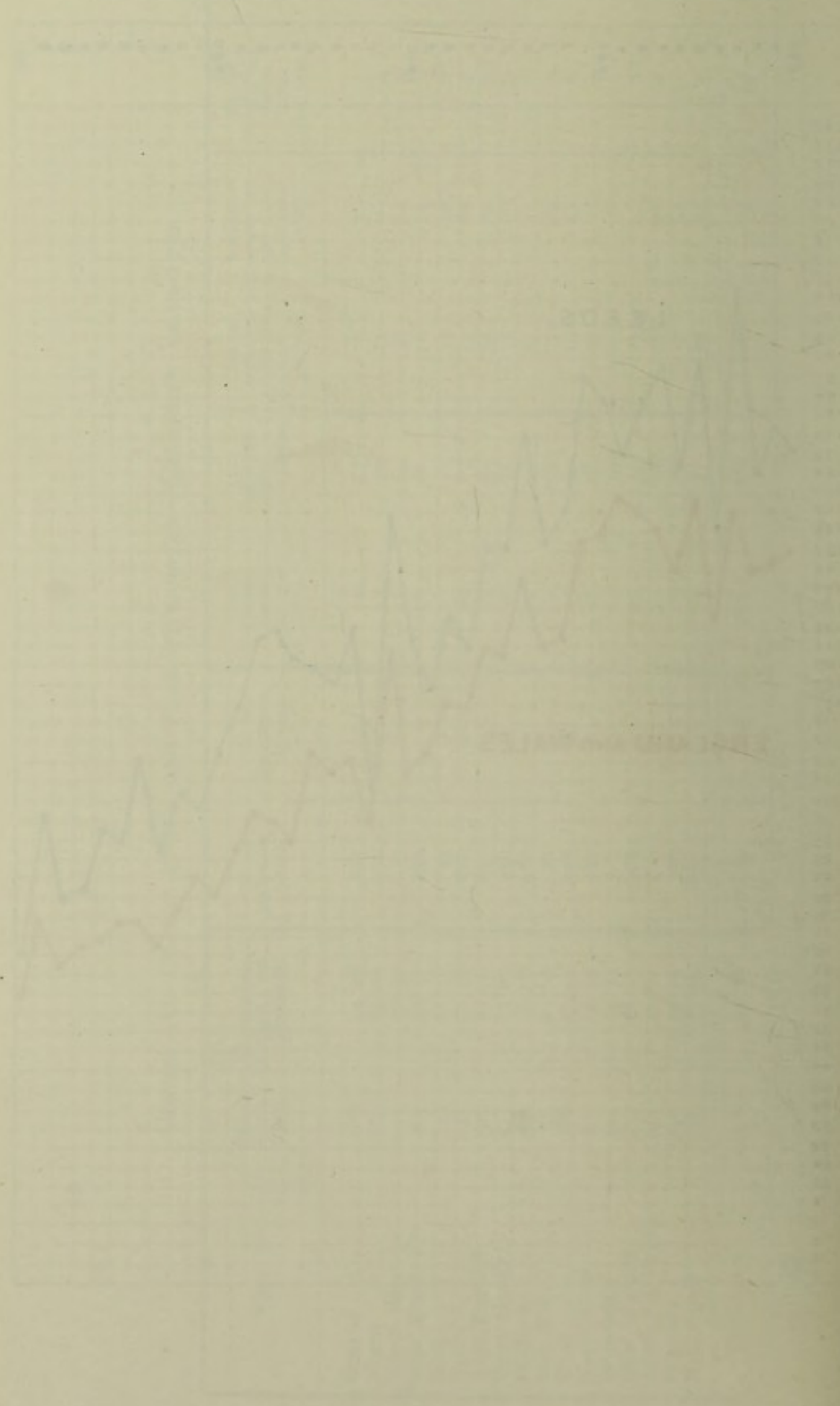
\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

# INFANT MORTALITY PER 1000 BIRTHS, 1890 - 1930.





STANT MORTALITY FROM 1900 BIRTHS 1950-1970



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

Five year period.	Under one week		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under 12 months.		Under one year.	
	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.
1905- 1909	26.2	—	44.3	—	25.5	—	28.0	—	23.0	—	18.6	—	139	—
1910- 1914	26.6	+1.5%	44.1	-0.5%	24.7	-3.1%	23.9	-14.6%	20.1	-12.6%	18.0	-3.2%	131	-5.8%
1915- 1919	26.4	+0.8%	44.4	+0.2%	21.5	-15.7%	25.0	-10.7%	19.7	-14.3%	17.9	-3.8%	129	-7.2%
1920- 1924	23.8	-9.2%	42.3	-4.5%	17.9	-29.8%	16.1	-42.5%	13.2	-42.6%	11.6	-37.6%	101	-27.3%
1925- 1929	24.3	-7.3%	38.2	-13.8%	15.1	-40.8%	13.4	-52.1%	11.5	-50.0%	10.1	-45.7%	88	-36.7%
Year 1930	27.5	+5.0%	38.5	-13.1%	9.8	-61.6%	7.5	-73.2%	6.5	-71.7%	5.4	-71.0%	68	-51.1%



## DEATHS FROM STATED CAUSES UNDER ONE YEAR OF AGE.

Causes of death.	Year 1929.	Year 1930.	Increase or decrease.	Percentage of total deaths under one.
Smallpox .. ..	..	..	..	..
Chickenpox .. ..	3	..	- 3	..
Measles .. ..	16	..	- 16	..
Scarlet Fever .. ..	1	1	- +	0.2
Whooping Cough .. ..	34	16	- 18	3.1
Diphtheria .. ..	2	2	- +	0.4
Influenza .. ..	7	..	- 7	..
Erysipelas .. ..	..	1	+ 1	0.2
Tuberculous Diseases ..	10	10	- +	2.0
Meningitis .. ..	5	1	- 4	0.2
Convulsions .. ..	31	21	- 10	4.1
Bronchitis .. ..	26	23	- 3	4.5
Pneumonia (all forms) ..	150	54	- 96	10.5
Other diseases of Respiratory Organs .. ..	1	1	- +	0.2
Diarrhoea and Enteritis ..	71	31	- 40	6.1
Gastritis .. ..	1	3	+ 2	0.6
Syphilis .. ..	9	4	- 5	0.8
Rickets .. ..	1	3	+ 2	0.6
Suffocation, including overlying .. ..	21	16	- 5	3.1
Injury at birth .. ..	18	16	- 2	3.1
Atelectasis .. ..	19	18	- 1	3.5
Congenital Malformations ..	37	37	- +	7.2
Premature birth .. ..	173	152	- 21	29.7
Atrophy, Debility, and Marasmus .. ..	44	45	+ 1	8.8
Other Causes .. ..	42	57	+ 15	11.1
Totals .. ..	722	512	- 210	100.0

# MATERNITY AND CHILD WELFARE SERVICES INCLUDING SUPERVISION OF MIDWIVES,

BY

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Officer of Health for Maternity and Child Welfare.*

**Number of Midwives.**—The total number of midwives on the register at December 31st, 1929 was 100 ; 21 new names were added during the year ; 20 did not make re-application to practise ; eight left the district ; one died and one retired, leaving a total on the register at December 31st, 1930, of 91. The actual number who practised in the area during the year was 82, of whom 38 were attached to institutions. Seventy seven (or 93·9 per cent.) of those were trained and five (or 6·1 per cent.) untrained. The number of births attended by midwives was 3,108, or 39·3 per cent. of the total births registered as compared with 3,009, or 39·0 per cent. during the previous year.

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

TRAINED.			UNTRAINED.	
77 midwives.			5 midwives.	
Total cases attended .. 3,030			Total cases attended .. 78	
Average per midwife 39 cases.			Average per midwife 16 cases.	
No. of Cases.	Practising on their own account.	Attached to institutions.	No. of Cases.	Practising on their own account.
Over 200	1	..	Over 200	..
„ 150	1	2	„ 150	..
„ 100	3	3	„ 100	..
„ 75	4	3	„ 75	..
„ 50	6	..	„ 50	..
„ 25	5	5	„ 25	1
„ 10	4	7	„ 10	2
„ 5	5	5	„ 5	1
Under 5	10	13	Under 5	1

Eighteen trained midwives (8 attached to institutions) and 1 untrained took no cases during the year.



*Inspection of Midwives.*—The inspection of the midwives' bags, books and appliances was carried out regularly during the year, the total number of such inspections made being 249. In addition to these inspections the inspector of midwives paid 89 other visits. Seventy-two midwives were interviewed in connection with breaches of the rules of the Central Midwives Board and other minor misdemeanours. Twenty-nine midwives were reported to the Senior Medical Officer for Maternity and Child Welfare, and twenty-nine were interviewed by her. Five were summoned to appear before the Maternity and Child Welfare Committee, for negligence and breaches of the rules of the Central Midwives Board. Three of those were censured; two were sent up to the Central Midwives Board for trial, and of those one had her name removed from the Midwives Roll. In the other case sentence was postponed for a year pending the submission of quarterly reports by the Local Supervising Authority on her conduct and methods of practice.

*Advising Medical Help.*—Notifications of having advised medical assistance were received in 1,049 cases, which may be classified as follows:—

Illness during pregnancy or abortion	..	..	..	48
Malpresentation	..	..	..	49
Delayed or obstructed labour	..	..	..	214
Ruptured perineum	..	..	..	203
Retained membrane or placenta	..	..	..	20
Hæmorrhage	..	..	..	68
Convulsions, eclampsia	..	..	..	2
Puerperal rise of temperature	..	..	..	29
Illness of mother during puerperium	..	..	..	54
Illness of child	..	..	..	147
Infants—discharging eyes	..	..	..	80
Artificial feeding	..	..	..	24
Death of infant under ten days	..	..	..	28
Still-births	..	..	..	64
Suspected infectious disease	..	..	..	18
Maternal deaths	..	..	..	1

*Midwives' Emergencies.*—During the year 592 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 four were paid direct by the parent, while the remainder 588 were met in whole or in part by the Local Authority at a total nett cost of £588 14s. 3d.

*Accouchement Sets.*—During the year 250 accouchement sets were sold to the mothers through the welcomes, midwives and maternity homes.

*Nursing in the Home.*—There is an arrangement with the Leeds District Nursing Association for the treatment of certain cases referred to them by the Maternity and Child Welfare Department. These include the nursing of puerperal fever, puerperal pyrexia, ophthalmia neonatorum, pemphigus, measles and pneumonia. A total of 86 cases were dealt with under this agreement during the year.

*Puerperal Fever.*—Fifty-one cases of puerperal fever were notified during 1930, of which 31 recovered and 10 died. In ten cases the result is not known as the patients came from outside the city; in 45 cases the labour was at full term while six cases were abortions. The number of puerperal fever cases occurring in doctors' practices was 14, in midwives' practices five, and the number in institutions 32. The last mentioned is a high figure and requires explanation which is probably that the type of case admitted to institution is frequently such as to invite infection, indeed many are already infected on admission. There were 46 cases of puerperal pyrexia notified and of these three died.

The Inspector of Midwives paid a total of 179 visits for the purpose of investigating rises of temperature in the puerperium. Arrangements were made for the district nurses to take over the nursing of 15 cases of which three were puerperal fever, and 12 were puerperal pyrexia.

Five midwives were disinfected after contact with cases of puerperal fever, and eighteen in connection with puerperal pyrexia.

*Pemphigus Neonatorum.*—There were 34 cases of pemphigus brought to the notice of the Department during the year. Twenty-eight of these were midwives' cases, and of these two died. Four occurred in the practice of doctors and of these three died. Two



occurred in institutions. Home-nursing was provided for 17 cases, and three were removed to Hospital.

One midwife had a group of six cases, and two isolated cases, another had a group of five cases, and one isolated case. The others were isolated cases, or in groups of two or three. The midwives of the city have all been informed of the nature and importance of this disease and instructed as to its prevention.

*Ophthalmia Neonatorum.*—During the year 49 cases of ophthalmia neonatorum were notified. Twenty cases occurred in the practice of doctors, twelve of whom had handywomen in attendance. Twenty occurred in the practice of midwives and nine in institutions. Of the total 49 cases, 34 were treated at home, and 15 were treated in institutions. Twenty-seven of the cases who remained at home were referred to the District Nursing Association for treatment. As a result of treatment 46 cases apparently made a complete recovery, in one case the sight of both eyes was affected, and two of the children died from intercurrent disease. (*Vide* page 60).

*Employment of, or subsidy to, practising midwives, by the Local Authority.*—There were no midwives actually employed by the Health Department, nor was any subsidy given to any practising midwife in the area 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 remained in operation. Each branch is staffed by one midwife (paid) and two pupils (unpaid).

Only two of the five midwives conducted over 120 cases and were entitled to the bonus on each case over that number. The total number of cases dealt with by the branch midwives was 581, the largest number, viz., 184 being at the Burmantofts Branch, and smallest viz., 42 at the West Street Branch. The deficit on the working of all the Branches for the year was £419 os. od., which is borne by the Corporation under the arrangement already referred to.

*Compensation to Midwives for Loss of Work.*—A midwife can 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 four and the cost to the Corporation was £8 17s. 6d. 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 20, and the cost to the Corporation was £20 os. od.

*Revision Course.*—A post-certificate course for midwives was held in October. The venue was the Leeds Maternity Hospital which undertook the whole of the arrangements for it. The course extended over a fortnight and included lectures and demonstrations on modern methods of practice. Ten midwives attended, and the average attendance was 98.0 per cent. which was very satisfactory. The midwives all agreed that it was a most successful and instructive course. There are many other midwives in the city, who would have benefited greatly by attending, and it is hoped that they will take advantage of any future course which may be arranged.

*Handywomen.*—During the year 10 handywomen were visited and warned as to limitations of practice, etc.; 21 were visited in connection with cases of puerperal fever and other infections; 13 were disinfected after being in contact with an infectious case; and five were interviewed by the Senior Medical Officer for Maternity and Child Welfare. The handywoman is a source of much anxiety to the Department but so well established is she in the esteem of the poor and so great is her reputation in certain districts for obstetric dexterity and skill that she is difficult to suppress. To catch her redhanded requires considerable detective ability and even when she is caught in the act of breaking the law it is difficult to get anyone to give evidence against her and hence she nearly always escapes prosecution.

**Ante-Natal Work.**—At eleven of the clinics one session, and at two of the clinics two sessions, are set aside for expectant mothers only. At two other clinics ante-natal sessions are held twice monthly.

A total of 3,269 expectant mothers attended during the year, an increase of 824 on the previous year. Of these 2,671 were new and attended for the first time. The total attendances were 10,245 as compared with 7,668 for 1929, an increase of 2,577.



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 .. ..	54	240	190	9	82	859
West Street ..	16	75	73	..	16	265
Burmantofts ..	83	403	378	12	81	1,493
Hunslet .. ..	38	191	174	10	39	543
University ..	31	178	147	2	55	555
Woodhouse ..	69	204	186	10	65	804
Holbeck .. ..	40	207	185	14	38	771
Armley .. ..	77	242	221	15	69	1,482
Chapeltown ..	34	161	148	2	28	493
St. Nicholas ..	44	185	164	11	42	473
Bramley .. ..	21	96	61	3	41	514
New Wortley ..	31	116	110	6	27	515
Middleton ..	15	78	58	3	27	294
West Hunslet ..	22	158	123	5	41	690
Burley .. ..	16	97	78	5	16	301
Crossgates ..	7	29	16	..	18	120
Halton .. ..	..	11	7	2	..	54
Totals .. ..	598	2,671	2,319	109	685	10,226

Of the 3,269 mothers on the register 26 miscarried and 90 had still births.

In addition to the above 19 expectant mothers paid 19 visits to Meanwood Centre where no ante-natal clinic is held, making a total of 10,245 attendances.

Included in the number of live births are 37 sets of twins.

It is interesting to note the sources of the expectant mothers attending the clinics. The attached table on page 157 analyses the new cases admitted to the register during 1930, at the different clinics, with information as to where the recommendations came from. It will be observed that the average number sent by midwives to all clinics during the year was 68.0 per cent. This is very gratifying and indicates a laudable desire on the part of the midwives to make use of the facilities offered for giving effect to the recommendations of the Departmental Committee on Maternal Mortality set out in the special circular issued by the Ministry of Health in July, 1929, with reference to the medical examination of expectant mothers.

# ANTE-NATAL CLINICS.

## NEW CASES ADMITTED TO REGISTER DURING 1930 AND BY WHOM RECOMMENDED.

Welcome.	Midwife.	Self.	Hospital.	Welcome Dr.	Private Dr.	Health Visitor.	Total.	Percentage sent by Midwife.
Ellerby ..	180	56	..	1	..	3	240	75.0
West Street	52	21	..	..	1	1	75	69.3
Burmantofts	364	38	..	1	..	..	403	90.3
Hunslet ..	149	39	..	1	2	..	191	78.0
University ..	144	30	..	1	1	2	178	80.9
Woodhouse..	159	13	..	9	3	20	204	77.9
Holbeck ..	138	42	..	1	3	23	207	66.7
Armley ..	1	224	11	1	3	2	242	0.4
Chapelton	96	57	..	3	5	..	161	59.6
St. Nicholas	176	6	..	..	3	..	185	95.1
Bramley ..	4	50	28	1	2	11	96	4.2
New Wortley	67	34	..	2	1	12	116	57.8
Middleton ..	64	8	..	..	..	6	78	82.1
West Hunslet	138	17	..	..	3	..	158	87.3
Cross Gates..	2	25	..	..	..	2	29	69.0
Burley ..	72	12	..	4	4	5	97	74.2
Halton ..	9	1	..	..	..	1	11	81.8
TOTAL ..	1,815	673	39	25	31	88	2,671	68.0



Expectant mothers attending the ante-natal clinics are examined by the medical officer in charge. If any abnormality is found the expectant mother is referred to her own doctor or to the Maternity Hospital. The inaccessibility of the Maternity Hospital is often a serious drawback in getting women in advanced pregnancy to attend there. Consultative clinics such as are recommended in Memo. 156/M.C.W. held in other parts of the city would get over this difficulty and would make good what is at present a serious deficiency in the Corporation's Maternity Scheme. A report on the subject is in course of preparation and will be submitted to the Maternity and Child Welfare Committee at an early date. The care of the expectant mother is a very serious responsibility for those to whom it is entrusted, and the risks and dangers of pregnancy and labour will diminish according to the amount of conscientious endeavour applied. Effective ante-natal care requires a large amount of experience, skill and diligence.

In the care of the expectant mother to a large extent lies the solution of the problems of maternal mortality, stillbirths and neo-natal deaths. Women cannot be compelled to submit to ante-natal supervision and until they are persuaded of its value to themselves and their children these problems will remain unsolved and the reproach of a high maternal mortality rate as well as a high neo-natal mortality rate will remain. An energetic educational campaign is needed to enlighten the women of the city on the advantages to be gained from ante-natal care and the dangers of drifting through pregnancy to childbirth without taking adequate steps to acquaint themselves of possible dangers which may be ahead. In addition to medical supervision, expectant mothers at the ante-natal clinics, and on the districts, are instructed on personal hygiene, the care of the breasts, and the management and importance of breast feeding. They are advised on preparation for their confinements, hygienic maternity clothes for themselves and suitable cot, bedding and clothing for the coming infant. Sterilised maternity outfits are sold at cost price, and during the last three months of pregnancy, milk can be obtained by mothers in need of extra nourishment.

**Natal Work.**—Of the total births in the city 2,547 or 32·22 per cent. took place in institutions or nursing homes. Ten years ago this figure was only 1,805 or 17·31 per cent., which demonstrates the growing appreciation. There are certain advantages in a mother having her confinement in an institution. She is away from all



**SCHEME FOR UTILISATION OF MATERNITY BEDS IN PUBLIC ASSISTANCE HOSPITALS.  
REPORT FOR YEARS 1927, 1928, 1929 AND 1930.**

ST. JAMES' HOSPITAL.					ST. MARY'S INFIRMARY.				
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
Number of Beds reserved ..	3	3	3	3	3	6†	6	6	
Total Number of Cases for which accommodation is available ..	78	78	78	78	78	136	156	156	
Number of Cases treated—									
(a) Normal ..	34	26	38	25	70	102	101	102	
(b) Abnormal ..	10	8	4	4	38	43	27	28	
(c) Not delivered ..	1	5	6*	3‡	4*	8‡	9‡	8	
TOTAL ..	45	39	48	32	112	153	137	138	
Number of Births—									
(a) Full term ..	41	33	42	27	98	136	120	118	
(b) Premature ..	..	1	..	..	4	7  §	6	7	
(c) Stillborn ..	2	1	..	2	6	5	2	5	
(d) Miscarriage ..	1	..	..	..	..	..	..	..	
TOTAL ..	44	35	42	29	103	148	128	130	
Average length of stay (in days) ..	16.3	16.8	12.6	13.7	13.7	14.2	14.2	14.5	
Total Cost per case ..	£4 17s. 7½d.	£4 3s. 3½d.	£2 17s. 5½d.	£3 1s. 7d.	£5 11s. 8½d.	£3 10s. 11½d.	£3 3s. 9½d.	£3 5s. 6½d.	
Cost per case per week ..	£2 2s. 0d.	£2 1s. 0½d.	£1 11s. 9½d.	£1 11s. 6d.	£2 16s. 9½d.	£1 12s. 1½d.	£1 11s. 4½d.	£1 11s. 6d.	
Gross Cost to Corporation ..	£219 12s. 0d.	£162 7s. 6d.	£137 18s. 6d.	£98 11s. 0d.	£625 10s. 0d.	£588 16s. 6d.	£436 19s. 0d.	£452 5s. 0d.	
Total nett cost to Corporation ..	1927 .. £315 18s. 6d.	1928 .. £200 14s. 6d.	1929 .. £89 7s. 2d.	1930 .. £96 14s. 10d.	1927 .. £529 3s. 6d.	1928 .. £550 9s. 6d.	1929 .. £485 10s. 4d.	1930 .. £454 1s. 2d.	
Do. do. do.	1928 .. £89 7s. 2d.	1929 .. £96 14s. 10d.	1930 .. £454 1s. 2d.	1931 .. £454 1s. 2d.	1928 .. £550 9s. 6d.	1929 .. £485 10s. 4d.	1930 .. £454 1s. 2d.	1931 .. £454 1s. 2d.	
Do. do. do.	1929 .. £89 7s. 2d.	1930 .. £96 14s. 10d.	1931 .. £454 1s. 2d.	1932 .. £454 1s. 2d.	1929 .. £485 10s. 4d.	1930 .. £454 1s. 2d.	1931 .. £454 1s. 2d.	1932 .. £454 1s. 2d.	
Do. do. do.	1930 .. £96 14s. 10d.	1931 .. £454 1s. 2d.	1932 .. £454 1s. 2d.	1933 .. £454 1s. 2d.	1930 .. £454 1s. 2d.	1931 .. £454 1s. 2d.	1932 .. £454 1s. 2d.	1933 .. £454 1s. 2d.	

\* Includes 1 baby born before arrival.  
† Includes 2 babies born before arrival.  
‡ Increased from 3 to 6 beds as from April 1st, 1928.  
§ Includes 3 triplet babies.



domestic worries, she is in better hygienic surroundings, and she can have constant attention with skilled help always at hand.

The Leeds Maternity Hospital has been extended, and the number of beds now available is 108. The number of beds provided by the Corporation at St. Mary's Infirmary is six and at St. James' Hospital three. Those were taken full advantage of during the year.

**Specialist Service.**—Facilities are provided by the Local Authority whereby medical practitioners may call in 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 43 and the total cost to the Corporation was £117 19s. 0d.

**Maternity and Nursing Homes.**—The number of registered nursing homes in the city on December 31st, 1929, was 29.

The following table gives particulars as to the registration of maternity and nursing homes during 1930 :—

	Maternity Homes.	Other Nursing Homes.
No. of existing registered Homes on January 1st, 1930 .. .. .	24	5
No. of applications for registration ..	1	1
No. of Homes registered .. .. .	1	1
No. of Orders made refusing or cancelling registration .. .. .	..	..
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 .. .. .	2	1

The total number of registered nursing homes on December 31st, 1930, was 28, comprising :—

Maternity Homes .. .. .	11
Maternity and General Nursing Homes ..	12
General Nursing Homes .. .. .	5

All registered homes were visited regularly and inspected, the number of visits for this purpose being 78.



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 .. ..	1,410	17·84
St. James' Hospital .. ..	536	6·78
St. Mary's Infirmary .. ..	283	3·58
Hope Hospital .. ..	16	0·20
Leeds General Infirmary .. ..	3	0·04
Women and Children's Hospital.. ..	15	0·19
Private Nursing Homes .. ..	284	3·59
Total ..	2,547	32·22

*Illegitimate Births in Institutions.*—Of the 2,547 births which took place in institutions, 321 or 12·6 per cent. were illegitimate, the same figure as for the previous year.

*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 100. The ambulance is available at any time, night or day, for the removal of necessitous cases to any of the public lying-in institutions.

**Maternal Mortality.**—During the year 32 mothers lost their lives in childbirth, as compared with 33 for 1929. The rate of mortality for the city was 4·23 as compared with 4·44 for the previous year. The rate in respect of mothers who attended the ante-natal clinics was 1·65 or 61·0 per cent. less than for the whole city, a figure which confirms the advantages of ante-natal supervision.

The causes of death were as follows :—

Sepsis ..	10	Ruptured ectopic gestation	2
Hæmorrhage ..	8	Other causes .. ..	3
Toxæmia ..	9		

The table on page 163 gives an analysis of the causes of deaths in relation to home conditions, age, parity and legitimacy.

Ante-natal supervision is now definitely recognised as an essential in the care of pregnant women, and yet in studying the maternal death returns for 1930, it can be deduced that many women still die in childbirth, as a direct result of its omission.



In fourteen out of the 32 deaths, ante-natal care could be considered as having been inadequate, and although one cannot make categorical statements on such grave issues, the probability is that with proper ante-natal supervision death might not have occurred in at least eight of these cases.

Other contributory factors in maternal mortality are rickets, heart disease and dental sepsis. All three are preventable and if prevented would make childbirth easier and safer.

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 result of these 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 19 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

From Registrar-General's Annual Reports.

# MATERNAL MORTALITY, 1930.

Cause.	Total.	HOME CONDITIONS.				AGE GROUPS.			PARITY.			Illegiti- mate.
		Well- to-do.	Good.	Poor.	Destitute.	21-29.	30-39.	40+.	Primi- para.	Multi- para.	Not known.	
Puerperal Sepsis ..	10	..	3	6	1	3	6	1	4	5	1	1
Toxaemia ..	9	..	5	4	..	5	2	2	5	4	..	..
Haemorrhage ..	8	1	1	6	..	3	2	3	1	7	..	2
Ruptured Ectopic ..	2	..	1	1	..	..	2	..	..	1	1	..
Other causes ..	3	..	1	2	..	1	2	..	1	2	..	..
TOTAL ..	32	1	11	19	1	12	14	6	11	19	2	3



**Stillbirths and Neo-Natal Mortality.**—The number of stillbirths and of deaths of children in the earliest weeks of life, has like the maternal mortality rate shown little variation during the last twenty years. There is now no doubt that active ameliorative measures to reduce the maternal mortality will also tend to reduce the number of still births and neo-natal deaths. The number of stillbirths during 1930 was 357 or 4·6 per cent. of the total births notified, as compared with 382 or 5·0 per cent. for 1929.

The following table shows the comparison between live births and stillbirths for the last eleven years:—

BIRTHS NOTIFIED (LIVE AND STILL).

Year.	Live births notified.	Stillbirths notified.	Total births notified live and still.	Percentage of stillbirths to total births.
1920	10,749	461	11,210	4·1
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

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

Of the 357 stillbirths notified, 62 or 17·4 per cent. were by midwives, and 107 or 30·0 per cent. by medical practitioners. Each stillbirth is investigated and the mother is visited again in six months' time. If she is found to be again pregnant she is urged to attend her own doctor, or the ante-natal clinic for ante-natal supervision. Mothers who give a history of previous miscarriages or stillbirths are asked to attend their own doctor or an ante-natal clinic, as soon as they are able, for special investigation.

*Stillbirths in Relation to Size of Family.*—The largest number of stillbirths 112 or 35·22 per cent. occurred in primiparae, in whom labour is naturally more difficult and more liable to require interference. The percentage in families of one child was 22·0 per cent. ; two children 11·0 per cent., three children 10·1 per cent., four children 4·0 per cent., five children 6·0 per cent., six children 3·8 per cent., seven children 2·2 per cent., eight children 2·5 per cent., and in families of more than eight under one per cent.

An investigation was also carried out with regard to the comparison of stillbirths with live-births in the different sizes of family.

The following table gives the details :—

No. in family.				No. of stillbirths.	No. of live-births.	Percentage of stillbirths to total births.
No children	..			112	2,608	4·1
1 child	..	..		70	1,784	3·8
2 children	..	..		35	1,039	3·3
3	..	..		32	635	4·8
4	..	..		13	414	3·0
5	..	..		19	287	6·2
6	..	..		12	197	5·7
7	..	..		7	105	6·3
8	..	..		8	95	7·8
9	..	..		3	59	4·8
10	..	..		1	31	3·1
11	..	..		1	25	3·8
12	..	..		3	11	21·4
13	..	..		1	1	50·0
14	..	..		1	5	16·7

The number of deaths during the first four weeks of life was 291 during 1930 as compared with 314 in the previous year. Of these 208 or 71·48 per cent. occurred during the first week of life. This is a further indication of the value of and need for more intensive ante-natal supervision. Deaths in the first week of life really belong to the ante-natal period and can only be controlled by the regular and systematic examination of the expectant mother during pregnancy.



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.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Congenital malformation	27	29	21	21	19	30	23	14	23	21
Premature birth ..	184	167	152	136	134	133	120	153	148	138
Atrophy, debility and marasmus ..	52	61	41	32	39	32	15	25	26	32
Atelectasis ..	20	21	24	17	15	19	19	16	19	17
Injury at birth ..	26	16	22	23	18	19	17	10	18	16
Suffocation including overlying ..	5	2	1	7	10	4	11	11	17	8
Diarrhœa-enteritis ..	17	26	35	15	12	12	8	7	5	7
Syphilis ..	16	11	12	10	9	9	2	2	4	3
Pneumonia ..	7	4	11	11	8	12	12	7	19	11
Convulsions ..	37	34	29	21	19	17	21	18	16	13
Other causes ..	28	30	15	38	26	25	26	23	19	25
Total ..	419	401	363	331	309	312	274	286	314	291
Notified stillbirths ..	466	418	379	348	334	380	367	388	382	357

**Post-Natal Work.**—The number of births notified during the year exclusive of stillbirths was 7,444 or 94·2 per cent. of the total births registered.

**Home Visiting.**—First visits were paid by the health visitors to 7,590 cases. The number of re-visits to children up to five years was 96,552 which, together with first visits makes a total of 104,142. This last figure shows an increase of 18,613 on the number for the previous year.

The number of visits to expectant mothers increased from 3,194 in 1929 to 4,405 in 1930.

The reorganisation of the work of the health visitors and clinic nurses has been of great advantage as the figures show in making it possible to pay more routine visits to children up to five years and to expectant mothers. This regular visitation of both mothers and children is most necessary, in order that any disease or abnormality may be detected at an early stage, and advice given. The work at the Centres and on the district has also been more closely co-ordinated. The presence of the health visitor at the centre is undoubtedly of assistance in procuring the first attendance of the mothers there, and she can also follow up cases in the home, and ascertain whether instructions given at the Centre have been properly understood and carried out.



In addition to the routine visits to children from birth to five years, the health visitors also pay visits in connection with the following :—

1. Stillbirths.—These are investigated, and the mother re-visited in six months time to urge her to attend an ante-natal clinic if again pregnant.
2. Ophthalmia neonatorum.—Cases are kept under observation and progress reported to the office.
3. Measles, whooping cough and pneumonia.—Cases reported to the Department are visited to ascertain if the nursing is adequate.
4. Expectant Mothers.—Progress is watched and advice given where necessary.
5. Medical aid claims.—Visits are made to ascertain particulars.
6. Deaths of children under five.—These are visited to investigate the cause of death.
7. Cases of sickness in children under five notified to this Department by the Leeds General Infirmary and Public Dispensary.

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

	VISITS.
Notified births including re-visits .. ..	104,142
Stillbirths and deaths under one month including re-visits .. .. .	910
Death investigations of children from one month—five years .. .. .	636
Ophthalmia Neonatorum .. .. .	136
Measles .. .. .	1,896
Whooping Cough .. .. .	1,734
Pneumonia .. .. .	1,232
Epidemic Diarrhœa.. .. .	5
Expectant mothers .. .. .	4,405
Special visits (medical aid claims 618, cancer 60 and others 933) .. .. .	1,611
Visits to ill children notified from the Leeds General Infirmary and Public Dispensary ..	851
Visits to children under The Children Act, 1908 (from April 1st) .. .. .	246
Ineffectual visits .. .. .	11,773
Total visits for the year .. ..	<u>129,577</u>



It will be noted that the total visits for the year 1930 amounted to 129,577, an increase of 44,470 on those for 1927 when re-organisation was talked of but had not been accomplished.

*Infant Protection Visitors (Children's Act, 1908).*—On April 1st, 1930, in accordance with the Local Government Act, 1929, the health visitors became the Infant Protection Visitors under the Children's Act, 1908. From April until the end of the year 246 visits were paid in this connection. On December 31st there were 105 children on the register.

**Infant Welfare Centres (" Welcomes ").**—There are nineteen infant welfare centres situated in different parts of Leeds. The premises in which they are held are mostly rented for the purpose by the Leeds Babies' Welcome Association. The Association was fortunate in procuring a suitable house in Beeston Road, and on the 7th May, 1930, the West Hunslet Clinic was transferred there. It is hoped that it will be possible in the near future to find better premises for certain of the other centres now badly housed.

The number of new babies under one year of age admitted to the Welcomes during 1930 was 4,311, an increase of 191 on the previous year. Between one and two years 524 were admitted and between two and five years 823.

Of the total children born during the year 57.0 per cent. attended one or other of the Welcomes as compared with 55.5 per cent. last year.

There is a gradual increase each year, which, considering the fact that attendance is entirely voluntary, is highly satisfactory. The total attendances of all babies at all the Welcomes during the year was 104,706, which includes attendances at the morning treatment clinics. This represents an increase of 9,738 when compared with the figure for the previous year.

It is interesting to note that the mortality rate of infants attending the Welcomes was 25 as against 68 for the city. Figures such as this point to the fact that infant welfare centres are to a very great extent life saving institutions. The cure of disease is not the primary function of clinics, and the advantage which the clinic babies have over other babies is not so much due to treatment as to the prevention of conditions which require treatment.

A list of the Welcomes and the wards in which they are situated, together with the times when the clinics are held is appended.



## WELCOMES AND CLINICS.

WARD.	ADDRESSES.	DAYS.	TIMES.
E.	Wesleyan School, Richmond Hill .. .. .	Tues.	9.30 a.m.
	Do. do. .. .. .	Thurs.	9.30 a.m.
	Do. do. .. .. .	Thurs.	2 p.m.
	Do. do. (Expectant Mothers) ..	Mon.	2 p.m.
E.	University Club, Berking Avenue, York Road ..	Mon.	2 p.m.
	Do. do. .. .. .	Thurs.	9.30 a.m.
	Do. do. (Expectant Mothers) ..	Tues.	2 p.m.
N.	39, Burmantofts Street (New Babies) ..	Tues.	2 p.m.
	Do. do. .. .. .	Wed.	9.30 a.m.
	Do. do. .. .. .	Fri.	2 p.m.
	Do. do. (Expectant Mothers) ..	Thurs.	9.30 a.m.
			2.30 p.m.
N.W.	Church of the Holy Name, Servia Road, Woodhouse Street .. .. .	Tues.	2 p.m.
	Do. do. (New Babies) ..	Thurs.	9 a.m.
	Do. do. (Expectant Mothers) ..	Thurs.	2 p.m.
M.H.	Little Queen Street, West Street .. .. .	Mon.	2 p.m.
	Do. do. .. .. .	Tues.	9 a.m.
	Do. do. .. .. .	Wed.	2 p.m.
	Do. do. (Expectant Mothers) ..	†Thurs.	9.30 a.m.
A. & W.	83, Theaker Lane, Armley .. .. .	Tues.	2 p.m.
	Do. do. .. .. .	Thurs.	2 p.m.
	Do. do. .. .. .	Fri.	2 p.m.
	Do. do. (Expectant Mothers) ..	Wed.	9.30 a.m.
	Do. do. do. .. .. .	Fri.	9.30 a.m.
	Do. do. (Sunlight Clinic) ..	†Thurs.	9.30 a.m.
New Wor.	Holdforth Street, New Wortley .. .. .	Mon.	2 p.m.
	Do. do. .. .. .	Thurs.	2 p.m.
	Do. do. (Expectant Mothers) ..	Tues.	9.30 a.m.
Hol.	6, Granville Terrace, Holbeck .. .. .	Tues.	2 p.m.
	Do. do. .. .. .	Thurs.	2 p.m.
	Do. do. .. .. .	Fri.	2 p.m.
	Do. do. (Expectant Mothers) ..	Wed.	9.30 a.m.
	Do. do. (Sunlight Clinic) ..	Wed.	9.30 a.m.
	Do. do. do. .. .. .	Fri.	9.30 a.m.
	Do. do. (X-ray Clinic) ..	Fri.	9.30 a.m.
E.H.	St. Oswald's Institute, Balm Road Terminus, Hunslet Carr .. (New Babies) ..	Mon.	9.30 a.m.
	Do. do. .. .. .	Mon.	2 p.m.
	Do. do. .. .. .	Fri.	2 p.m.
	Do. do. (Expectant Mothers) ..	Thurs.	9.30 a.m.
Cen.	45, Barrack Road, off Chapeltown Road ..	Tues.	9.30 a.m.
	Do. do. .. .. .	Wed.	2 p.m.
	Do. do. (Expectant Mothers) ..	Mon.	9.30 a.m.
S.	St. Nicholas, 205, Hunslet Road .. .. .	Tues.	2 p.m.
	Do. do. .. .. .	Wed.	2 p.m.
	Do. do. (Expectant Mothers) ..	Tues.	9.30 a.m.
Bmy.	Town End House, Bramley (New Babies) ..	Mon.	9.30 a.m.
	Do. do. .. .. .	Wed.	2 p.m.
	Do. do. (Expectant Mothers) ..	Fri.	9.30 a.m.
E.H.	Institute, Town Street, Middleton .. .. .	Thurs.	1.30 p.m.
	Baptist Chapel, Middleton (Expectant Mothers) ..	Wed.	9.30 a.m.
Hdy.	Wesleyan School, Meanwood .. .. .	Wed.	1.30 p.m.
W.H.	West Hunslet, 165, Beeston Road		
	(New Babies) ..	Mon.	9.30 a.m.
	Do. do. .. .. .	Wed.	1.30 p.m.
	Do. do. (Expectant Mothers) ..	Fri.	9.30 a.m.

†First and Third Thursdays in each month.

‡Second and Fourth Thursdays in each month.



WELCOMES AND CLINICS (*Continued*).

WARD.	ADDRESSES.	DAYS.	TIMES.
Cen.	Harehills Welcome, 45, Barrack Road .. ..	Fri.	2 p.m.
New*	Wesleyan School, Crossgates .. ..	Tues.	2 p.m.
Hdy.	All Hallows School, Hyde Park Road .. ..	Tues.	2 p.m.
	Do. do. .. ..	Thurs.	2 p.m.
	Do. do. (Expectant Mothers) .. ..	† Tues.	9.30 a.m.
New*	Wesleyan School, Halton .. ..	Wed.	2 p.m.
M.H.	Central Welcome, Calverley Street :—		
	Sunlight .. ..	Mon.	9 a.m.
	Dental .. ..	Tues.	9 a.m.
	Do. .. ..	Tues.	1.30 p.m.
	Do. .. ..	Wed.	9.30 a.m.
			1.30 p.m.
	Do. .. ..	Fri.	9 a.m.
	Do. .. ..	Sat.	9 a.m.
	Do. (Anæsthetics) .. ..	Fri.	9 a.m.
	Orthopædic .. ..	Thurs.	1.30 p.m.
	Venereal Diseases .. ..	Wed.	1.30 p.m.
	Diphtheria Immunization .. ..	Tues.	2 p.m.

\*Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

†Second and Fourth Tuesdays in each month.

*Infant Consultations.*—The number of infant consultations at seven of the Welcomes is three per week, at eight two, and at four one; in addition special sessions for massage and treatment of minor ailments are held at 13 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 Clinic.

*Mothercraft.*—The Welcomes are primarily educational institutions. The mothers are instructed in the care and feeding of young children. The progress of the young child is supervised, and unnecessary illness due to ignorance on the part of the mothers prevented as far as possible. Assistance is also given to the mother in restoring her to health and in establishing breast feeding. Infant hygiene and the care and management of young children are systematically taught at all the Welcomes. It is this teaching which is the real *raison d'être* of infant welfare work and which forms the main groundwork of preventative medicine.

In addition, special talks are given by the doctors and nurses during the clinics, and special classes in sewing and cooking are held at some of the Welcomes.



## BABIES UNDER ONE REGISTERED DURING YEAR 1930.

WELCOME.	0-1 month.	1-3 months.	3-6 months.	6-12 months.	Total.
Ellerby ..	131	88	20	36	275
West Street ..	125	141	32	33	331
Burmantofts ..	121	158	26	24	329
Hunslet ..	112	117	15	18	262
University ..	85	97	25	29	236
Woodhouse ..	132	116	28	23	299
Holbeck ..	153	128	26	27	334
Armley ..	122	124	38	71	355
Chapelton ..	92	109	20	26	247
St. Nicholas ..	96	63	14	40	213
Bramley ..	39	64	12	22	137
New Wortley ..	95	74	22	30	221
Middleton ..	54	22	6	34	116
Meanwood ..	21	60	12	10	103
West Hunslet ..	89	109	28	18	244
Harehills ..	42	63	21	20	146
Cross Gates ..	30	24	10	18	82
Burley ..	74	136	34	30	274
*Halton ..	30	51	10	16	107
Totals ..	1,643	1,744	399	525	4,311

## BABIES OVER ONE REGISTERED DURING YEAR 1930.

WELCOME.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	Total.
Ellerby ..	22	20	14	9	65
West Street ..	51	31	14	4	100
Burmantofts ..	36	16	12	4	68
Hunslet ..	23	21	16	9	69
University ..	27	19	18	11	75
Woodhouse ..	24	12	11	4	51
Holbeck ..	35	28	19	10	92
Armley ..	42	45	33	28	148
Chapelton ..	48	32	24	5	109
St. Nicholas ..	30	25	9	6	70
Bramley ..	17	23	10	8	58
New Wortley ..	22	25	26	6	79
Middleton ..	19	25	14	9	67
Meanwood ..	16	12	14	2	44
West Hunslet ..	28	17	16	6	67
Harehills ..	22	15	9	5	51
Cross Gates ..	22	8	6	3	39
Burley ..	28	25	9	4	66
*Halton ..	12	10	4	3	29
Totals ..	524	409	278	136	1,347

\* Taken over from the West Riding County Council on April 1st, 1928.



ATTENDANCES MADE AT INFANT WELFARE CENTRES DURING  
YEAR 1930

WELCOME.	Consultations and meetings.			Morning treatment.			
	Mothers.	Babies under 1 year.	Babies 1—5 years.	Mothers.	Babies under 1 year.	Babies 1—5 years.	Callers.
Ellerby ..	4,730	3,210	1,709	11	524	170	237
West Street ..	1,979	4,446	2,778	78	947	773	96
Burmantofts ..	4,142	3,742	1,874	295	1,064	581	3
Hunslet ..	3,237	3,341	2,605	40	572	115	109
University ..	2,644	2,664	2,323	8	1,400	293	214
Woodhouse ..	1,706	3,718	1,470	57	547	106	37
Holbeck ..	2,206	4,407	3,090	111	1,229	343	248
Armley ..	3,246	3,884	2,740	604	1,525	2,632	731
Chapelton ..	2,186	2,939	1,846	1	595	37	22
St. Nicholas ..	3,636	2,616	1,948	46	735	258	728
Bramley ..	628	1,547	1,660	4	360	162	126
New Wortley ..	1,118	2,502	1,887	255	502	322	47
Middleton ..	1,053	1,477	1,755	..	82	13	..
Meanwood ..	72	1,187	687	..	250	21	1
West Hunslet ..	1,109	3,269	1,921	44	333	146	3
Harehills ..	425	1,390	1,222	..	153	2	..
Crossgates ..	418	922	1,078	..	39	3	..
Burley ..	477	3,217	1,792	..	337	182	..
*Halton ..	62	1,726	637	..	121	6	..
Totals ..	35,074	52,204	35,022	1,554	11,315	6,165	2,602

\*Taken over from the West Riding County Council on April 1st, 1928.

*Fathercraft.*—Two lectures, for men only, on "How a father can help," were arranged during the year, one at Armley and the other at New Wortley. Although these lectures were much advertised and personal invitations given by the staff and mothers' committee to as many men as possible, the attendance was disappointingly small.



The lectures were so excellent, and the few men present showed so much keenness that it was particularly regrettable that the audiences were so poor. Others will be arranged from time to time when it is hoped that the fathers will come forward in greater numbers.

*Medical findings at the Welcomes.*—An investigation was made into the condition of each child on its first visit to the clinic during 1930. Details of the findings at the different clinics with the percentages of normal children will be found on page 174.

It will be seen that the highest percentage was at Halton, where 83.2 per cent. were normal; Burley was next with 68.4 per cent., and then Meanwood with 65.5 per cent. The lowest percentage of normals was 33.0 at Woodhouse, and next 38.2 at New Wortley. The others range between those figures. The average percentage of normals at their first visit for all clinics was 51.2.

A table giving the details of the different defects discovered at the clinics during the year will be found on page 175. The results obtained having regard to the number of times the child was brought for medical examination are tabulated for each defect. The total number of defects found was 8,954 of which 6,212 were cured or improved, at the end of the year; 1,697 were in *statu quo*, whilst 1,045 had been referred elsewhere and their present condition was unknown. Some of the ailments occurred in regular attenders towards the end of the year, so gave little time for advice to have effect, whilst some defects were incurable. Minor defects were treated at the Welcomes, more serious were referred to the family doctor, if there was one, or to the Hospitals.

It is interesting to note how the proportion of those "in *statu quo*," to those "cured and improved," is so much less where the child has attended regularly, as compared with the child who attended only a few times. Take as an illustration, the largest group of defects—that of "minor digestive disturbances and dietetic difficulty"—a total of 2,153 cases, the ratio of "in *statu quo*" to "cured and improved" in those attending only a few times is 1 to 5.5, or in other words 15.3 per cent. were in *statu quo*, while in those who attended regularly, *i.e.* ten or more times, the ratio was 1 to 32.7, or in other words 3.0 per cent. were in *statu quo*.



## CONDITION OF CHILDREN AT THEIR FIRST VISIT TO THE CLINICS IN 1930.

Condition.	Ellerby.	West Street.	Burmantots.	Hunslet.	University.	Woodhouse.	Holbeck.	Armley.	Chapeltown.	St. Nicholas.	Bramley.	New Wortley.	Middleton.	Meanwood.	West Hunslet.	Crossgates.	Harehills.	Burley.	Halton.	Total.
Normal ..	240	297	284	361	233	180	381	419	266	337	186	175	162	175	217	54	177	344	163	4,711
Malnutrition ..	92	53	79	40	32	72	72	32	50	68	35	67	19	9	40	16	9	46	7	838
Debility ..	67	100	81	27	26	14	6	102	45	9	42	2	14	16	4	3	16	12	11	597
Rickets ..	44	71	38	73	41	48	64	58	71	74	22	44	31	11	36	18	25	56	3	828
Minor digestive disturbances ..	43	92	69	44	15	70	47	125	21	11	9	45	12	36	40	14	51	25	6	775
Enlarged Tonsils and Adenoids ..	16	17	4	10	11	17	64	67	21	23	5	60	17	9	52	4	12	4	2	415
Developmental defects ..	18	25	21	23	7	29	53	22	13	16	3	46	6	6	9	3	5	27	8	390
Skin diseases ..	27	17	9	14	13	28	51	21	16	13	10	34	6	6	37	7	9	7	3	328
Bronchitis ..	8	31	12	35	16	20	15	33	21	11	2	6	20	3	6	3	5	11	6	264
Phimosis ..	39	39	11	21	20	20	5	52	23	3	1	18	8	1	1	6	10	3	3	224
Dental Caries ..	14	11	2	27	6	8	20	40	6	18	5	1	1	1	26	2	2	2	3	211
Infant feeding difficulty ..	14	14	17	4	11	12	11	20	4	6	3	41	1	1	7	5	1	1	1	211
Inflammatory eye conditions ..	13	14	3	7	22	17	8	18	16	6	2	16	1	7	7	2	4	2	2	144
Umbilical Hernia ..	1	30	3	3	7	5	10	3	2	2	4	2	5	3	4	2	1	1	2	127
Otorrhoea ..	6	9	3	3	1	4	1	3	4	4	1	8	2	2	7	5	1	1	2	93
Prematurity ..	4	2	9	4	1	4	1	3	4	4	1	1	3	1	3	1	2	2	1	57
Squint ..	2	3	5	4	1	4	1	3	2	4	1	1	2	1	8	1	1	2	7	34
Infectious Diseases ..	2	3	1	3	4	4	1	1	2	1	1	1	4	5	1	1	1	2	1	30
Acute Gastro Enteritis ..	3	2	2	..	..	..	10	..	..	..	..	..	..	..	1	1	..	..	1	27
Granulating Umbilicus ..	4	..	..	..	..	..	10	..	..	..	..	3	1	..	1	1	..	..	..	23
Infantile Paralysis ..	..	2	1	..	1	3	1	2	1	1	3	2	1	1	1	1	1	1	..	19
Nocturnal Enuresis ..	..	5	1	1	..	6	1	3	..	3	..	1	1	1	1	2	1	1	..	18
Cervical Adenitis ..	..	..	..	1	..	1	3	1	..	..	..	..	..	..	1	1	1	..	..	16
Mental Deficiency ..	..	1	1	1	1	1	2	1	1	1	..	3	..	2	1	1	..	2	1	15
Abscess or minor sepsis ..	1	1	1	1	1	1	2	..	1	1	..	2	..	..	1	1	..	..	..	13
Mongol ..	3	1	1	1	1	1	..	2	..	1	1	2	1	..	2	1	1	1	..	13
Tuberculosis ..	1	1	1	..	..	1	..	..	..	1	1	..	1	1	1	1	1	..	2	11
Worms ..	1	1	2	..	1	1	2	..	1	1	1	..	..	..	1	2	..	3	..	11
Stomatitis ..	..	2	1	..	1	2	3	..	1	1	2	2	..	..	1	1	..	..	..	10
Veneral Disease ..	..	..	..	..	1	2	..	..	1	1	..	..	..	..	..	1	..	..	..	10
Heart Disease ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
Nasal Catarrh ..	..	..	..	9	..	..	1	1	..	..	..	..	..	2	..	..	1	..	..	6
Rheumatism ..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	2	1	..	..	5
Inguinal Hernia ..	..	..	2	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	5
Hydrocele ..	1	1	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	5
Erb's Paralysis ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Miscellaneous ..	6	2	3	2	..	10	4	4	1	3	..	3	..	..	4	6	4	2	2	56
Total Defects ..	628	833	660	712	529	606	891	1048	592	611	341	587	310	305	624	164	338	554	229	10,562
Total number of cases included in the above ..	552	726	613	636	478	545	715	911	528	541	320	458	270	267	505	136	308	503	196	9,208
Percentage of Normal Children ..	43.5	40.9	46.3	56.8	61.3	33.0	53.3	46.0	50.4	62.3	58.1	38.2	60.0	65.5	43.0	39.7	57.5	68.4	83.2	51.2

Average number of normal children for all clinics is 51.2%.



## MEDICAL FINDINGS AT THE INFANT WELFARE CENTRES DURING 1930 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 ..	19	202	131	72	31	127	42	7	43	93	20	1	9	8	..	1	806
Debility ..	12	108	98	68	9	91	40	6	16	93	26	..	3	10	..	..	582
Minor digestive disturb- ances ..	344	141	95	120	368	115	30	8	324	87	15	9	80	23	1	..	1,760
Feeding difficulty ..	66	62	16	32	95	35	5	5	56	12	2	..	7	..	..	..	393
Rickets ..	14	149	186	130	25	143	43	7	18	107	36	..	5	21	..	2	893
Rickets with deformity ..	6	37	57	15	3	25	19	2	1	13	7	..	..	..	..	..	191
Skin diseases ..	160	36	45	58	232	25	15	10	185	15	6	..	..	4	..	1	821
Bronchitis ..	146	23	32	34	176	22	13	7	179	34	16	..	50	7	..	2	751
Developmental defects ..	59	70	101	47	84	46	17	11	60	22	17	4	5	3	..	1	547
Enlarged tonsils and adenoids ..	35	7	160	109	34	9	75	16	11	10	48	8	2	2	9	..	535
Inflammatory eye con- ditions ..	68	12	5	31	78	14	1	2	65	10	..	1	20	2	..	..	309
Otorrhoea ..	44	14	10	16	60	8	5	2	69	3	..	3	18	3	..	..	260
Dental caries ..	28	2	52	50	13	1	13	3	3	6	16	..	1	..	..	1	191
Infectious disease ..	55	12	7	15	53	1	..	3	25	..	..	3	5	..	..	..	179
Acute gastro enteritis ..	50	2	1	2	40	1	..	1	41	..	..	2	2	..	..	..	142
Umbilical hernia ..	12	21	18	15	14	5	4	1	10	3	3	3	4	3	..	..	116
Phimosis ..	21	2	38	4	19	1	7	..	15	..	5	..	2	..	..	..	114
Granulating Umbilicus ..	29	2	3	2	18	1	..	..	11	..	..	..	1	..	..	..	67
Squint ..	..	6	9	14	..	..	3	1	1	4	11	2	..	1	..	..	52
Cervical adenitis ..	..	3	5	10	4	2	1	1	1	1	3	..	..	..	..	..	36
Mental deficiency ..	..	2	8	..	..	..	..	1	..	..	..	1	..	..	..	..	14
Tonsillitis ..	..	..	..	3	4	..	..	1	..	..	..	..	1	..	..	1	13
Stomatitis ..	..	4	..	1	2	..	..	..	4	..	..	..	..	..	..	..	12
Infantile paralysis ..	..	3	..	1	..	3	..	..	1	2	1	..	..	..	..	..	11
Nocturnal Enuresis ..	..	1	1	1	2	1	2	..	..	1	1	..	..	..	..	..	10
Rheumatism ..	..	3	..	1	..	3	..	..	..	1	..	..	..	..	..	..	10
Difficult child ..	..	4	1	1	..	1	..	..	..	1	..	..	..	..	..	..	9
Prematurity ..	..	2	..	3	..	..	..	..	3	1	..	..	..	..	..	..	7
Hernia ..	..	1	1	..	1	..	2	..	2	..	1	..	..	..	..	..	7
Congenital heart disease ..	..	..	2	..	..	1	..	..	..	1	1	..	..	..	..	..	7
Acidosis ..	..	..	..	2	2	..	..	..	2	..	..	..	1	..	..	..	6
Threadworms ..	..	..	..	3	..	..	1	..	..	..	1	..	..	..	..	..	5
Pyloric stenosis ..	..	1	..	1	3	..	..	..	..	..	..	..	1	..	..	..	5
Urethritis ..	..	..	1	..	2	..	..	..	1	..	..	..	..	..	..	..	5
Erb's paralysis ..	..	1	..	2	1	..	..	..	..	..	..	..	..	1	..	..	5
Miscellaneous ..	11	8	11	12	6	2	3	6	8	1	2	3	4	1	1	..	78
TOTALS ..	1,197	936	1,094	875	1,379	683	342	100	1,155	521	244	61	246	95	17	9	8,954



*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 of age. The investigation is carried out on the lines recommended by the Special Committee of the Board of Education. Two hundred very young infants were chosen at random, from nine centres, and are being followed up from birth for a period of four or five years. An ear, nose and throat specialist was present at the initial inspection of the children, and will see every child at six monthly intervals, until the investigation is completed.

It is difficult to get some of the mothers to understand, how essential it is for them to attend and see the specialist, and a great deal of persuasion, and reminding, has to be exercised to get their co-operation.

**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 attendance 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 Diseases and Immunization Clinics are held at the Central Clinic in Calverley Street.

The importance of having such a central clinic as this cannot be overestimated. It is a most convenient arrangement both for the mothers and for the staff. There is a great saving both of equipment and of staff in having the special clinics thus centralised. The way in which the tram services are arranged makes it equally easy for all mothers to get to the clinic from all parts of the city. Although geographically, clinics may be nearer to each other, than to the central, facilities for transit across country to neighbouring clinics are practically nil, whereas there is an excellent service of trams from all parts, to the centre of the city. The time of the mothers is thus saved, and they are encouraged to attend regularly.



There is always a good attendance at the sessions when both massage and sunlight treatment are given. On those occasions the only drawback is that space becomes very cramped, which is easily understood with numbers approaching 100, in a small building with small rooms. Massage and remedial exercises, which are so very necessary in Leeds, are often given under very difficult conditions.

**Artificial Sunlight Clinics.**—The children sent for treatment were suffering principally from rickets, general debility, malnutrition, debility following some infectious disease, catarrh, bronchitis, nervousness, and a few cases of rheumatism and asthma, and also for preventative reasons.

Although the severe rickets, resulting in marked deformities, is less prevalent in Leeds than formerly, it is not by any means absent, and even now a large part of the infant population is mildly rachitic. The number of children seen at the Welcomes with rickets during 1930 was 1,084.

Rickets is a disease, the ill effects of which in its severe form can hardly be over-emphasized. Not only are the bony deformities which when well advanced can never be rectified, a serious disfigurement, which the child must carry throughout his life, but the curved spine and narrow chest predispose to diseases of the respiratory system, whilst the deformed pelvis greatly increases the danger and difficulty of childbirth for women.

Ultra-violet irradiation is a practical method of prevention on a large scale, and ultra-violet irradiation at infant welfare centres, seems to be a necessary public health measure.

*Central.*—The lamps at the Central Clinic were used to great advantage during the year.

A total of 401 children and two mothers were treated at the clinic during the year. An average of 12 per session, or a total of 535 examinations were made by the doctor. The attendances during the year of all cases were as follows:—mothers 52, babies under one year 496, children between one and five years 5,915, a total of 6,463.

*Holbeck.*—Both the sunlight lamp and X-ray apparatus were in constant use throughout the year.



## SUNLIGHT TREATMENT WITH DISEASES AND RESULTS, 1930.

Disease.	Total.	Result.			
		Cured.	Improved.	In statu quo.	Still attending.
Rickets .. ..	578	111	179	1	173
Malnutrition .. ..	91	17	22	2	30
Debility .. ..	189	32	66	..	40
Catarrhal Conditions .. ..	34	10	8	..	9
Rheumatic Conditions .. ..	14	2	6	..	4
Preventative .. ..	47	5	15	..	16
Miscellaneous .. ..	31	8	6	..	8
Total .. ..	984	185	302	3	280
					214

Leaving out of account those still attending and those who had defaulted, of the remaining 490, 487 or 99.4 per cent. were cured and improved.

During the year a total of 422 children and 4 mothers received treatment. The total attendances were as follows :—mothers 36, expectant mothers 4, babies under one 1,008, children from one to five 5,869, a total of 6,917. The total seen by the doctor during the year was 646, an average of 13 per session. The total number X-rayed included 541 children and 47 mothers, an average of 11 per session. The cases sent for X-ray were mostly rickety children, for diagnosis in early cases, and progress during treatment ; orthopædic cases, and ante-natal cases where abnormality was suspected.

*Armley.*—Artificial sunlight treatment is given at this clinic two sessions weekly. A total of 154 children and 12 mothers received treatment during the year. The total attendances were as follows :—mothers 170, expectant mothers 6, babies under one year 114, children from one to five 2,436, a total of 2,726.

At each of these clinics a doctor with special experience in ultra-violet irradiation is in charge, Dr. Knowles at Holbeck, and Dr. Forrest at Central and Armley. They see each child on admission and discharge, and supervise them regularly throughout their treatment.

For the three sunlight clinics there was a total of 16,106 attendances, very much the same figure as the previous year. A table analysing the results of treatment at the three clinics with reference to the different diseases is given on page 178. It will be noticed that leaving out of account those still attending, and those who had defaulted, 99.4 per cent. were cured or improved. This is a most satisfactory result. It goes to show that when cases are specially selected, and where ultra-violet irradiation is not looked on as a "cure-all" but only of definite benefit in certain given conditions, the good results are undoubted.

The only disappointing feature in the work of these clinics was the number who defaulted, but on enquiring into the reasons for this it was found to be unavoidable in most cases. Dr. Knowles in her report states :—

"Bad cases of rickets require a prolonged period of treatment, and it is often difficult for mothers to continue to bring children for a year—domestic affairs so often interfere with regular attendance—which accounts for the fact that more cases are not counted as 'cured.' All cases which attend for three months—often less—show marked improvement, and would be 'cured' if they could only attend regularly. The



malnutrition cases of small babies show a wonderful improvement almost week by week, and consequently, with quicker results to show, the mothers feel more encouraged to attend regularly and to complete the treatment."

**Orthopædic Clinic.**—The scheme for the treatment of cases of orthopædic deformity in children under five years of age is now well established, and the results obtained are most gratifying. Children for treatment are selected by the doctors at the Welcomes. Where the disease is of a less severe type, or only suspicious signs of approaching trouble are showing, the children are recommended directly for sunlight, massage and remedial exercises, and they are kept under regular supervision by the Welcome doctor, or the doctor in charge of the light treatment clinic.

The more severe cases are referred to the Orthopædic Consulting Surgeon, who attends at Central Clinic once a week, and gives instructions as to treatment.

The total number seen during the year by the orthopædic surgeon was 275, and these included :—

Rickets and results of rickets	..	..	..	171
Knock knee	..	..	..	106
Bowed legs	..	..	..	26
General rickets	..	..	..	39
Infantile Paralysis	..	..	..	16
Spinal Curvature	..	..	..	12
Torticollis	..	..	..	14
Hip Deformities	..	..	..	8
Talipes	..	..	..	16
Erbes Palsy	..	..	..	6
Miscellaneous	..	..	..	32

The agreement continued with the Leeds General Infirmary to undertake operative treatment in any cases requiring it. Plaster cases are also referred to the out-patient department of that Hospital. Seventeen cases were referred for operation during the year. Forty-eight children were transferred to the School Orthopædic Clinic on reaching the age of five years.

Five beds are retained in the Marguerite Home, Thorparch, for orthopædic cases. This number is quite inadequate, and some of the surplus patients are referred to the Wyther Infants' Hospital,



when indoor treatment is required. An arrangement for an additional five beds at Thorparch is being made. This will relieve things to some extent, but will not wholly meet the need.

Of the total 275 children who attended the clinic during the year 172 were new cases. Most cases were re-examined in three months time or less, and their progress ascertained. The total number of attendances at the clinic was 548, an average of 14 at each session.

A total of 50 appliances were supplied during the year, at a cost of £41 14s. 1d. to the Corporation, of which £28 16s. 7d. was refunded by the parents.

There are three trained masseuses attached to the staff, who attended regularly at the Welcomes. During the year a total of 13,813 treatments were given, an average of 95 per week, for each masseuse.

**Dental Clinic.**—Dental treatment for mothers and children under five years is carried out at Central Clinic. The cases are referred from the Doctors at the Welcomes. The work shows a marked increase on that of the previous year which is partly due to an additional number of sessions having been in operation for the full twelve months.

The necessity for dental treatment in expectant mothers cannot be overstressed. All carious teeth and sepsis of the gums must be carefully treated, otherwise they may become a source from which the mother may become infected later. The septic absorption from these foci, also leads to a lowering of the health and resistance of the mother, and therefore also to a lowering of the vitality of the infant. The number of patients who received treatment during the year reached a total of 879, and included 472 nursing mothers, 229 expectant mothers, and 178 children.

The number of treatments given, was to children 782, to nursing mothers 8,659, to expectant mothers 1,658, a total of 11,099, an increase of 2,664 on the previous year. A total of 332 mothers was supplied with dentures, which shows an increase of 131 on the figure for 1929. Of these 332, 131 received full upper and lower dentures, 47 full upper only, 10 full lower only, 123 had partial plates, and 21 were remodels and repairs. The total cost to the Corporation of these dentures was £564 13s. 7d. and of this £339 1s. 9d. was recovered from patients.



**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 for another opinion. Of those who are definitely diagnosed as having the disease, some are treated at the clinic, whilst others are referred to the Venereal Diseases Department at the Leeds General Infirmary.

The total number of new patients was 82, comprising 20 mothers, 32 expectant mothers and 30 children.

**Diphtheria Immunization.**—Facilities for immunization against diphtheria were available at Central Clinic. Applicants for this treatment are mostly from the infant welfare centres, but appointments can be made for older children and adults through the Public Health Department.

Although the numbers taking advantage of this service were double that of the previous year, they are still disappointingly small. All children under seven years are immunized without a preliminary Schick test being performed. Children over seven are tested first. This is also useful in indicating patients who are likely to give a marked reaction to inoculation. All cases that have undergone a complete course of treatment are tested by the Schick method, four to six months later, before they are declared immune.

The total number of new patients was 152, of those 40 were under one year, 40 between one and two years, 40 between two and five years, and 32 over five years. (*Vide* page 53).

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

As in previous years the scheme for distribution has been in the hands of a special Committee, composed of representatives from the Maternity and Child Welfare Committee, the Leeds Babies' Welcome Association, and other outside bodies engaged in social work.

The Committee met on 49 occasions, and considered 6,187 applications, which was 223 less than the previous year. In addition it supervised generally, the work of the milk staff, details of which appear in the table on page 185.



## AMOUNT OF DRIED MILK DISTRIBUTED IN LBS. (YEAR 1930).

WELCOME.	Free.	Assisted.	Full Price.	Issued through Board of Guardians.	TOTAL.
Ellerby .. ..	3,808 $\frac{1}{4}$	2,026 $\frac{1}{2}$	75 $\frac{3}{4}$	1,138	7,048 $\frac{1}{2}$
West Street ..	3,407 $\frac{1}{4}$	1,985 $\frac{3}{4}$	66	358	5,817
Burmantofts ..	2,743 $\frac{1}{2}$	1,740 $\frac{3}{4}$	220 $\frac{3}{4}$	563 $\frac{1}{4}$	5,268 $\frac{1}{4}$
Hunslet .. ..	2,549	1,799 $\frac{1}{4}$	66 $\frac{1}{4}$	401	4,815 $\frac{1}{2}$
University ..	2,665 $\frac{1}{4}$	1,544 $\frac{1}{2}$	174 $\frac{3}{4}$	421 $\frac{3}{4}$	4,806 $\frac{1}{4}$
Woodhouse ..	1,153 $\frac{1}{4}$	520 $\frac{1}{2}$	73	53	1,799 $\frac{3}{4}$
Holbeck .. ..	2,382	1,695 $\frac{1}{2}$	374 $\frac{3}{4}$	89	4,541 $\frac{1}{4}$
Armley .. ..	1,495 $\frac{1}{2}$	978 $\frac{1}{2}$	194 $\frac{1}{2}$	28	2,696 $\frac{1}{2}$
Chapelton ..	2,883 $\frac{3}{4}$	1,202	137 $\frac{1}{4}$	394 $\frac{1}{2}$	4,617 $\frac{1}{2}$
St. Nicholas ..	3,083 $\frac{1}{2}$	1,124	115 $\frac{1}{2}$	347 $\frac{1}{4}$	4,670 $\frac{1}{4}$
Bramley .. ..	708	282	358	20	1,368
New Wortley ..	1,252	792 $\frac{3}{4}$	91	14	2,149 $\frac{3}{4}$
Middleton ..	1,986 $\frac{1}{2}$	687	40	..	2,713 $\frac{1}{2}$
West Hunslet ..	674 $\frac{1}{4}$	628 $\frac{1}{2}$	256	52 $\frac{1}{2}$	1,611 $\frac{1}{4}$
Burley .. ..	102	197	11	..	310
Crossgates ..	569	419	21	12	1,021
Halton .. ..	261	175	27	50	513
External .. ..	231 $\frac{3}{4}$	21	..	68	320 $\frac{3}{4}$
Totals .. ..	31,955 $\frac{3}{4}$	17,819 $\frac{1}{2}$	2,302 $\frac{1}{2}$	4,010 $\frac{1}{4}$	56,088

## NUMBER OF RECIPIENTS, YEAR 1930 (DRIED MILK).

WELCOME.	Free.	Assisted.	Full Price.	TOTAL.
Ellerby .. ..	248	107	9	364
West Street ..	215	89	13	317
Burmantofts ..	217	127	19	363
Hunslet .. ..	150	97	26	273
University ..	146	85	18	249
Woodhouse ..	106	46	21	173
Holbeck .. ..	144	119	30	293
Armley .. ..	97	53	30	180
Chapelton ..	191	63	26	280
St. Nicholas ..	176	74	15	265
Bramley .. ..	31	23	22	76
New Wortley ..	106	50	16	172
Middleton ..	78	35	5	118
West Hunslet ..	51	49	35	135
Burley .. ..	11	8	5	24
Crossgates ..	38	17	11	66
Halton .. ..	22	13	7	42
External .. ..	66	10	..	76
Totals .. ..	2,093	1,065	308	3,466



## AMOUNT OF COWS' MILK DISTRIBUTED IN PINTS. (YEAR 1930).

WELCOME.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	TOTAL.
Ellerby .. ..	2,092	1,595½	669	57	4,413½
West Street ..	2,390	1,082	374	14	3,860
Burmantofts ..	4,279	640	886	..	5,805
Hunslet .. ..	1,178	306	183	..	1,667
University ..	1,556	395½	429½	..	2,381
Woodhouse ..	3,203	797½	613½	..	4,614
Holbeck .. ..	1,896	1,034	672	..	3,602
Armley .. ..	1,251	361	22	63	1,697
Chapelton ..	2,367½	149	502½	85	3,104
St. Nicholas ..	1,395½	759	303	..	2,457½
Bramley .. ..	1,319	141	344	..	1,804
New Wortley ..	2,342½	1,088	316½	299	4,046
Middleton ..	619	182	..	..	801
West Hunslet ..	1,488	410	253	83	2,234
Burley .. ..	62	59	..	..	121
Crossgates ..	403½	28	..	..	431½
Halton .. ..	..	..	..	..	..
External .. ..	1,740	61	114	105	2,020
Totals .. ..	29,582	9,088½	5,682	706	45,058½

## NUMBER OF RECIPIENTS YEAR 1930.

WELCOME.	Free.	1d. per pint.	2d. and 2½d. per pint.	3d. and 3½d. per pint.	TOTAL.
Ellerby .. ..	24	13	12	3	52
West Street ..	20	10	5	1	36
Burmantofts ..	30	9	12	..	51
Hunslet .. ..	11	2	6	..	19
University ..	20	4	6	..	30
Woodhouse ..	27	12	6	..	45
Holbeck .. ..	20	14	9	..	43
Armley .. ..	9	2	2	2	15
Chapelton ..	12	4	5	1	22
St. Nicholas ..	16	2	4	..	22
Bramley .. ..	9	2	6	..	17
New Wortley ..	26	14	7	5	52
Middleton ..	5	2	..	..	7
West Hunslet ..	14	7	5	..	26
Burley .. ..	2	1	..	..	3
Crossgates ..	4	1	..	..	5
Halton .. ..	..	..	..	..	..
External .. ..	19	3	4	..	26
Totals .. ..	268	102	89	12	471

## WORK OF MILK STAFF.

	I. Quarter.	II. Quarter.	III. Quarter.	IV. Quarter.	Year.
Applications dealt with (new)	445	363	452	410	1,670
"    "    (repeat)	3,867	3,342	3,462	3,805	14,476
"    "    (refused)	..	..	..	..	..
No. of re-applications ..	172	162	159	158	651
*No. of external cases dealt with at the office ..	140	95	106	107	448
	4,624	3,962	4,179	4,480	17,245
No. of visits to Welcomes paid by the milk secretaries .. .. .	165	151	146	153	615

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

COST OF MILK DISTRIBUTION SCHEME FOR YEAR ENDED  
31ST DECEMBER, 1930.

INCOME.			EXPENDITURE.		
	£	s. d.		£	s. d.
To cash received for sale of dried milk	1,507	17 10	By salaries and wages	628	5 8
" cash received for sale of fresh milk	1	17 4	" Cost of dried milk	4,072	0 11
			" Cost of cows' milk	700	18 0
			" Printing, stationery, etc. ..	..	53 7 2
			" Superannuation Contributions ..	29	18 8
" balance—loss	3,985	11 1	" Sundries ..	10	15 10
	£5,495	6 3		£5,495	6 3

Nett cost per head to Corporation, £1 os. 3d.

The amount of dried milk distributed during the year was 56,088 lbs., an increase of 8,333 as compared with the previous year, and an increase of 2,886 on 1928. As regards the recipients, there was a decrease from 3,544 in 1929 to 3,466 in 1930.

The amount of cows' milk distributed, increased from 31,622 pints in 1929 to 45,058½ pints in 1930, whilst the number of recipients increased from 360 to 471.

The arrangement whereby the Public Assistance Committee pay for milk supplied to mothers in receipt of poor relief remained in force. The amount issued in this way consisted of 4,010¼ lbs. of dried milk.



### THE INFANTS' HOSPITAL, WYTHER.

The number of cots in this hospital is 50, 12 for babies under one year, and 38 for children from one to five years. Two of the latter are kept for isolation purposes. The nursing staff was the same as in previous years, and consisted of matron, one sister, three staff nurses, one senior nurse and thirteen probationers. There is also a non-resident whole-time nurse masseuse who does massage and light treatment.

The cases dealt with during the year included dietetic disorders, rickets, malnutrition, marasmus and children referred from the Orthopædic Clinic.

Details of the work of the hospital are given in the attached tables. It will be noticed that the average length of stay in the hospital was longer during 1930. This is explained by the number of orthopædic cases requiring immediate treatment, which owing to the absence of accommodation elsewhere, had to be admitted to Wyther Hospital. Spinal cases may require as long as one or two years, and cases of congenital dislocation of hip about one year.

The five extra beds which are being arranged for at the Marguerite Home, Thorparch, will relieve to some extent the holding up of beds, by these long orthopædic cases.

**Day Nursery.**—There is accommodation in the Day Nursery for 40 children. The nursing staff consists of one matron, one staff nurse and nine probationers. The number of children who were admitted during the year was 45 as compared with 69 for the previous year. The total attendances are given in the accompanying table.

**Residential Nursery.**—The number of cots in the Residential Nursery is 26 plus two for isolation. The nursing staff consists of one matron, one sister and 9 probationers.

There were 22 children in residence on January 1st, 1930, 70 were admitted during the year, and 25 remained in residence on December 31st. Sixteen of the children were illegitimate. The reasons for admission were as follows:—in 24 cases mothers expecting confinement; in 8 cases mothers dead; in 33 cases illness of mothers; in 21 cases mothers at work; in 6 cases the mothers deserted.

## SUMMARY OF CASES TREATED IN THE INFANTS' HOSPITAL, WYTHIER.

	Males.	Females.	Total.
Remaining in Hospital, January 1st, 1930 .. ..	26	17	43
Admitted during the year ..	55	64	119
Discharged during the year ..	60	54	114
Died during the year .. ..	1	3	4
Remaining in Hospital, December 31st, 1930 .. ..	20	24	44

Mortality rate per cent. on admissions 3.4. Average stay in Hospital 101 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.	
14	41	17	47	31	88	119

## ANALYSIS OF DEATHS DURING 1930.

Cause.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Chronic enteritis and marasmus .. ..	..	..	1	..	1
Acute bronchitis, prematurity and marasmus ..	..	1	..	..	1
Prematurity and marasmus .. .. ..	..	1	..	..	1
Marasmus .. .. ..	..	1	..	..	1
TOTAL .. .. ..	..	3	1	..	4



## ANALYSIS OF CASES TREATED DURING 1930.

Reason for admission.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Rickets .. .. .	..	..	18	17	35
Rickets and malnutrition .. .. .	..	1	3	5	9
Rickets and cervical adenitis .. .. .	..	..	..	1	1
Rickets and bronchitis .. .. .	1	..	2	1	4
Rickets and phlyctenular conjunctivitis .. .. .	..	..	..	1	1
Rickets and congenital glaucoma .. .. .	..	..	1	..	1
Malnutrition .. .. .	5	7	14	15	41
Malnutrition and bronchitis .. .. .	1	1	4	5	11
Malnutrition, bronchitis, enteritis and hernia .. .. .	1	..	..	..	1
Malnutrition and otorrhoea .. .. .	1	1	..	..	2
Malnutrition and congenital heart disease .. .. .	1	..	..	..	1
Malnutrition and choroidal degeneration .. .. .	..	..	..	1	1
optic atrophy .. .. .	..	..	..	1	1
Malnutrition and pyelitis .. .. .	..	..	1	1	2
Malnutrition and unresolved pneumonia .. .. .	..	..	1	..	1
Marasmus .. .. .	8	4	2	..	14
Marasmus, otorrhoea and bronchitis .. .. .	2	..	..	..	2
Marasmus and convulsions .. .. .	1	..	..	..	1
Marasmus and chronic enteritis .. .. .	..	1	1	..	2
Marasmus and bronchitis .. .. .	..	..	..	1	1
Prematurity and marasmus .. .. .	..	2	..	..	2
Prematurity .. .. .	1	..	..	..	1
Enteritis .. .. .	..	1	..	..	1
Cleft palate, malnutrition and bronchitis .. .. .	..	..	2	..	2
Acute bronchitis .. .. .	1	..	..	..	1
Dietetic .. .. .	1	..	..	..	1
For observation .. .. .	..	1	1	..	2
Orthopaedics :—					
Rickets (spinal kyphosis) .. .. .	..	..	3	1	4
Rickets with deformity (osteoclasia) .. .. .	..	..	1	7	8
Rickets coxa-vara .. .. .	..	..	..	1	1
Congenital dislocation of hip .. .. .	..	..	..	3	3
T.B. of spine .. .. .	..	..	1	1	2
Torticollis and spinal curvature .. .. .	..	..	2	..	2
Bilateral erbs paralysis .. .. .	..	1	..	..	1
TOTAL .. .. .	24	20	57	61	162

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,  
1930.

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 ..	8,654	..	..	8,654	..	..	..	..
Cobden Place Day Nursery	6,026	2,586	..	8,612	371	176	..	547

**Convalescent Treatment for Mothers and Babies.**—During the year arrangements for the convalescence of mothers with babies through the Leeds Adult Convalescent Society were continued on behalf of the Maternity and Child Welfare Committee. The number of mothers with babies, for whom convalescence was thus arranged, was 103, and for mothers without babies 4. The average period of stay at the Convalescent Homes was 13.9 days. The nett cost to the Corporation of this provision was £470 1s. 2d. or an average of £2 4s. 1½d. per case per week. The majority of the mothers were too poor to contribute anything towards their convalescence, but a few contributed various amounts according to their means. The total sum contributed by the parents was £37 13s. 4d.

In addition to the above 117 children under five years were sent for convalescence to Meanwood Convalescent Home. The average stay of each child was 24.4 days, and the cost to the Corporation was £3 13s. 1¾d. per case. The parents contributed towards the cost where means permitted. The total cost to the Corporation was £441 13s. 10d. of which £13 15s. 6d. was refunded by the parents.

**Health Week.**—October 5th to 11th.—The importance of educating the people on how to maintain their health is now fully recognised. During Health Week additional efforts are made to spread knowledge of health amongst mothers and so increase their interest. Cinema films always attract large audiences and two



were shown at seven of the Centres. Preceding the film, the doctor gave a short lecture, explaining what would be shown on the screen, and pointing out the lessons to be learned. The principal film was an orthopaedic one called "Arise and Walk." The idea of the film was to bring home to the audience the fact that broadly speaking, there need be no cripples. The film showed how cripples are made, and also the ways by which crippling can be prevented and cured. It also stressed the importance of early treatment.

This film was chosen as being especially suitable for an audience in Leeds, where rickets and other deformities are still so distressingly prevalent, and where it is difficult to persuade mothers who are so used to seeing those deformities all around them, that their children need not be so.

The second film was a dental one, dealing with, and stressing the importance of, the care of the teeth.

During the week nine films were also shown in the different public cinemas in the city, one of which dealt with the work at an infant welfare centre, two with diphtheria immunization, and the others with general health matters.

Two leaflets, one "The Expectant Father," the other "The Father's share in the children's care," were sent to the husbands of all expectant mothers attending the ante-natal clinics during the week, and were also distributed at the Centres and on the district.

The Leeds Babies' Welcome Association co-operated in the propaganda work. Competitions were held for the mothers in renovations, knitting, laundry and cooking. These were judged during Health Week, and the Shield was awarded to University Welcome.

Three social entertainments were given, two in the evening, and one in the afternoon. The mothers from all the Welcomes were invited to those. The principal part of the programme consisted of two health plays, acted by the New Wortley mothers. One entitled the "New Arrival" stressed the importance of ante-natal care and showed a visit to an ante-natal clinic, and indicated the benefits to be derived. The other was entitled a "Change for the Better." Items in lighter vein were interspersed, such as music and dancing and healthful exercises by children. Both meetings were very successful.



# Inspection and Supervision of Food.

INCLUDING REPORTS BY  
THE CHIEF VETERINARY OFFICER  
and  
THE CITY ANALYST.

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The Leeds Corporation Act 1930, came into operation during the year. The Act consists of four Sections dealing with food and two with slaughterhouses. The first food Section (Sec. 42) prohibits any person engaging in the cooking or handling of food for consumption by other persons whilst he himself or a member of his household is suffering from infectious disease ; the second (Sec. 43) extends Secs. 116-119 Public Health Act 1875 so as to include the original vendor of unsound food ; the third (Sec. 44) enforces the registration of all premises used for the preparation or manufacture of sausages or potted or preserved meat, fish or other food intended for the purpose of sale, or the manufacture for sale or sale of ice cream or similar commodity ; and the fourth (Sec. 45) lays upon medical practitioners the obligation of notifying cases of food poisoning to the Medical Officer of Health.

The two sections dealing with slaughterhouses empower the Corporation to acquire and close private slaughterhouses where the same can be proved to be unsatisfactory.

The acquisition of these fresh powers has thrown a good deal of extra work on the staff of the department particularly in connection with the registration of premises for the making of sausages, potted meat, etc., and premises for the making and sale of ice cream. It is doubtful whether the extra work can be done, as it ought to be, with staff at our disposal, and it may be necessary shortly to appoint an extra inspector. The requirement of the Act, with regard to registration has brought to light a large number of premises of the existence of which we had formerly no knowledge and if supervision is to be effective these places will have to be visited regularly—not less frequently than once every six months and in the summer even more frequently.



## MEAT INSPECTION

BY

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

**Tuberculous Carcasses.**—The number of carcasses condemned for tuberculosis during 1930 was as follows :—beef with organs 182, pork with organs 52, and veal with organs 3.

**Slaughterhouses.**—It is regretted that the admirable pig slaughterhouse provided at the Public Abattoir continues to be used to such a comparatively small extent by the butchers. The fact is that about ten times as many pigs are slaughtered in the city in private establishments as at the Public Abattoir, and although most of these private wholesale pig slaughterhouses are fairly satisfactory in construction, supervision is difficult, and in the interests of public health the worst of them should be abolished under the new powers contained in the Leeds Corporation Act of 1930, and the slaughtering now carried on there transferred to the Public Abattoir. During the year the number of private slaughterhouses was decreased by three, two of which were registered and one licensed. In the case of the registered slaughterhouses the property and the shop adjoining one was demolished as part of a street improvement whilst the other had ceased to be used as a slaughterhouse. In the case of the licensed slaughterhouse, this application was not renewed at the the time renewals were considered.

### SLAUGHTERHOUSES IN USE.

	Number in use on December 31st.					
	1925	1926	1927	1928	1929	1930
Public Abattoir .. ..	1	1	1	1	1	1
Private slaughter-houses (registered) .. ..	56	47	46	46	46	44
Private slaughter-houses (licensed) .. ..	9	8	9	10	9	8
Knackers' Yards .. ..	2	2	2	2	2	2

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 8,386 visits to these slaughterhouses, or an average of 161 visits or three visits per week to each private slaughterhouse. It should be explained that this average is high for one or two of the smaller slaughterhouses which are comparatively little used. These are inspected only when necessary whilst others in regular use 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 by the appended table, for the last three years there has been a steady decline in the number of animals slaughtered in private slaughterhouses, and according to figures provided by the Markets Department a decrease has taken place in the number of animals slaughtered in the Public Abattoir. There would therefore appear to have been an all-round reduction in the number of animals slaughtered for food.

ANIMALS SLAUGHTERED IN THE PUBLIC ABATTOIR AND IN PRIVATE SLAUGHTERHOUSES.

	Year.	Cattle.	Calves.	Sheep.	Pigs.	Total.
Public Abattoir ..	1928	21,307	8,968	61,818	2,861	94,954
	1929	24,279	10,678	64,141	3,742	102,840
	1930	23,248	9,664	59,413	2,375	94,700
Private Slaughter- Houses ..	1928	16,065	12,636	61,016	52,989	142,706
	1929	15,184	10,614	60,227	44,293	130,318
	1930	15,577	9,851	59,586	41,857	126,871

During the last five years the registered slaughterhouses have been reduced from 56 to 44, and it is hoped that advantage will be taken of the powers contained in the Leeds Corporation Act of 1930, to reduce this number still further by the abolition of all private slaughterhouses which are unsatisfactory either in situation or structure.

At first sight it might appear that such a reform would occasion great and unremunerative expenditure, but it should be borne in mind that the abolition of private slaughterhouses would result in greater use being made of the Public Abattoir with a consequent increase of revenue to the Markets Department which would more



than compensate for the money spent by the Council in acquiring the condemned premises. At the same time undesirable and insanitary establishments would be got rid of and meat inspection be made more effective.

**Humane Slaughtering.**—After somewhat protracted negotiations with the butchers' organisations who had appealed to the Ministry of Health against the proposal of the Corporation to adopt model slaughterhouse bye-law No. 9b requiring the use of a mechanically operated instrument for the stunning of animals at the time of slaughter, the byelaw was adopted by the City Council both for the Public Abattoir and for the private slaughterhouses. The amended slaughterhouse byelaws were confirmed by the Ministry of Health on November 18th and the new byelaw came into force on February 18th, 1931, as regards the killing of cattle and pigs, and on August 18th as regards calves and sheep.

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

That portion of the Regulations dealing with meat marking is however still entirely disregarded and it is feared that the recent introduction of marking and grading beef under the Agricultural Produce (Grading and Marking) Act will completely extinguish any hope of life which may have been entertained regarding meat marking under these Regulations.

The regulation dealing with the notification of intention to slaughter has been satisfactorily carried out and all animals slaughtered in private slaughterhouses have been duly inspected. Some difficulty has been experienced in connection with the notification of the slaughter of pigs on allotments and at farms.

The following is a Summary of the cases taken into Court under the Regulations during the year :—

**THE PUBLIC HEALTH (MEAT) REGULATIONS, 1924.  
PROSECUTIONS FOR THE YEAR 1930.**

No.	Offences.	Result of Hearing.	Remarks.
1	Article 21 (3) .. ..	Fined 10/- .. ..	Employee
2	Article 21 (1) .. ..	Fined 20/- .. ..	Butcher
	„ 21 (2) .. ..	„ 20/- .. ..	Carrier



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

Special attention is paid and precautions taken to see that shellfish from places prescribed as unsatisfactory under the Shellfish Regulations are not sold or distributed within the city.

**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.

	1930.	1929.	1928.	1927.
Beef .. ..	167,752 lbs.	147,635 lbs.	177,389 lbs.	159,943 lbs.
Veal .. ..	7,226 "	8,499 "	8,790 "	5,295 "
Mutton .. ..	10,756 "	14,504 "	13,931 "	12,545 "
Bacon and Ham..	1,338 "	60 "	53 "	384 "
Pork .. ..	28,288 "	35,102 "	35,239 "	27,003 "
Goat Flesh .. ..	..	..	60 "	..
Offals .. ..	88,872 lbs.	81,217 lbs.	75,775 "	53,988 lbs.
Rabbits .. ..	16,059 "	9,538 "	7,544 "	9,607 "
Poultry .. ..	1,493 "	6,369 "	3,154 "	1,954 "
Game .. ..	965 "	834 "	976 "	541 "
Cheese .. ..	17,376 "	..	..	1,456 "
Fish .. ..	108,230 "	73,060 lbs.	84,693 lbs.	75,363 "
Shellfish .. ..	48,678 "	64,447 "	55,325 "	43,718 "
Fruit .. ..	26,707 "	13,548 "	13,821 "	12,184 "
Vegetables .. ..	92,282 "	112,707 "	34,391 "	60,536 "
Inedible fungi .. ..	..	..	..	95 "
Edible fungi .. ..	275 lbs.	608 lbs.	255 lbs.	43 "
Yeast .. ..	709 "	1,652 "	1,080 "	736 "
Tinned Goods .. ..	3,654 "	2,849 "	1,601 "	3,430 "
Sundries .. ..	560 "	14 "	132 "	190 "
TOTALS .. ..	621,220 lbs.	572,643 lbs.	514,209 lbs.	469,011 lbs.
No. of Eggs .. ..	967	1,968	..	2,325



## DISEASES OF ANIMALS ACTS

BY

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

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The organisation set up for the administration of these Acts within the city continued throughout the year to prove adequate and satisfactory. The year was marked by a recurrence in September of foot-and-mouth disease within the city after the whole country had been free from this disease for a period of eight months, but with the assistance of the Police no difficulty was experienced in dealing with the outbreak and the increased work entailed thereby was overtaken without additional staff.

**Tuberculosis Order of 1925.**—Tuberculosis continues to be the most important item from a public health point of view and despite the greater publicity given to foot-and-mouth disease there is reason to believe that tuberculosis is the most serious contagious disease affecting the bovine population of the country. It is encouraging to find that farmers themselves begin to appreciate the advantage of dealing with tuberculosis as soon as the disease can be recognised and show a greater readiness to report animals in accordance with the Tuberculosis Order. The energetic enforcement of this Order by County Councils and County Borough Councils cannot fail to effect a reduction in the incidence of the disease, although the efforts of the more progressive authorities are to some extent neutralised by the inaction of some County Councils who appear to be apathetic. Experience in slaughterhouses still suggests that a large number of cattle amenable to the Order are not reported but are sent to distant places for slaughter.

In this city it is the practice for information to be forwarded to the responsible local authority whenever carcasses are found in slaughterhouses giving evidence that the Order has been evaded and there is reason to believe that in those counties where an adequate veterinary staff has been appointed energetic and suitable action is taken on receipt of such information.



## TUBERCULOSIS ORDER OF 1925.

Annual Return on the working of the above-mentioned Order for the year ending December 31st, 1930.

TOTAL NUMBER OF ANIMALS REPORTED—						52
(a) By Owner	..	..	..	..	..	27
(b) By Veterinary Advisor to owner	..	..	..	..	..	—
(c) By Veterinary Officer acting under the Milk and Dairies Order, 1926	..	..	..	..	..	25
ANIMALS EXAMINED—						1,073
(a) Cows in milk	..	..	..	..	..	985
(b) Other Cows or Heifers	..	..	..	..	..	73
(c) Other Bovine animals..	..	..	..	..	..	15
ANIMALS TESTED WITH TUBERCULIN						1
RESULTS OF POST-MORTEM EXAMINATION—						
(a) Having Tuberculosis of the Udder	..	..	..	..	..	12
(b) Giving Tuberculous Milk and showing lesions of Tuberculosis	..	..	..	..	..	—
(c) Suffering from Tuberculous Emaciation	..	..	..	..	..	9
(d) Affected, but not as in a, b, or c	..	..	..	..	..	14
COMPENSATION PAYABLE—						£ s. d.
(a) Full value	..	..	(0)	..	..	0 0 0
(b) Three-fourths value	..	..	(8)	..	..	102 0 0
(c) One-fourth value or 45/-	..	..	(27)	..	..	82 0 0
Total Compensation						£184 0 0
Total Salvage received						74 9 4
Nett Compensation						109 10 8
Recoverable from Government, 75% of Gross Compensation						138 0 0
						£ s. d.
ADMINISTRATION EXPENSES—						
(a) 1. Veterinary examinations	..	..	..	..	..	0 0 0
2. Cost of tuberculin	..	..	..	..	..	0 0 0
3. Notification fees	..	..	..	..	..	0 0 0
(b) Reference to a Pathological Institute	..	..	..	..	..	1 0 0
(c) Valuation of Animals slaughtered	..	..	..	..	..	0 0 0
(d) 1 Cost of travelling	..	..	..	..	..	30 5 8
2 Veterinary Officers' Expenses	..	..	..	..	..	2 1 0
Total Expenses						£33 6 8

During the year 52 cases of tuberculosis in cattle were reported under the Tuberculosis Order, 27 being by owners whilst 25 animals suspected of being affected by the disease were discovered by the Veterinary Officers during the course of their routine inspections under the Milk and Dairies Order, 1926. Thus again, as in previous



years, experience has proved that the Tuberculosis Order can be effective only when regular routine veterinary inspection is carried out.

The investigations conducted under the Order, involved the examination of 985 cows-in-milk, 73 other cows and heifers, and 15 other bovine animals ; 35 animals were slaughtered, all of which, on post-mortem examination, were found to be affected, 12 with tuberculosis of the udder, nine with tuberculous emaciation, and 14 otherwise. The owners of the 35 animals condemned received compensation as follows :—27 at the lowest rate, namely, one fourth of the agreed market value of 45/- whichever was the greater, whilst eight received compensation 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 affected with the disease within the terms of the Order, and during the year such action was taken with respect to one animal at the Victoria Cattle Market and one at the Whitkirk Auction Mart. Both animals were slaughtered and on post-mortem examination were found to be suffering from advanced tuberculosis and the carcasses and organs were condemned.

**Swine Fever Order of 1908.**—During the year 60 cases of suspected swine fever were reported to the Ministry of Agriculture and Fisheries, and after investigation swine fever was declared to exist in 7 cases. It may be explained here that every case of unexplained death in a pig is regarded as suspected swine fever and duly reported which accounts for the discrepancy between the cases reported and those found positive, but it is understood that the Ministry prefer to investigate all suspicious cases even though they prove negative rather than risk a positive case being overlooked. At the end of the year one swine fever infected place existed in the city.

**Regulation of Movement of Swine Order of 1922.**—The administration of this Order has necessitated the issuing of 1,004 licences for the dispersal of 8,628 pigs from the Whitkirk Auction Mart,



whilst 1,591 visits to pigkeeping places have been paid to ascertain that the recently moved store pigs have been detained and isolated for the proper period.

During the year five store pigs were ordered to be removed by licence from the Whitkirk Auction Mart by the Veterinary Officer for illness.

It was found necessary to take action for infringement of this Order in only one instance when the defendant was fined 40/- and there can be no doubt that the activity of this Department in previous years has had the effect of rendering pigkeepers more attentive to their responsibilities in this respect.

**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.**—The inspection of horses forwarded to ports for slaughter and the subsequent exportation of their carcasses was carried out as in previous years and every horse entrained for this purpose was inspected at the time of entrainment to ascertain if it was free from contagious disease and fit to travel. During the year 373 animals were so examined and all were found fit to travel and free from infectious disease with one exception, and this animal was immediately slaughtered.

**Anthrax Order of 1928.**—In July a butcher reported that a fat bullock belonging to him had died in a field and that he suspected anthrax to be the cause of death, but on investigation it was found that the bullock had died from other causes.

In December it was reported by the Police that 17 bullocks had just arrived by rail in the city and were considered to have been in contact with anthrax because one of the consignment had been found dead in transit and had been declared, by the Veterinary Inspector of the place where it was found, to have been affected with anthrax. The 17 recently arrived bullocks were placed in strict



isolation and kept under close observation for some days, at the end of which, they were slaughtered and found to be free from any kind of disease. A few days later it was learnt that the animal which died in transit had not in fact been affected with anthrax.

**Sheep Scab Order of 1928.**—No case of sheep scab was reported in the city, although 208 contact sheep arrived for immediate slaughter and the fleeces of all these sheep were dipped for one minute in an approved dip under the supervision of an inspector before removal.

Information was received of a further lot comprising 27 store sheep which had arrived in the city in the autumn, 14 of which had been in contact with sheep scab previous to their removal. The 27 sheep were immediately placed under restrictions as to their movements and kept under observation pending their double-dipping in accordance with the Order.

**Foot-and-Mouth Disease.**—After an absence of this disease for eight months in the whole of Great Britain, in September a herd of pigs in the city was found to be affected with foot-and-mouth disease. Action was immediately taken under the Order, and the city and surrounding area immediately became a foot-and-mouth disease infected area. Energetic action was taken by the officers of the Ministry of Agriculture and Fisheries, but beyond two other herds of pigs which had had immediate and close contact with the first discovered outbreak, no other centres of the disease were discovered. There is reason to believe that the infection responsible for this outbreak was derived from imported meat devoured by the infected animals in swill. After the usual period of 21 days the city was released from being an infected area, but two weeks later it was again included in a foot-and-mouth disease infected area in consequence of an outbreak at Huddersfield. On this occasion the restrictions lasted only for two weeks, the infected place being at some distance from the city.

In addition to the above, foot-and-mouth disease was suspected in the city on two other occasions, one amongst pigs and the other amongst grazing cattle but on both occasions the Veterinary Officers of the Ministry of Agriculture and Fisheries were of opinion that foot-and-mouth disease did not exist.



In order to impress upon stockowners the importance of their strict compliance with the restrictions imposed by the Foot-and-Mouth Disease (Infected Areas) Order, it was found necessary to take proceedings in one case in which a farmer and his son were both fined for moving dairy cows along a road without such movement being licensed.

**Animals (Landing from Ireland, Channel Islands, and Isle of Man) Order of 1923.**—The administration of this Order has entailed the issuing of 766 licences for the further removal from Victoria Cattle Market of 3,598 cattle and 768 sheep recently landed from Ireland. In addition to these, 360 movement licences were issued for the further movement of 4,903 cattle, 9,191 sheep and 547 pigs recently landed from Ireland but dispersed without being passed through the Victoria Cattle Market.

Irish store cattle to the number of 217 were received in the city and these were all duly inspected on arrival and further visits were 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.**—Two foreign performing dogs came to a theatre within the city; these dogs were permitted to come here 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.

Of the other scheduled diseases no case was reported or observed.

The following additional Orders were made by the Ministry during the year :—

*Control of Dogs Order of 1930.*—On the advice of the Town Clerk, this Order was posted in prominent parts of the city including the Markets and railway cattle docks, but it is found advisable to leave the working of this Order to the Police.

*Transit of Animals (Amendment) Order of 1930.*—This new Order came into force on October 1st, 1930, which now makes the cleansing of *all* cattle-carrying vehicles compulsory. Under the old Order cleansing was only required for motor vehicles.



After every journey the vehicle must be thoroughly washed and disinfected and a record book must be kept giving particulars of the animals carried in the vehicle, and the date and place where the vehicle was cleansed and disinfected.

The cleansing and disinfection of vehicles conveying animals to the Markets in this city had to a very large extent been carried out before the introduction of this Order, but the Order was welcomed as giving our instructions and desires the force of law, and satisfactory arrangements were immediately provided at the Victoria Cattle Market, the Whitkirk Auction Mart, and the Public Abattoir for the cleansing and disinfection of vehicles in accordance with the Order.

The Order was widely advertised by posters in suitable and prominent places and the Department has given great assistance to the owners of vehicles by providing at cost price suitable printed books for the keeping of the necessary records.

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

These duties entail a large amount of work and responsibility on the part of the Veterinary Officers and as a result of this arrangement the Public Health Department received from other Departments of the Corporation for veterinary attendance on their animals the sum of £225 9s. 3d. which should be regarded as a measure of relief for the Public Health Department of part of the salaries of the Veterinary Officers.



## MILK AND DIARIES

BY

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

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In view of the importance of milk as an article of diet, the supervision of the production, storage and distribution of milk in the City is regarded as one of the most important parts of the work of the Department and having regard to the great publicity recently given to the subject and the criticisms which have been levelled at the milk supply of this country it is necessary to say a word or two on the local position. At the outset it may be stated that the conditions under which milk is produced and handled have improved enormously within the last few years throughout the country generally, and certainly, and perhaps more particularly, in this city. That portion of the supply which is produced within the city has been for some years, and still is, produced, if not under ideal, under very good conditions. Similarly the methods of milk production in the neighbouring County areas have also vastly improved and in general are beyond criticism.

It is estimated that the total milk requirement for the city is 18,000 gallons per day, of which about 7,195 gallons are produced within the city, the remainder being imported principally from the West Riding.

We may therefore divide the milk supply into "town produced" and "country produced." For convenience these two categories are dealt with separately.

1. *Town Produced Milk.*—Within the city there are 179 dairy farms with an average number of 2,878 milch cows. During the year one farm was added whilst milk production ceased at three.

The cows at every farm were inspected at least once in every quarter by a Veterinary Officer, whilst the Cowsheds and Dairies Inspectors, specially trained for this work, pay 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 are such as to comply with the provisions of the Milk and



Dairies Order. In this connection the Veterinary Officers made 11,512 examinations of cows and as a result it was found that at 11,398 (or 99.0 per cent.) of the examinations the cows were clean, and at 114 (or 1.0 per cent.) dirty. As regards the health of the 2,878 cows examined, 44 (or 1.53 per cent.) were found to be diseased, 6 (or 0.21 per cent.) having tuberculosis of the udder, 4 (or 0.14 per cent.) generalised tuberculosis, and 34 (or 1.18 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 reach a very high standard. There can be no doubt that the frequency of inspection contributes very largely to the healthy state of the dairy cows and that the frequency of inspection by lay inspectors is of great assistance in maintaining a satisfactory standard of cleanliness as regards the cows, cowsheds, and the methods of handling, storage and distribution. Practically all the milk produced within the city attains the standard of cleanliness required for "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 179 registered dairy farms comprise 309 separate sheds, all of which are kept under close supervision by the two Cowsheds and Dairies Inspectors. The Veterinary Officers made 1,183 inspections of cowsheds and the lay inspectors 1,894, a total of 3,077. It might be stated that 255 additional visits were paid by the lay inspectors in the early morning to ensure that cleanliness and care are observed then as at other milking times. At 1,153 (or 97.46 per cent.) of the Veterinary Officers visits the sheds were reported clean, whilst at the remaining 30 (or 2.54 per cent.) they were dirty. The number of yards inspected by the Veterinary Officers was 176, and the total number of inspections 687. At 668 (or 97.23 per cent.) of the visits the yards were clean, and at 19 (or 2.77 per cent.) dirty.

By means of an energetic enforcement of the Milk and Dairies Order, during the year we obtained the erection of two new cowsheds and four dairies, and also obtained structural improvements at 12 farms.



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 aside 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 within recent years undergone considerable change. Road transport has to a great extent superseded rail transport. Whichever the method in use every effort is made to examine the milk as to its quality and cleanliness as soon as it reaches the city. In this connection the Inspectors paid 804 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 farm from which the milk has come is situated.

*General*.—As to distribution, the wholesale and retail dairies of the city are under regular and frequent inspection, 1,742 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 and from this it has been ascertained that in 51 (or 39·84 per cent.) of the samples obtained for this purpose the milk was satisfactory as to its bacterial content whilst in 77 (or 60·16 per cent.) it was criticised, and in all such cases action for the improvement of the milk was taken whether it was town or country produced.



Besides this investigation the Inspectors continued to take what in previous reports have been known as " Reading " Samples to ascertain the comparative purity of town and country milk and the following table indicates the result of this investigation.

" READING " MILK SAMPLES, 1930.

Bacterial Content per c.c.	Local farms.	Road borne.	Rail borne.	Total.
1- 50,000 }	53 70.7%	34 54.0%	46 74.2%	133
50,000- 100,000 }	14 18.7%	16 25.4%	8 12.9%	38
100,000- 200,000 }	6 8.0%	8 12.7%	7 11.3%	21
200,000- 500,000 }	..	5 7.9%	1 1.6%	6
500,000-1,000,000 }	2 2.7%	..	..	2
1,000,000 + .. }	..	..	..	..
Total Samples ..	75	63	62	200

Bacillus Coli Content.	Local farms.	Road borne.	Rail borne.	Total.
B. Coli present in 1 c.c. }	9 12.0%	11 17.5%	11 17.7%	31
" " 1/10 c.c. }	10 13.3%	18 28.6%	19 30.6%	47
" " 1/100 c.c. }	9 12.0%	9 14.3%	9 14.5%	27
" " 1/1000 c.c. }	12 16.0%	22 34.9%	16 25.8%	50
B. Coli absent .. }	35 46.7%	3 4.8%	7 11.3%	45
Total Samples ..	75	63	62	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, 1930.

No.	Article.	Result of Hearing.	Remarks.
1	Article 23 (2) ..	Fined 20/- and costs .. ..	Farmer.
2	Article 29 (2) ..	Fined £3 or 14 days' imprisonment	Farmer.
3	Article 31 ..	Ordered to pay costs amounting to 4/- .. .. .	Dairyman.

**Graded Milk and Issue of Licences.**—The eight producers holding "Grade A" licences at the end of 1929 all renewed their licences, and during the year one such licensee still further improved his herd and product by obtaining a licence for the production of "Certified" milk from the Ministry of Health. The number of licences issued for the sale of graded milk was 211, whilst the number handling "Grade A" (Tuberculin Tested) milk was 11.

A still further development in the milk industry occurred about the end of the year when the Leeds Industrial Co-operative Society, who had been retail purveyors of milk for some years, commenced to occupy and use their newly erected dairy and pasteurising plant in Springwell Road and obtained a licence for the use of the special designation "Pasteurised." This latest development must be regarded as very important in its effect on the methods of milk distribution. The new dairy and plant comprise the very latest improvements and the distribution of milk in sealed bottles has had the immediate effect of stimulating the interest of both consumers and retail purveyors. The latter are at last waking up to the fact, already recognised in many parts of the country, that the open milk can is doomed and must, under pressure of public opinion, inevitably give place to the more hygienic milk bottle. The experiment of the Leeds Industrial Co-operative Society will be carefully watched and, if it succeeds, many other purveyors will doubtless follow their lead and adopt similar methods.

It is not surprising that "Grade A (Tuberculin Tested)" milk fails to increase in public favour. For one reason the designation is too cumbersome and another reason is that the more



discriminating portion of the public is now demanding the highest grade, namely, "Certified." This demand is reflected in the desire of many producers of "Grade A" milk to proceed further and obtain licences for the use of the special designation "Certified." Such a procedure entails the necessity of the regular tuberculin testing of all the cows in the herd.

All "Grade A" herds are specially inspected by the veterinary officers every month which has entailed 135 visits and 3,661 examinations of cattle in addition to the routine work of inspection under the Milk and Dairies Order of 1926, whilst in addition to this, at the farm producing "Certified" milk which comprises an average of 55 cows, all the cows are tested with tuberculin every 6 months and no new cow is added to the herd until she has passed the tuberculin test.

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.				
	1926.	1927.	1928.	1929.	1930.
(1) Producers' Licences to use the designation "Grade A" ..	5	4*	7	8	8
(2) Dealers' Licences to use the designation "Certified" ..	2	8	7	10	10
(3) Dealers' Licences to use the designation "Grade A (Tuberculin Tested) " :—					
(a) Bottling establishments ..	3	4	2	2	2
(b) Shops .. .. .	53	35	22	14	11
(4) Dealers' Licences to use the designation "Grade A" :—					
(a) Bottling establishments ..	4	4	4	3	3
(b) Shops .. .. .	140	179	196	215	211
(5) Dealers' Licences to use the designation "Pasteurised" :—					
(a) Pasteurising establishments ..	..	..	..	1	3
(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 graded milk farms is examined monthly as to its bacterial content and the premises and methods are under the regular supervision of the lay inspectors so that graded milk produced within the city may be considered to be of dependable quality.

At the two dairy farms owned and managed by the City Council, one is licensed to produce "Grade A" milk whilst at the other the tuberculin test is regularly applied and the herd maintained tubercle free. It is a pity that both herds cannot be tubercle free if for nothing else than to show an example to other local producers. At the tubercle free farm inspection was maintained as in the case of graded milk farms, 12 visits and 146 examinations of cattle being made.

**Dairy Farms and Milkshops.**—The following tables show the number of registered dairy farms and milkshops in the city on December 31st, 1930.

#### DAIRY FARMS.

Number of dairy farms in the City on the register on					
December 31st, 1929 .. .. .	..	..	..	..	181
Number added to register during the year .. ..	..	..	..	..	1
Number removed from register during the year ..	..	..	..	..	3
Number on register on December 31st, 1930 .. ..	..	..	..	..	179

#### MILKSHOPS.

Number of milkshops in the City on the register on					
December 31st, 1929 .. .. .	..	..	..	..	569
Number added to register during the year .. ..	..	..	..	..	32
Number removed from register during the year ..	..	..	..	..	17
Number on register on December 31st, 1930 .. ..	..	..	..	..	584

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

						VISITS
To milkshops .. .. .	..	..	..	..	..	1,742
To cowsheds .. .. .	..	..	..	..	..	2,149
To railway stations.. ..	..	..	..	..	..	804
To farms or milkshops <i>re</i> infectious disease .. ..	..	..	..	..	..	12
To food shops and bottled milk stores .. ..	..	..	..	..	..	906



**Guinea Pig Tests.**—During the year in addition to the samples of milk submitted to the City Analyst, 88 samples were sent to the School of Medicine for examination for the presence of the tubercle bacillus. Five (or 5·7 per cent.) were returned as positive, three being from farms outside the city and two from within the city. In connection with the three samples of milk from farms outside the city, information was forwarded by letter to the West Riding County Council, the North Riding County Council, and the Lancashire County Council respectively in which districts the farms were situated. The Chief Veterinary Officer of the West Riding County Council together with the Assistant Veterinary Officer of this city visited the farm in question to examine the herd and obtain samples of milk from any suspected animal. Two such samples were obtained for biological examination by the Leeds City Bacteriologist and two identical samples and two group samples from the remainder of the herd were submitted to the County Bacteriologist by the Chief Veterinary Officer of the County. Reports on all these samples proved them to be negative and therefore no action could be taken.

In connection with the sample produced in the North Riding information was received from the County Medical Officer that only recently a cow was found on the producer's premises which was suffering from tuberculosis of the udder and giving tuberculous milk and the animal was therefore slaughtered forthwith. This cow without doubt was responsible for the sample of milk reported upon by the City Bacteriologist as tuberculous.

With reference to the sample of milk produced in the Lancaster Rural District, the Chief Veterinary Officer of this city accompanied the Veterinary Inspector and Sanitary Inspector of the County and inspected the cows. The herd was composed of 20 cows, 18 of which appeared to be healthy whilst two were regarded as suspicious. Samples of milk were obtained from both cows together with a group sample of the milk from the other 18 cows for examination by the County Bacteriologist at Manchester University. The Chief Veterinary Officer of this city also took samples from the two suspect cows for examination in the departmental laboratory and these both proved to be negative as also were the other three samples examined by the County Bacteriologist at the Manchester University. No action could therefore be taken.

The two remaining samples were of local milk, one being submitted to the City Bacteriologist in connection with a suspected cow under detention under the Tuberculosis Order of 1925. On receipt of the information that the result was positive the animal was accordingly slaughtered and the post-mortem examination revealed advanced tuberculosis.



The other sample was a graded milk. Three group samples were taken as clinical examination had failed to reveal tuberculosis in any of the animals. The City Bacteriologist reported upon the three group samples as being negative and therefore no action could be taken.

**Special Bacterial Tests.**—In addition to the 732 milk samples examined in the departmental laboratory, 20 samples were submitted to the City Bacteriologist for special examination as to bacterial content and the presence of bacillus coli. These included three samples in connection with an application from a local farmer to produce "Certified" milk and all three were reported to be not of the standard required by the Milk (Special Designations) Order of 1923. The others comprised five "Certified," six "Grade A (Tuberculin Tested)," two "Grade A," one "Pasteurised," and three ordinary loose milks. Two of the last mentioned were taken from the consumer and were reported to be very unsatisfactory, but the other sample taken from the producer (local) proved to be satisfactory. Two "Certified," three "Grade A (Tuberculin Tested)," and one "Grade A" milks were also reported upon as unsatisfactory, not being of the standard required by the Milk (Special Designations) Order, 1923. All the remaining samples were reported upon as being satisfactory.

In addition to the above, eight samples of dried milk from the stock of the Medical Officer of Health were submitted for bacteriological examination, and whilst six were reported to have low bacterial counts, two had very high counts and the firm of manufacturers concerned was warned by letter.

**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 732 samples of milk were examined in the Departmental Laboratory as to bacterial content and contamination with bacillus coli. They were also examined for keeping properties, and 200 by the Gerber method for the amount of fatty and non-fatty solids, these latter samples being taken as in previous years for the National Institute for Research in Dairying at Reading. Of the total number stated 292 were graded milk, 130 milk taken in the course of delivery, 56 taken on delivery to local institutions, 21 taken at the schools, 33 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. In



addition there were 30 other milks examined only as to fatty and non-fatty solids.

All the samples were kept at room temperature until the souring point was reached.

The time of keeping for the graded milk was 3 days, for milk taken in the course of delivery 2.1 days, milk taken on delivery at local institutions 2.5 days, and milk taken at the schools 1.6 days.

Samples of graded milks to the number of 39 did not comply with the standard laid down in the Milk (Special Designations) Order of 1923, *Bacillus Coli* being present in 1-100 c.c. Of this number 27 were from farms outside the city and 12 from farms within the city. Of the 27 "outsiders," one farm failed to comply with the *B. Coli* standard five times during the year, three farms each failed four times, one farm three times, two farms twice, and three farms once. Of the twelve local farms, three farms each failed three times and three farms once.

Of the three graded milks with bacterial counts above the standard (200,000 bacteria per c.c.) two were from farms outside the city and one from a farm within the city.

Particulars of the samples examined are as follows:—

#### SAMPLES EXAMINED AS TO BACTERIAL CONTENT.

Bacterial Content per c.c.	Graded Milk.	Milk taken in course of delivery.	Institution Milk.	School Milk.	Total.
1- 50,000 .. }	277 94.9%	73 56.2%	40 71.4%	14 66.7%	404
50,000- 100,000 .. }	8 2.7%	21 16.2%	2 3.6%	4 19.0%	35
100,000- 200,000 .. }	4 1.4%	17 13.1%	11 19.6%	2 9.5%	34
200,000- 500,000 .. }	1 0.3%	11 8.5%	1 1.8%	1 4.8%	14
500,000-1,000,000 .. }	1 0.3%	1 0.8%	..	..	2
1,000,000+ .. }	1 0.3%	7 5.4%	2 3.6%	..	10
Total Samples ..	292	130	56	21	499

## SAMPLES EXAMINED AS TO B. COLI CONTENT.

	Graded Milk.	Milk taken in course of delivery.	Institution Milk.	School Milk.	Total.
B. Coli present in 1/10 c.c. }	..	22	8	3	33
.. .. 1/100 c.c. }	..	16.9%	14.3%	14.3%	
.. .. 1/100 c.c. }	39	21	2	6	68
.. .. 1/100 c.c. }	13.4%	16.2%	3.6%	28.6%	
.. .. 1/1000 c.c. }	..	57	13	5	75
.. .. 1/1000 c.c. }	..	43.8%	23.2%	23.8%	
B. Coli absent .. }	253	30	33	7	323
.. .. 1/1000 c.c. }	86.6%	23.1%	59.0%	33.3%	
Total Samples ..	292	130	56	21	499

*Milk Samples Tested by the Gerber Method.*—During the year 230 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.
*230	182	35	11	2

\* These were all informal samples.

The average composition of the 230 samples was :—

Fat .. .. 3.45 per cent.

Solids-not-fat .. .. 8.80 per cent.

Total solids .. .. 12.25 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 ten samples of water from farms and other premises have been examined as to their bacterial purity with the following results :—

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



The following investigations were also undertaken :—

Milk centrifuged and examined for the presence						
of tubercle bacillus	..	..	..	..	..	39
Hair and Skin scrapings (Mange)	..	..	..	..	..	1
Meat	..	..	..	..	..	1
Sputum	..	..	..	..	..	1
Pus	..	..	..	..	..	1

10 milks and 1 sputum by microscopical examination showed the presence of tubercle bacillus.

Other Work :—

Tubes of media prepared	..	..	..	3,983
Microscopic slides prepared, stained, and				
and examined in connection with				
various bacterial tests	..	..	..	134

As in previous years the laboratory has been found of considerable educational benefit and help to persons engaged in the production or sale of milk by retail and of interest also 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 necessary steps taken in the examination of milk with a view to ensuring a clean milk supply.

## FOOD AND DRUGS.

### FERTILISERS AND FEEDING STUFFS.

**Food and Drugs.**—The Sampling Officers took 542 formal and 21 informal samples of food other than milk and cream. The total number of formal samples of all kinds taken during the year was 2,056 and informal 67.

**Condensed and Dried Milk Regulations.**—During the year eight samples of condensed milk were submitted to the City Analyst for examination. In all cases the contents were reported upon as complying with the Regulations, as also were the labels on the samples.



Eight samples of dried milk were submitted for analysis during the year, seven of which were reported as genuine, whilst one (or 12.5 per cent.) was 2.9 per cent. deficient in milk fat. No action was taken. The labels on the samples in each case complied with the Regulations.

**Public Health (Preservatives, etc., in Food) Regulations.**—Of 11 samples of potted meat submitted to the City Analyst for examination, 4 (or 36.4 per cent.) were reported to be adulterated. Two contained 2.0 per cent. and 8.0 per cent. of starch respectively, whilst the remaining two each contained 20 parts of sulphur dioxide per million. In connection with the sample containing 2.0 per cent. of starch, no action was taken, but the vendor from whom the other sample was taken was warned by letter from the Medical Officer of Health. With regard to the remaining two samples each containing 20 parts of sulphur dioxide per million, the Town Clerk decided that it was not desirable to take proceedings against the retailers from whom the samples had been obtained as there was no evidence that the preservative had been added by them. The explanation given was that the potted meat had been prepared from canned beef and on samples of the latter being taken it was found that they all contained sulphur dioxide to the extent of 15 parts per million. The presence of this preservative is probably due to the use of preserved gelatine in the course of manufacture and in that case the articles in question are covered by Article 4 (1) (ii.) of the Public Health (Preservatives &c. in Food) Regulations of 1925-27. All the remaining samples were found to be genuine.

Of 34 samples of sausages submitted for examination, 10 (or 29.4 per cent.) were reported to contain 280, 110, 330, 140, 240, 100, 140, 280, 15 and 25 parts respectively of sulphur dioxide per million without declaration of the fact. The vendor in each case was warned by letter from the Medical Officer of Health. All the remaining samples examined in accordance with the Regulations were found to be genuine.

**Fertilisers and Feeding Stuffs Act, 1926.**—During the year 85 samples were taken under the above-mentioned Act and submitted to the City Analyst for examination. Of this number 57 were samples of Feeding Stuffs, the remaining 28 being Fertilisers.



*Fertilisers.*—The 28 samples were all taken in an informal manner and on examination seven of these samples failed to comply with the warranty issued by the manufacturers and five were incompletely or incorrectly declared in the statutory declaration issued. The firm concerned with three of the samples which failed to comply with the warranty was warned by letter from the Medical Officer of Health and in the remaining cases verbal warnings were given by the Inspector. The remaining samples all complied with the Act.

*Feeding Stuffs.*—Of the 57 samples taken, four were taken in a formal manner whilst the remaining 53 were informal. Three informal samples failed to comply with the warranty issued by the manufacturers and five were incompletely or incorrectly declared in the statutory declaration issued. The remaining samples all complied with the requirements of the Act. The firms from whom the samples were obtained and which were reported as being not in compliance with the requirements of the Act were warned verbally by the Inspector.

**Ice Cream and Food Preparing Places (Leeds Corporation Act, 1930).**—*Ice Cream.*—Seeing that the registration of places used for the manufacture for sale or sale of ice-cream had been included in the same section of the Leeds Corporation Act of 1930 as the registration of places used for the preparation or manufacture of foodstuffs, it was deemed advisable for the supervision of both these classes of establishments to be placed in one section of the Department. The first step in such a re-organisation was the transference of the inspection and registration of ice-cream establishments from the Sanitary to the Food and Dairies Section as from November 1st. Inasmuch as this section of the Act did not come into force until January 1st, 1931, the Inspector concerned devoted himself during the year to a review of the existing establishments and the preliminary work in connection with their registration under the new Act.

*Food Preparing Places.*—As regards food preparing places (hotel kitchens, food stores, etc.) constant supervision has been maintained as in previous years and during the year 1,228 visits of inspection were made. On January 1st, 1931, the compulsory registration of these places comes into force and it will then be possible to maintain even stricter supervision.



## MUNICIPAL LABORATORY

BY

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

The number of samples of all kinds examined in 1930 was 2,936, of which 2,123 were food and drugs. Analyses have been made for seven Corporation Departments, viz., Public Health, City Police, Waterworks, Highways, Tramways, Baths, and Weights and Measures. Since the opening of the laboratories in June, 1928, eleven Corporation Departments in all have addressed enquiries and have had work undertaken on their behalf.

In May, Mr. R. W. Sutton, Assistant City Analyst, was appointed Additional Public Analyst and Deputy Agricultural Analyst, and these appointments were formally confirmed by the Ministry of Health and the Ministry of Agriculture and Fisheries respectively.

**Food and Drugs.**—The table on pages 222 and 223 set out the 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 10·5 per cent. as compared with 12·7 per cent., the corresponding figure for 1929.

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

	1930.	1929.	Standard.
Non-fatty			
solids ..	8·84 per cent.	8·77 per cent.	8·50 per cent.
Fat .. ..	3·68 „ „	3·61 „ „	3·00 „ „
Total solids	12·52 „ „	12·38 „ „	11·50 „ „

The figures for 1930 are seen to be higher than those for 1929. The percentage of adulteration was also less, being 11·9 per cent. as against 15·9 per cent., whilst the figure for the fourth quarter of 1930 was the lowest for the last three years, the comparative figures being :—

Percentage of milks adulterated in quarter ended Dec- ember 31st ..	1928.	1929.	1930.
	10·0 per cent.	9·8 per cent.	7·0 per cent.



Of the 182 samples below standard, 51 contained added water, 109 were deficient in fat, and 22 showed both added water and fat deficiency. The largest amount of water found in any sample was 15.9 per cent., and the greatest fat deficiency 46 per cent.

All the samples were free from boric acid and formaldehyde.

**Cream.**—Of 21 samples, 3 (14.3 per cent.) contained 0.10 per cent., 0.11 per cent. and 0.05 per cent. boric acid respectively.

The firm of dairymen selling the first two samples in question were summoned and found guilty and fined £1 and 10/6 costs in each case. The dairyman selling the third sample was warned by letter from the Medical Officer of Health.

**Dried Milk.**—Of eight samples, one (12.5 per cent.) was 2.9 per cent. deficient in fat, containing only 25.25 per cent. instead of the required minimum of 26 per cent. No action was taken.

**Jam.**—Of eight samples, five (62.5 per cent.) were adulterated. In one case a blackcurrant jam described as "home-made" contained only one-fifth the quantity of fruit usually associated with home-made jam. The other four samples contained foreign fruit juice without declaration of the fact at the time of sale, and in three cases the vendors were warned by letter by the Medical Officer of Health. It appears to be the practice of certain shopkeepers to sell loose from an unlabelled jar, jam which they have obtained correctly described from the wholesaler. Up to November 1st, 1930, the qualifying declaration of the presence of foreign fruit juice had invariably been made in very small type, with the result that it generally escaped the notice of the purchaser altogether. Since then, however, several manufacturers have signified their intention of declaring the presence of foreign fruit juice in letters of size equal to that of the name of the fruit or fruits from which the jam is made, but this refers only to what are known as second quality jams with a minimum fruit content of 20 per cent. As regards so-called first-quality jams of full fruit standard, with compositions recognised by the Society of Public Analysts, it has been agreed to omit the declaration of the addition of foreign fruit juice when this has been made. This seems regrettable, as in no one case does the minimum fruit content required equal 50 per cent., the average content of fruit in a home made jam. Actually the figures vary from 45 per cent. down to 30 per cent.



**Lard.**—Of 26 samples, one (3.8 per cent.) was a vegetable preparation containing at least 50 per cent. of a cotton seed oil product. The vendors were warned by letter from the Town Clerk.

**Margarine.**—Of 19 samples, two (10.5 per cent.) were adulterated; 1 contained 0.03 boric acid, the presence of which was stated to be due to accidental admixture of the margarine with some intended for export to a country in which the use of boric acid as a preservative is permissible. The retailer was warned by letter from the Medical Officer of Health.

**Potted Meat.**—Of 11 samples, four (36.4 per cent.) were adulterated. Of these, two contained 2 per cent. and 8 per cent. starch respectively, and the vendor in the second case was warned by letter from the Medical Officer of Health. Each of the other two contained 20 parts of sulphur dioxide per million, but it was decided not to take proceedings against the retailers concerned, as there was no evidence that the preservative had been added by the retailers concerned. The explanation given was that the potted meat had been prepared from canned beef, and on samples of the latter being taken it was found that they all contained sulphur dioxide to the extent of 15 parts per million. The presence of this is probably due to the use of preserved gelatine in the course of manufacture. If so, the articles in question are covered by Section 4 (1) (ii.) of the Public Health (Preservatives, etc. in Food) Regulations 1925-27.

**Prescribed Medicine.**—Of four informal samples, one (25 per cent.) was 10 per cent. deficient in arsenic.

**Rum.**—Of nine samples, three (33.3 per cent.) were 44, 49 and 44 degrees under proof respectively. The publicans retailing these were each summoned and dismissed under the Probation of Offenders Act on payment of 14/6 costs.

**Rum Punch.**—One sample was taken and found to contain no rum, being a non-alcoholic liquor possessing the properties of a cordial. The manufacturers were warned by letter from the Medical Officer of Health.

**Sausages.**—Of 34 samples, 10 (29.4 per cent.) contained 280, 110, 330, 140, 240, 100, 140, 280, 15, and 25 parts respectively of sulphur dioxide per million without declaration of the fact. The vendors were all warned by letters from the Medical Officer of Health.



**Sweet Spirit of Nitre.**—Of five samples, two (40.0 per cent.) did not conform with the requirements of the British Pharmacopœia 1914 as regards composition ; one contained no ethyl nitrite, being an imitation mixture consisting of nitre, sugar, ammonium acetate, alcohol, and water ; the other contained only 1.08 per cent. ethyl nitrite instead of the 1.52 per cent. minimum. In the first case the manufacturers and retailer were warned by letters from the Medical Officer of Health, whilst in the second case the retailer was summoned and dismissed under the Probation of Offenders Act on payment of 14/6 costs.

**Vinegar.**—Of 20 samples, two (10.0 per cent.) were 28 per cent. and 40 per cent. deficient respectively in acetic acid, containing only 2.88 per cent. and 2.40 per cent. acetic acid respectively, instead of the minimum 4.0 per cent. required by the Local Government Board Standard. In the first case the retailer was fined 20/- including costs, but in the second case, when a summons was issued, the retailer had left the premises and could not be traced.

**Malt Vinegar.**—Of 12 samples, one (8.3 per cent.) contained only 3.76 per cent. acetic acid, being therefore 6 per cent. deficient. The retailer was warned by letter from the Medical Officer of Health.

**Whisky.**—Of 19 samples, four (21.1 per cent.) were 38, 36.4, 36 and 43 degrees under proof respectively instead of the maximum 35 degrees allowable. In the first case the publican was summoned and dismissed under the Probation of Offenders Act on payment of 14/6 costs ; in the second no action was taken ; in the third it was decided to take a further sample ; and in the fourth the publican was fined 20/- and costs.

**Fertilisers and Feeding Stuffs Act, 1926.**—Eighty-five samples have been examined, 28 being fertilisers and 57 feeding stuffs. Of the fertilisers seven failed to comply with the warranty, and four were incompletely or incorrectly declared. Of the feeding stuffs three failed to comply with the warranty, and five were incompletely declared.

**Rag Flock Acts, 1911 and 1928.**—Six samples of rag flock were examined. Five of these were found to comply with the legal standard, but in the sixth the amount of chlorine present was found to be 32 parts per 100,000 which is two parts in excess of the required standard. The firm responsible was warned.



**Waterworks Manager.**—Monthly analyses of the City Water have been carried out, and have proved its continued satisfactory character. Certain other enquiries have also been dealt with in connection with the water supply.

**Chief Constable.**—Two bottles of medicine and three sets of pills were analysed, and reports upon these duly forwarded.

**Highways Engineer.**—Two samples of pitch were analysed.

**Tramways Manager.**—One sample of Black Enamel suspected of causing dermatitis of the hands of a painter was found to consist of a bituminous basis dissolved in "Westrosol" (trichlorethylene).

**Baths Superintendent.**—Three samples of water taken respectively from the Bramley, Union Street, and York Road Swimming Baths, where new filtration and chlorination plants had recently been installed, were analysed and favourably reported upon.

**Weights and Measures Superintendent.**—Certain eggs, sold as English new laid and suspected of being imported, were examined by ultra-violet rays and submitted to chemical tests, with the object of finding if the marks had been removed by acid, but without result. As other eggs found on the premises bore marks removable with water, the negative results are probably explained.

**Smoke Abatement Committee.**—The monthly analyses of the five rain gauges in various parts of the city area and the daily sunlight tests have been continued.

**Miscellaneous.**—In addition to the above work 32 other analyses have been dealt with. Fifteen of these were special samples from the Medical Officer of Health, and 17 were from private sources.

Amongst the former may be mentioned, as of interest, the detection of lead in toxic amount in the moorland tap water of a country house, some of the residents of which were definitely showing signs of lead poisoning; the finding of chemical irritant in two furs, the wearers of which had suffered from dermatitis of the neck and wrists; the analysis of dust from the cement floor of the Rates Office and the discovery of crystals of magnesium ammonium phosphate in a tin of salmon, probably formed by the chilling of the salmon juices when in cold storage.

These taken into conjunction with the work as a whole, tend to show the wide range covered by the investigations undertaken in the municipal laboratory of a large industrial city like Leeds, and the varied needs which such a laboratory is able to meet.



FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED  
TO THE CITY ANALYST DURING 1930.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Baking Powder .. ..	25	..	25	..	..	..	..
Beer.. .. .	44	..	44	..	..	..	..
Bicarbonate of Soda ..	2	..	2	..	..	..	..
Borax .. .. .	1	..	1	..	..	..	..
Boric Ointment .. ..	2	..	2	..	..	..	..
Brawn .. .. .	4	..	4	..	..	..	..
Butter .. .. .	21	..	21	..	..	..	..
Camphorated Oil .. ..	2	..	2	..	..	..	..
Castor Oil .. .. .	1	..	1	..	..	..	..
Cascara Sagrada (Liquid Extract of) .. ..	1	..	1	..	..	..	..
Cheese .. .. .	4	..	4	..	..	..	..
Cocoa .. .. .	17	..	17	..	..	..	..
Cod Liver Oil .. .. .	1	..	1	..	..	..	..
Cod Liver Oil Emulsion ..	2	3	5	..	..	..	..
Cod Liver Oil and Malt Extract .. .. .	..	2	2	..	..	..	..
Coffee .. .. .	4	..	4	..	..	..	..
Coffee, French .. ..	2	..	2	..	..	..	..
Coffee and Chicory ..	1	..	1	..	..	..	..
Condensed Milk .. ..	8	..	8	..	..	..	..
Cordials .. .. .	17	..	17	..	..	..	..
Corned Beef .. .. .	11	3	14	..	..	..	..
Cornflour .. .. .	1	..	1	..	..	..	..
Cream .. .. .	17	4	21	3	..	3	14.3
Cream (tinned) .. ..	1	..	1	..	..	..	..
Cream Cakes .. .. .	2	..	2	..	..	..	..
Cream of Tartar .. ..	2	..	2	..	..	..	..
Curds .. .. .	1	..	1	..	..	..	..
Custard Powder .. ..	2	..	2	..	..	..	..
Desiccated Cocoanut ..	1	..	1	..	..	..	..
Dried Milk .. .. .	1	7	8	1	..	1	12.5
Dripping .. .. .	4	..	4	..	..	..	..
Epsom Salts .. .. .	9	..	9	..	..	..	..
Flour .. .. .	12	..	12	..	..	..	..
Flour, Self-raising.. ..	4	..	4	..	..	..	..
Flour, Bun.. .. .	1	..	1	..	..	..	..
Ginger .. .. .	2	..	2	..	..	..	..
Ground Almonds .. ..	5	..	5	..	..	..	..
Health Salts .. .. .	3	..	3	..	..	..	..
Honey .. .. .	6	..	6	..	..	..	..
Honey, Glycerine & Lemon	1	..	1	..	..	..	..
Jam .. .. .	8	..	8	5	..	5	62.5
Jellies .. .. .	7	..	7	..	..	..	..
Lard .. .. .	26	..	26	1	..	1	3.8
Lemon Crystals .. ..	1	..	1	..	..	..	..
Carried forward ..	287	19	306	10	..	10	..



FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED  
TO THE CITY ANALYST DURING 1930—Continued.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Brought forward ..	287	19	306	10	..	10	..
Lemonade Crystals ..	2	..	2	..	..	..	..
Lemon Cheese ..	1	..	1	..	..	..	..
Lime Drops ..	3	..	3	..	..	..	..
Liquorice Powder (compound) ..	1	..	1	..	..	..	..
Malt Extract ..	..	1	1	..	..	..	..
Margarine.. ..	19	..	19	2	..	2	10·5
Milk ..	1,488	42	1,530	178	4	182	11·9
Milk, Skimmed ..	9	..	9	1	..	1	11·1
Milk Pudding Mixture ..	1	..	1	..	..	..	..
Oatmeal ..	11	..	11	..	..	..	..
Olive Oil ..	3	..	3	..	..	..	..
Paraffin, liquid ..	3	..	3	..	..	..	..
Peas.. ..	7	..	7	..	..	..	..
Pearl Barley ..	10	..	10	..	..	..	..
Pepper ..	14	..	14	..	..	..	..
Polony ..	3	..	3	..	..	..	..
Potted Meat ..	11	..	11	4	..	4	36·4
Prescribed Medicine ..	..	4	4	..	1	1	25·0
Raisins ..	2	..	2	..	..	..	..
Raspberry Crystals ..	2	..	2	..	..	..	..
Rice ..	15	..	15	..	..	..	..
Rum ..	9	..	9	3	..	3	33·3
Rum Punch ..	1	..	1	1	..	1	100·0
Saline Health Mixture ..	1	..	1	..	..	..	..
Salmon Paste ..	2	..	2	..	..	..	..
Salmon Roll ..	1	..	1	..	..	..	..
Sausages ..	34	..	34	10	..	10	29·4
Sponge Cakes ..	1	..	1	..	..	..	..
Stout ..	1	..	1	..	..	..	..
Suet ..	5	..	5	..	..	..	..
Sugar ..	8	..	8	..	..	..	..
Sultanas ..	2	..	2	..	..	..	..
Sweet Spirit of Nitre ..	5	..	5	2	..	2	40·0
Syrup of Figs ..	1	..	1	..	..	..	..
Tea ..	36	..	36	..	..	..	..
Tripe ..	2	..	2	..	..	..	..
Vinegar ..	20	..	20	2	..	2	10·0
Vinegar, Malt ..	12	..	12	1	..	1	8·3
Whisky ..	19	..	19	4	..	4	21·1
Wine ..	2	1	3	..	..	..	..
Zinc Ointment ..	2	..	2	..	..	..	..
Total ..	2,056	67	2,123	218	5	223	10·5



SUMMONSES ISSUED DURING 1930 UNDER THE SALE OF FOOD  
AND DRUGS ACTS.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
1S	Milk ..	12.2% of added water and 10.0% deficient in fat ..	2 0 0	Farmer.
14C	Vinegar	28.0% deficient in acetic acid	1 0 0 including costs	Retailer.
39S	Milk ..	6.8% of added water ..	2 0 0	To pay costs ; farmer.
56C	Milk ..	46.0% deficient in fat ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; retailer.
122C	} Milk ..	18.0% deficient in fat ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; retailer.
159C		13.0% deficient in fat ..	2 0 0	To pay costs ; farmer.
201S	Milk ..	17.0% deficient in fat ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; retailer.
203S	Milk ..	18.0% deficient in fat ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; retailer.
229S	Whisky	38 degrees under proof ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; Publican.
264C	Rum ..	44 degrees under proof ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; publican.
265C	Rum ..	49 degrees under proof ..	..	Dismissed under the Probation of Offenders Act on payment of 14/6 costs ; publican.
338C	Milk ..	6.8% of added water ..	..	Ordered to pay costs ; producer.
355S	} Milk ..	3.5% of added water and 40.0% deficient in fat	..	Defendant dismissed on production of warranty from producer ; Corporation ordered to pay costs ; retailer.
368S		1.4 % of added water and 15.0 deficient in fat ..	..	To pay 10/6 costs ; producer.

SUMMONSES ISSUED DURING 1930 UNDER THE SALE OF FOOD  
AND DRUGS ACTS—Continued.

No. of Sample	Article.	Adulteration or Offence.	Fines.			Remarks
			£	s.	d.	
363c	Sweet spirit of nitre	29.0% deficient in ethyl nitrite	..			Dismissed under the Probation of Offend- ers Act on payment of 14/6 costs; re- tailer.
432c	Milk ..	21.0% deficient in fat ..	..			Dismissed under the Probation of Offend- ers Act on payment of 14/6 costs; retailer.
448c	Rum ..	44 degrees under proof ..	..			Dismissed under the Probation of Offend- ers Act on payment of 14/6 costs; pub- lican.
524L	Milk ..	25.0% deficient in fat ..	0	5	0	To pay 10/6 costs. retailer.
593c	Cream ..	0.10% of boron preservative	1	0	0	To pay 10/6 costs; wholesale and retail firm of dairymen.
595c	Cream	0.11% of boron preservative	1	0	0	To pay 10/6 costs; wholesale and retail firm of dairymen.
602c	} Milk ..	13.0% deficient in fat ..	..			Adjourned <i>sine die</i> to afford the defending solicitor an oppor- tunity of producing expert evidence in support of his de- fence. The Medical Officer of Health de- cided that the cases be removed from the list: producer.
604c		22.0% deficient in fat ..	..			
637c	Milk ..	26.0% deficient in fat ..	..			Dismissed under the Probation of Offend- ers Act on payment of 10/6 costs; retailer.
645c	Sausage	240 parts per million of sulphur dioxide preserva- tive without declaration of the fact	..			Dismissed under the Probation of Offend- ers Act on payment of 10/6 costs; butcher.
773c	Milk ..	6.7% of added water ..	0	10	6	Retailer.
			Including costs			
1042c	Milk ..	15.9% of added water and 3.3% deficient in fat	2	0	0	To pay costs; producer.
1086c	Whisky	43 degrees under proof ..	1	0	0	To pay costs; publican.



## 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.*

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**Rivers and Streams.**—The powers conferred by the Rivers Pollution Prevention Act 1876, in respect of the Leeds area, are administered by the West Riding Rivers Board, and during the year under review close co-operation has been maintained between this body and the Health Department. There was nothing in the way of river pollution during the year calling for special mention.

**Water.**—I am indebted to Mr. H. Shortreed, the Waterworks Manager, for the following particulars regarding the water supply of the city during the year.

The rainfall in the Washburn Drainage Area for the year ended 31st December, 1930, was 42·87 inches, as compared with 29·18 inches in the year 1929, and an ample supply of water was available throughout the whole of the year, with, in the month of July, a minimum depletion of less than a quarter of our storage, which (with the consumption at its present level) is equal to 215 days' supply for the whole of the city and the outside districts dependent on the Corporation for a supply of water.

During the year, 30,472 yards of new distribution mains of from 4 inches to 9 inches in diameter were laid, and 10,168 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, 1930, was 6,402 million gallons, equal to an average daily consumption of 17·54 million gallons, as compared with a daily average of 17·85 million gallons during the previous year. The daily average consumption for domestic purposes was approximately 23 gallons per head.

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



**Sewage Disposal.**—The Thorpe Stapleton Main Sewage Purification Works occupy a site of 626½ acres, situated about three miles from the centre of the city in a South-Easterly direction. They are designed to deal with the whole of the sewage of the city, excepting that of a small area served by the Rodley Works. The first instalment of the Works included in the sewage disposal scheme is nearing completion, tanks of 8 million gallons capacity having been added this year, and when the further important units which will follow in their correct sequence are completed, the city will possess one of the most up-to-date sewage works in the country.

The Sewage Works at Rodley are on a site of 80½ acres, situated about four miles from the Town Hall, in a North-Westerly direction, but within the Urban District of Horsforth. The drainage area now connected to the works consists of a portion of the out-lying areas of Rodley, Stanningley and Bramley Townships, situated in the City of Leeds. By agreement with the authorities concerned it is intended to add the drainage areas of the Urban Districts of Calverley and Farsley, situated on the West of the City boundary, and the Rodley Works are now being extended to meet the additional demand.

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

**Drainage and Sewerage.**—The policy of the Department to press for the abolition of cesspools and the conversion of privies was pursued during 1930, and in this connection requests made to the City Engineer's Department for sewer extensions received courteous consideration. Eighty-two yards of additional branch sewers were constructed, enabling five privies to be converted, two cesspools to be abolished, and the drains of seven houses (including a farm) to be connected to the sewer.

*Obnoxious Emanations from Sewers.*—From time to time during the year, but especially during the Summer months, complaints were received regarding the offensive smells arising from perforated manhole covers in the roadway. The complaints, which totalled about 130, were equally distributed through the city.

While recognising the need from the health point of view of abating this nuisance, it must not be overlooked that the covers of the manholes in question were perforated with the purpose of



ventilating the sewer. Inadequate ventilation of a sewer may result in an accumulation of inflammable gases, with grave risk of explosions, as have happened recently in other cities. Each complaint therefore was carefully investigated by an inspector, and if found justified representation was made to the City Engineer with a view to remedy. The latter gave courteous consideration to all such representations, and arranged for the replacement of the perforated cover by an airtight one in cases where the sewerage conditions in the area warranted it.

**Closet Accommodation.**—During the year the Corporation continued to give financial assistance to property owners in approved cases in the matter of the cost of converting trough-closets into modern pedestal water-closets, and 875 trough-closets were so converted, as compared with 793 last year.

The disbursements in this connection for the year amounted to £6,274 3s. 4d. Every effort was made to ensure that the estimates submitted by owners to the Department in respect of trough-closet conversion work were the lowest compatible with work of a satisfactory standard. For the year the average cost per closet converted worked out at £8 12s. 8d. per conversion, as compared with £8 14s. 8d. in the previous year. The Corporation's contribution was correspondingly lower.

On December 31st, 1930, there remained in the city 2,772 trough-closets, of which owing to various circumstances about 1,300 are capable of being converted.

Thirty-eight 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 year end was as follows:—privies 322; pail-closets 230; trough-closets 2,772; and cistern water-closets approximately 107,700.

**Cleansing.**—I am indebted to Mr. S. Thornley, the Cleansing Superintendent, for the following particulars respecting the cleansing of the city. Household refuse collected by the Cleansing Department during 1930, amounted to 173,802 tons, of which 100,106 tons were dealt with at the destructors, 73,597 tons were disposed of at tips and for agricultural purposes and 99 tons were sold as manure to farmers.



TABLE SHEWING NUMBERS OF TROUGH CLOSETS, PRIVIES AND PAIL CLOSETS IN THE CITY DURING THE LAST TWENTY-SIX 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

\*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.



**Ashpits.**—From the health point of view ashpits, no matter how well constructed, are undesirable. The charges levelled against them by sanitarians are (1) that the contents, allowed to lie for long periods, putrify, and offer favourable breeding places for insect pests and disease-producing germs; (2) that during the process of cleansing it is impossible to prevent dust and like debris being blown about, to the detriment of passers-by and the inhabitants of neighbouring houses, and (3) that the ashpit cannot be completely emptied and cleansed.

In some cities all ashpits, irrespective of their condition, have been treated as nuisances under the Public Health Act, 1875, and wholesale abolition has taken place to the betterment of the health of the community. In this respect Leeds unfortunately has lagged behind, and although some progress was made in abolishing sunken ashpits and a few of the other types, no less than 813 sunken and 6,958 of the other types remained at the beginning of 1930. During 1930 a determined effort was made to reduce these figures, and as a result 563 ashpits were abolished, as compared with 397 in 1929.

In the last Report reference was made to the powers which were being sought in a Bill before Parliament to deal more effectively with the ashpit nuisance, and as a result a section was inserted in the Leeds Corporation Act, 1930, authorising the Corporation, in any case where they are prepared to do so, to defray the expense of removing the ashpit and providing the first ashbin.

**Ashbins.**—The ashpit nuisance is best remedied by the abolition of the ashpit and its replacement by the covered metal bins. It is important, however that ashbins should be covered and kept in good condition. Too many householders misuse their ashbin by placing therein wet refuse which could easily be burned in the kitchen fire, reserving the bin for dry refuse and ashes. In this way the over-filling of bins, so frequently seen in the city with all its attendant danger to health, would be avoided. During the year particular attention was paid by the inspectors to the dangers arising from the dilapidated and misused ashbin, and in response to representations from the Department 4,428 metal ashbins were provided, as compared with 3,700 during 1929. Of the former figure 237 were provided by the Corporation in default.



**Public Conveniences.**—It is satisfactory to be able to report that definite progress was made during the year in the erection of additional public conveniences, five new structures having been provided. The situations of these are the Middleton tram terminus ; York Road, at the junction of Harehills Lane ; Lower Town Street, Bramley ; Ley Lane, Armley ; and Sutherland Street, New Wortley. The first three named provide accommodation for both sexes, and the last two are urinals only. The three conveniences are of the most up-to-date type, being partly underground, and rendered as pleasing as possible to the eye by means of surrounding shrubbery. In addition, a convenience for both sexes is at present under consideration at the Whingate Junction, Armley, while approval has already been given to construct a similar convenience at the Lawnswood tram terminus.

Following protracted negotiations it was decided to abandon the idea of erecting a new convenience at the East end of Albion Place to replace the one at the Briggate and Boar Lane junction. As an alternative it was resolved to renovate the Briggate convenience by removing the steps to the Northern end and increasing the accommodation by eight urinal stalls. The estimated cost of this alteration is £2,200.

A site has been approved for the erection of a convenience for both sexes at the junction of Woodhouse Lane and the new Headrow.

**The Rent and Mortgage Interest Restrictions Acts.**—During 1930, 17 applications for certificates were received, and 16 certificates and three reports were issued by the Department, as compared with 25 applications, 24 certificates and three reports last year. Since the introduction of the above Acts in 1920, up to the end of 1930, 1,428 applications have been dealt with and 1,348 certificates and 38 reports issued by the Department.

The number of applications made under these Acts continues to diminish, due partly to the increasing number of decontrolled houses in the city and partly to the extended use by the Department of the powers contained in Section 17 of the Housing Act 1930.

**Section 17, Housing Act, 1930.**—In the Housing Act, 1930, which came into force on the 1st August last, Section 3 of the Housing Act, 1925, was re-enacted in an amended form. Whereas by the former Section option was given to the local authority to serve a



notice in respect of repairs, the re-enacted Section is mandatory in character. In this connection full use has been made of these powers, and the following table clearly sets forth comparative figures of the work done during the past two years.

	1929.		1930.
Number of houses where defects found	1,050	..	1,759
„ „ houses at which defects			
remedied .. ..	870	..	1,632
„ „ informal notices served ..	1,050	..	1,741
„ „ statutory notices served ..	180	..	481

**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.

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	..	..	..	..	4
Tanner ..	..	..	..	..	16
Tripe Boiler	..	..	..	..	12
Fish Frier	..	..	..	..	545
Total .. ..					657

During the year 2,356 visits of inspection were made to premises in which offensive trades are carried on or in respect of which applications had been received for permission to establish offensive trades, as compared with 2,255 in 1929.

Permission was granted during the year for the establishment of three offensive trades (Rag and Bone Dealers) other than that of fish frying.



*Fish Frying.*—The year 1930 was remarkable for the number of applications received by the Department for permission to establish the offensive trade of a fish frier. Twenty-four applications were received, as compared with 14 in 1929, and 11 in 1928, respectively.

A census of fried fish shops already existing in the city elicited the facts that Leeds possesses more fried fish shops per thousand of the population than any other town in Yorkshire, and that in some districts as many as five or six shops are situated within 200 yards of each other. The Committee considered that the number of fried fish shops in the city had almost reached the saturation point, and, consequently, they were obliged to exercise to the full the powers conferred upon them by Section 112 of the Public Health Act, 1875, as amended by Section 51 of the Public Health Acts Amendment Act, 1907. Of the 24 applications received 13 were rejected.

With the object of exercising more control over the fried fish shops, the Committee took advantage of the power contained in Section 44 of the Public Health Act 1925, and future consents will be granted for the period of one year, renewable thereafter subject to the satisfactory conduct of the business.

**District Sanitary Inspection.**—Routine sanitary inspection has continued as in previous years and the amount of this work done during the year will be seen on reference to the tables on pages 234, 235 and 236.

The number of preliminary notices served for the abatement of nuisances was 9,586, and the number of statutory notices 3,182. Of the latter 2,870 have been effective and 312 were outstanding at the year end. In two cases only were legal proceedings necessary.

In addition 889 preliminary notices and 339 statutory notices were served by the special inspectors concerned in connection with common lodging-houses and houses-let-in-lodgings, etc.

It will be seen that the inspection of houses and premises in connection with infectious diseases, especially smallpox and the epidemic of diphtheria, made heavy claims on the inspectors' time.

*Training of Sanitary Inspectors.*—Six student sanitary inspectors received training in the Department during the year.



# Analysis of work done by District Inspectors in the several Wards, 1930.

Eastern Division.										Western Division.											
North	North East.	New.	West.	North West.	Brunswick.	Central.	Mill Hill.	East.	Total.	HOUSE INSPECTION.											
325	329	116	136	261	206	79	26	339	1,817	1. Houses and premises completely examined on account of	75	266	364	256	154	190	193	183	182	1,863	3,680
1	25	..	10	11	1	2	..	..	50	2. Infectious disease	..	5	1	99	69	3	4	9	10	103	255
65	90	98	39	74	1	..	..	80	447	3. Alleged nuisances	..	113	44	106	128	124	94	155	254	3,688	7,561
28	20	1	19	3	1	13	2	29	116	4. Houses and premises examined only as to	..	32	15	22	10	12	6	11	2	117	233
389	240	76	280	249	306	269	56	417	2,282	5. Occupants	..	452	456	391	259	329	204	742	64	3,487	5,769
24	4	13	1	..	..	5	2	83	132	6. Drainage	..	88	79	27	61	21	16	132	20	475	607
832	708	304	485	598	515	368	86	948	4,844	7. Number of houses wholly or partly examined	823	956	959	901	681	679	516	1,232	421	7,168	12,012
417	308	132	305	260	300	256	46	510	2,534	8. Total number of above houses where sanitary defects or nuisances were found ..	643	694	573	573	436	459	300	906	168	4,752	7,286
										NUISANCES FOUND DURING ABOVE EXAMINATIONS AND DAILY INSPECTIONS.											
26	4	1	16	4	1	12	22	47	133	9. Houses dirty	6	7	8	39	30	6	3	4	7	110	243
22	27	..	28	8	16	11	1	39	152	10. Overcrowded houses	5	39	7	12	13	7	4	10	6	103	255
551	406	285	444	320	309	370	119	1,089	3,873	11. Defective roofs, fallpipes and spouting, &c...	164	459	609	443	327	650	337	445	254	3,688	7,561
99	42	66	33	33	19	19	13	156	480	12. Defective drains	15	82	110	75	29	150	42	70	72	645	1,125
78	1	2	..	..	..	..	1	1	83	13. Houses without proper drains	..	2	2	..	6	8	35	21	1	75	158
3	2	1	2	..	..	..	..	..	8	14. Privies	..	..	5	..	1	..	..	2	..	8	16
8	1	23	1	..	..	..	..	1	34	15. Additional closets required	..	3	6	..	8	..	7	4	..	20	54
9	..	..	2	..	..	..	..	2	13	16. Pail closets	..	1	2	..	..	2	5	1	3	30	43
14	..	3	..	..	..	..	..	4	21	17. Defective or unsuitable trough or water closets	..	..	..	..	..	..	..	13	14	35	..
381	163	27	228	93	19	170	58	111	1,250	18. Ashpits (a) Sunk	95	224	75	341	84	169	54	77	129	1,248	2,498
14	5	1	6	4	5	..	2	6	43	19. Houses with unsuitable or insufficient accommodation	..	7	1	7	1	1	12	3	13	45	88
94	19	5	31	14	17	19	..	21	220	(b) Other than sunken	1	18	55	15	14	1	13	16	70	203	423
718	604	178	317	142	268	349	111	494	3,181	20. Houses with unsuitable or insufficient accommodation	147	381	385	393	114	284	297	375	553	2,879	6,060
55	9	..	19	..	15	49	7	54	208	21. Dirty closets	4	167	2	51	3	9	6	4	8	254	462



Analysis of work done by District Inspectors in the several Wards, 1930—continued.

Eastern Division.										Western Division.											
North.	North East.	New.	West.	North West.	Brunswick.	Central.	Mill Hill.	East.	Total.		South.	East Hunslet.	West Hunslet.	Holbeck.	New Wortley.	Armley and Wortley.	Bramley.	Headingley, Kirkstall and Adel.	Burley.	Total.	City Totals.
58	17	3	37	3	9	34	26	25	212	22.	Defective or dirty yard surfaces .. ..	1	27	27	16	5	6	15	..	97	309
102	121	85	82	90	98	99	187	153	1,017	23.	Stopped drains .. ..	96	155	101	129	83	29	93	109	961	1,978
744	652	303	640	227	405	357	138	643	4,109	24.	Other nuisances .. ..	158	680	409	355	437	669	122	198	481	3,509
3,020	1,909	754	1,839	912	1,181	1,439	636	2,543	14,233	25.	Number of houses affected by above nuisances .. ..	769	2,513	1,575	2,498	954	2,048	1,010	1,491	13,777	28,010
109	24	13	26	3	8	49	49	39	320	26.	Offensive accumulations and other outside nuisances including manure pits and cess-pools .. ..	9	35	21	1	10	24	30	38	182	502
2	..	..	..	..	..	..	..	..	..	27.	Pollutions of river or streams .. ..	..	..	..	..	..	..	13	..	13	15
0	2	5	8	37	5	1	1	95	163	28.	Animals (pigs, poultry, etc.) improperly kept .. ..	..	17	23	2	2	38	6	10	125	288
1	1	2	2	..	1	1	3	..	11	29.	Offensive urinals .. ..	..	..	1	6	3	4	6	3	23	34
3,097	2,100	1,003	1,922	978	1,195	1,540	738	2,960	15,533	30.	Total nuisances found .. ..	701	2,304	1,799	1,887	1,174	1,028	1,406	1,757	14,232	29,765
43	29	1	11	18	13	24	2	12	153	31.	Complaints unfounded .. ..	..	25	5	4	46	8	23	13	129	282
555	792	143	125	496	299	46	41	728	3,225	32.	Additional (Infectious disease visits paid) .. ..	521	119	149	373	112	289	146	241	1,962	5,187
3,025	2,779	379	2,046	1,838	2,364	763	328	1,551	15,673	33.	Non-abated Nuisances .. ..	426	1,984	1,891	2,303	1,038	843	1,106	1,825	12,236	27,909
955	262	239	672	286	204	107	90	547	3,362	34.	Inspection of work in progress to houses for .. ..	338	316	422	290	292	297	233	494	2,915	6,277
1,197	522	658	244	170	25	284	832	67	3,999	35.	Other causes .. ..	10	477	151	153	479	15	26	228	1,780	5,779
205	877	50	564	1,461	1,011	29	3	1,038	5,238	36.	Visits on account of special enquiries .. ..	..	763	620	294	108	190	215	107	2,488	7,726
27	192	81	82	137	99	81	40	240	979	37.	Visits to offensive trades .. ..	..	105	125	173	73	142	357	130	1,252	2,231
1	37	45	7	1	21	..	12	7	131	38.	Visits to premises of ice cream vendors .. ..	30	2	37	23	28	10	22	9	161	292
89	277	182	89	248	155	112	190	262	1,604	39.	Visits to bakehouses .. ..	243	242	211	231	84	413	481	129	2,281	3,885
168	49	44	41	36	66	29	14	115	562	40.	Appointments .. ..	3	69	141	123	67	76	78	123	767	1,329
1,104	659	184	391	523	523	417	166	987	4,954	41.	Number of informal notices served .. ..	361	898	679	503	378	601	223	632	4,632	9,586
537	251	94	138	181	134	147	36	181	1,699	42.	Number of statutory notices served .. ..	83	282	243	162	137	160	79	192	1,483	3,182
NUISANCE ABATEMENT.																					
572	320	200	240	117	206	156	118	352	2,281	43.	Metal ashbins provided .. ..	100	356	223	269	166	162	256	422	2,147	4,428
21	5	1	14	4	..	12	24	47	128	44.	Houses cleansed .. ..	7	7	11	32	18	3	3	4	87	215
5	2	..	10	3	5	..	2	..	27	45.	Overcrowded houses dealt with .. ..	2	7	..	7	14	..	3	2	37	64

\*In addition to the above, 125 visits were paid by the Workshops Inspectors to Offensive Trades; also 896 visits to premises (other than shops) where ice-cream is manufactured were paid by the two special inspectors who carry out this inspection along with other duties.



Analysis of work done by District Inspectors in the several Wards, 1930—continued.

Eastern Division.										Western Division.												
North.	North East.	New.	West.	North West.	Brunswick.	Central.	Mill Hill.	East.	Total.		South.	East Hunslet.	West Hunslet.	Holbeck.	New Wortley.	Armley and Wortley.	Bramley.	Headingley, Kirkstall and Adel.	Burley.	Total.	City Totals.	
533	443	273	417	300	347	417	119	934	3,783	46. Defective roofs, fallpipes and spouting, &c. repaired .. .. .	162	480	571	442	374	652	325	408	230	3,644	7,427	
42	2	28	12	..	8	18	1	52	153	47. Disconnection of house drains .. .. .	10	23	56	11	21	76	..	23	40	51	311	464
97	35	30	31	33	15	..	8	87	354	48. Other drainage works .. .. .	6	58	87	53	32	110	29	42	88	505	859	
69	1	5	1	..	..	..	..	7	83	49. Houses provided with proper drains .. .. .	..	..	3	..	3	2	22	15	3	48	131	
1	2	1	2	..	..	..	..	..	6	50. Houses supplied with town's water .. .. .	..	..	..	..	..	..	..	2	..	2	8	
1	1	17	1	..	..	..	..	..	20	51. Privies abolished or converted into water closets .. .. .	..	2	6	..	..	..	8	2	..	18	38	
11	5	1	7	..	..	..	1	..	24	52. Water closets erected (a) Outside .. .. .	6	1	..	5	4	..	3	2	3	28	52	
2	..	1	..	..	..	..	..	..	4	(b) Inside .. .. .	..	..	..	3	1	..	3	3	..	10	14	
11	..	2	..	..	..	..	..	..	13	53. Pall closets abolished or converted into water closets .. .. .	..	..	3	..	..	..	..	10	..	13	26	
83	35	..	72	65	26	29	19	101	430	54. Trough closets converted into water closets .. .. .	79	31	17	88	71	39	9	39	72	445	875	
353	149	24	284	73	..	176	38	20	1,117	55. Trough and water closets repaired .. .. .	97	173	64	274	89	227	59	37	92	1,112	2,229	
12	8	7	7	3	..	2	1	3	43	56. Ashpits abolished (a) Sunk .. .. .	..	5	3	3	5	9	13	4	12	54	97	
114	17	27	32	8	11	18	1	17	245	(b) Other than sunk .. .. .	5	22	48	20	22	10	13	16	65	221	466	
822	567	194	363	121	220	374	115	362	3,138	57. Houses provided with suitable ashes accommodation .. .. .	157	382	284	384	171	277	313	357	564	2,889	6,027	
59	10	..	24	1	20	52	6	59	231	58. Closets cleansed (linewashed, etc.) .. .. .	6	168	4	39	5	18	8	3	7	258	489	
52	12	3	36	1	1	45	27	29	206	59. Yard surfaces repaired or renewed .. .. .	1	15	25	18	16	1	3	8	..	87	293	
112	121	77	79	90	93	107	188	158	1,025	60. Stopped drains cleared .. .. .	87	155	106	125	77	173	33	79	100	935	1,960	
685	642	265	664	186	423	355	148	581	3,949	61. Other nuisances remedied .. .. .	162	673	452	376	468	640	110	135	386	3,402	7,351	
3,119	1,987	743	2,168	1,048	1,185	1,496	669	2,226	14,641	62. Total houses for which above work done .. .. .	943	2,570	1,528	2,425	1,291	2,097	884	919	1,624	14,281	28,922	
44	24	5	26	1	6	42	54	34	236	63. Offensive accumulations removed .. .. .	8	31	..	..	6	15	6	11	26	103	339	
4	..	1	..	..	1	..	..	11	17	64. New manure pits or metal receptacles provided .. .. .	..	5	1	..	1	3	1	1	..	12	29	
..	..	..	..	..	..	3	..	..	3	65. Manure pits repaired .. .. .	..	..	..	..	..	4	..	..	..	4	7	
..	..	..	..	..	..	..	..	..	..	66. Pollutions of river or streams abated .. .. .	..	..	..	..	..	..	..	12	..	12	12	
..	..	..	..	..	..	..	..	..	..	67. Animals improperly kept removed .. .. .	..	..	2	1	1	7	10	4	5	37	73	
..	..	1	11	1	2	..	..	..	36	68. Offensive urinals dealt with .. .. .	..	7	1	..	6	..	5	7	3	22	34	
1	2	2	1	..	1	1	4	..	55	69. Cesspools filled up .. .. .	..	..	..	..	..	..	2	11	3	13	68	
55	..	..	..	..	..	..	..	..	..	70. Total nuisances abated .. .. .	795	2,245	1,744	1,881	1,405	2,270	1,002	1,254	1,713	14,309	29,047	
3,197	2,084	965	2,094	890	1,179	1,659	756	2,514	15,338	71. Abated in response to prelim. notices or volun. .. .. .	695	1,699	1,293	1,341	1,279	1,298	526	1,139	1,383	10,653	22,301	
2,265	1,489	785	1,645	583	970	1,415	700	1,796	11,648	72. Abated in response to statutory notices .. .. .	100	546	451	540	126	972	476	115	380	3,656	7,346	
932	595	180	449	307	209	244	56	718	3,690													



**Common Lodging-Houses.**—The proposal to erect two municipal common lodging-houses—one for men and one for women—mentioned in last year's Report was deferred indefinitely. A concentrated effort, however, was made to bring the existing private common lodging-houses up to the standard of the requirements imposed by the Byelaws. In this connection the legal proceedings which were instituted with successful results against the Keeper of one lodging-house had the hoped for effect of raising the standard of cleanliness in the other common lodging-houses. Five of the worst lodging-houses for men were struck off the register.

At the end of the year there was available in the city the following common lodging-house accommodation in registered premises :—

For Men .. ..	26 houses, with 1,834 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, with a total of 401 beds.

During the year the beds in the 26 men's lodging-houses mentioned were occupied on 492,188 occasions, the average number of beds vacant per night being 486, whilst the 116 beds in the women's lodging-houses were occupied on 24,925 occasions, the average number of beds vacant nightly being 48.

From the table on page 240 which sets forth the work carried out in respect of common lodging-houses, the marked increase in the number of routine visits paid during 1930, namely, 1,144, as compared with the corresponding figure of 830 during 1929, is indicative of the increased attention paid to common lodging-houses during the year.

**Houses-Let-in-Lodgings.**—Due, doubtless, to the prevailing housing shortage and the depressed state of the labour market, more and more of the city's population are removing into houses-let-in-lodgings, a class of house defined by the Ministry of Health as "a house or part of a house intended or used for occupation by the working classes and let in lodgings or occupied by members of more than one family." To meet the demand, rapacious persons of both sexes have been tempted to make a handsome living by subletting or farming out separate rooms of dwelling-houses, usually



of the private residence type in a locality whose amenities have suffered. While in a few instances the accommodation provided is fairly good and the rent demanded reasonable, in the majority the accommodation is miserable and the rents charged exorbitant and entirely out of proportion to the rent of the whole house.

As an instance of a type of house which is very common in the city and is frequently discovered by the inspectors on receipt of some chance information, may be cited a back-to-back house, where each room, including the basement, is sublet to a separate family; where the staircase is badly lighted and ventilated, and dangerous on account of broken treads and handrails; where the rooms are imperfectly lighted and ventilated, with many window panes missing and replaced by rags; where the only source of water supply is in the basement or on the ground floor; where the waste water has to be carried downstairs to an outside gully or water-closet; where the water-closet is situated some distance away in a yard at the back of the house, and is shared by the tenants of other back-to-back houses; where the basement, which should ordinarily be reserved for the lodgers for washing purposes, is frequently let out to another family for whom it provides a damp and badly lighted dwelling; where no washing or bathing facilities exist, and where cooking can only be carried out on a small bedroom fireplace, and where food can only be stored in an open orange box or on a small shelf, unprotected from dust and flies.

No supervision or control is exercised by the landlord's tenant or "occupier," with the result that the stairs and passages and the walls, ceilings and floors of the combined rooms are often in a filthy condition. Repairs or breakages by the "occupier" go unheeded, as this would entail a visit by the rent collector or agent who would discover the conditions existing in the property. Overcrowding is rife and little attention is paid to the separation of sexes.

There can be no doubt that the conditions existing in many of these houses are a serious menace to the health of the occupants as well as to the public health. Inadequate lighting and ventilation, associated as they frequently are with overcrowding, favour the spread of infectious diseases, including tuberculosis, and swell the death-rate. Moreover, the survivors of these wretched conditions are frequently of defective physique and stamina, and are the cause of much expense to the community.



Many of the staircases, by reason of their defective structure, are a constant source of danger to old people and children, and would offer little chance of escape in case of fire.

New Byelaws giving the Department better control over conditions associated with houses-let-in-lodgings were drawn up and confirmed by the Minister of Health at the beginning of 1929. The year 1930 was, therefore, the first complete year since these Byelaws came into operation, and much good work has been done in improving the standard of hygiene in this type of house. The number of notices served requiring compliance with the requirements of these Byelaws was 285, and of these 235 have been complied with.

The year's operation of the Byelaws has brought to light one important defect, namely, the lack of power to compel an occupier or sub-lessor to register his house with this Department. Byelaw No. 8 presupposes that the Health Department is aware of the existence of all premises to which the Byelaws apply. This is far from being the case. Many of them escape the vigilance of the Inspectors and remain unregistered. The latter have to depend for their information on hearsay, periodical examination of estate agents' registers, and an odd private advertisement in the local press. There must be hundreds of houses-let-in-lodgings in the city unknown to this Department.

When houses-let-in-lodgings are "discovered" they are invariably found to fall short of the Byelaws. Notices are served on the owner, who as often as not is surprised to learn that his house is being sublet as a house-let-in-lodgings. If he is not protected in his agreement with the tenant against subletting, he may be put to considerable expense in meeting the requirements of the Byelaws, without any return for the outlay. If he is protected in his agreement with the tenant against subletting, he can give the tenant notice to quit, but the tenant soon finds another house and the procedure of serving notices has to be repeated if and when that house is "discovered."

In some cases the "occupier," after receiving notice, gets rid of the lodgers for the time being, but soon afterwards collects them again and carries on as before.

To remedy this defect a representation was made to the Minister of Health during the year for permission to insert a strong byelaw







The reply to this representation was that there was no authority under the general law which would confer upon a local authority such power. The Minister was prepared, however, to consider any proposals framed in such a manner as to require the giving of notice of registration *after* the premises have been let. It is obvious that such a power would not meet the situation. The Health Committee, after consideration of the Ministry's reply, resolved to take no further action in the matter.

**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 1930	67	158
Old lodgings re-inspected .. ..	224	428
Drains tested—301 drains in 66 houses.		
Total number of visits to the above houses 320.		

Details of sanitary defects found and rectified are included in the table under houses-let-in-lodgings.

**Residential Flats.**—In 14 houses there are 37 flats to which 23 visits were paid by the appropriate inspectors. Nuisances found in these places are included in the table under houses-let-in-lodgings.

**Cellar Dwellings and Underground Sleeping Rooms.**—During the year 50 underground rooms which were being used as dwellings were discovered. In 43 of these alternative accommodation had been found at the year end. There are nine cellar dwellings in the City. These are situate in Bath Street, York Road, and are occupied by old age pensioners.

Below are particulars of visits, nuisances found and abated, and notices issued :—

Visits to cellar dwellings .. ..	62	
Visits to underground sleeping-rooms ..	50	
Visits on account of nuisance abatement ..	102	
Preliminary notices served .. ..	69	
Statutory notices served .. ..	..	
Verbal notices given .. ..	..	
Nuisances :—		
Underground sleeping-rooms .. ..	FOUND. 50	ABATED. 43
Other nuisances .. ..	15	15



**Tents and Vans.**—During the past decade there has been a gradual increase in the number of camping grounds for van dwellers, reaching a maximum of 43 during the year. Ten camping grounds being discontinued as such, there remained 33 camping grounds at the end of 1930. In view of the unsatisfactory conditions which tend to prevail in camping grounds, strict supervision was maintained and the number of visits on account of nuisances and the requirements of the relevant Byelaws paid by the inspectors was more than doubled during the year. The following table gives details of the several inspections made.

Visits to vans (349 vans) .. .. .	1,263	
Visits to tents (23 tents) .. .. .	20	
Visits on account of infectious disease ..	9	
Visits to camping grounds .. .. .	198	
Visits on account of nuisances .. .. .	608	
<b>Nuisances :—</b>		
Dirty camping grounds .. .. .	18	15
Dirty vans .. .. .	8	3
Overcrowded vans .. .. .	3	2
Camping places without sanitary accom- modation .. .. .	13	13
Other nuisances .. .. .	118	114

In the control of the city's nomadic population, which has always been surrounded with difficulties, definite progress was made during the year by the inclusion in the Leeds Corporation Act 1930 of a Section (Section 48) giving power to the Corporation to prohibit the use of any land within the city as a camping ground without the Corporation's previous approval. The work of scheduling all the camping grounds in pursuance of this Section is proceeding.

**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 1930 .. ..	5
Re-registered and Transferred to fresh owners ..	9
Struck off register (on revising register) .. ..	24
Remaining on register at end of year.. ..	147
Visits of inspection to wharves and locks .. ..	807
Complete inspections of boats (142 boats) .. ..	517
Cases of infectious disease .. ..	..
Cases of overcrowding .. ..	..
Dirty cabins .. ..	8
Absence of registration certificate .. ..	18
Boats not marked with registered number .. ..	35
„ not properly ventilated .. ..	..
„ requiring painting or repairing .. ..	16
„ found to be not registered .. ..	..
Number of children of school age found on registered boats—13 boats, 14 children	

**Ice Cream—Manufacture and Vendors—Premises.**—Section 96 of the Leeds Corporation Act 1927, had one important defect in that while all persons manufacturing or selling ice-cream had to register with the local authority, the latter had no power to refuse registration. In dealing with unsatisfactory premises the cumbersome procedure of applying the powers contained in Sections 259 and 260 of the Leeds Corporation (Consolidation) Act 1905 had to be resorted to.

In the Leeds Corporation Act 1930, which came into operation in July of the year under review, Section 44 remedied this defect by empowering the Corporation to refuse to register any premises, or revoke the registration of existing premises, which are not suitable to be used for the purpose, thereby greatly strengthening the control over the manufacture and sale of this commodity. As this Section dealt also with the registration of premises for the preparation or manufacture of sausages or preserved meat etc., its administration was handed over to the Food and Dairies Section as from November 1st.



## ICE CREAM STREET VENDORS AND PLACES OF MANUFACTURE.

Number of ice-cream places on register at the end of 1930 .. .. .	65	
Number of ice-cream vendors at the end of 1930 .. .. .	88	
Number of visits to ice-cream places (62 places) .. .. .	896	
Number of ice-cream vehicles inspected (400 vehicles) .. .. .	996	
Unsuitable ice-cream places .. .. .	3	
Ice-cream places repaired .. .. .	..	
Places closed on account of unsuitability ..	3	
Visits on account of nuisance abatements ..	19	
Nuisances :—		
Dirty ice cream places .. .. .	FOUND. 20	ABATED. 20
Defective walls and floors .. .. .	3	3
Defective or stopped drains .. .. .	6	6
Other structural defects .. .. .	46	46
Ice-cream vehicles not marked with owner's address .. .. .	7	7
TOTAL ..	82	82

**Schools.**—A separate report is issued by the School Medical Officer and this includes particulars relating to the sanitary circumstances of the Leeds Schools.

**Rat Repression.**—During 1930 the Annual Rat Week was held in November when an effort was made to educate public opinion concerning the danger to health and the economic wastage occasioned by rats. The co-operation of the City Engineer's Department was enlisted and special measures were taken against sewer rats. Further the Cleansing Department undertook a special effort directed against rats in refuse tips and dumps.

Few householders appear to realise that the Rats and Mice (Destruction) Act 1919 lays the onus of destroying the rats and mice on the occupier of the premises infested, not the owner.

The number of complaints received was 226, as compared with 216 last year. These figures cannot be considered, however, to be of any criterion of the numbers of rats in the city, but rather they indicate the growing appreciation in the minds of the public of the



importance of exterminating this pest. Particulars of the work done during the year under the above Act are given hereunder:—

Complaints received .. .. .	226
Premises inspected .. .. .	435
Premises cleared .. .. .	138
Rats caught or found poisoned .. ..	2,491
Visits for purposes of observation of work in progress .. .. .	639
Visits for other purposes—interviews with owners of infested premises and the like..	146
Informal notices served .. .. .	33
Notices complied with .. .. .	27

**Pig Keeping.**—During 1930 a good deal of attention was devoted to the condition of pigstyes in the city. The Byelaws with respect to the keeping of pigs in the city, which came into operation in 1912, had been allowed for obvious reasons to lapse during the war period, and in the early post-war period had not been rigidly enforced.

As a result of representations made by a deputation of ratepayers in the neighbourhood of an allotment containing many pigstyes, a complete census of all pigstyes in the city was made. The total number of persons keeping pigs was 365, and of this number the premises in respect of 285 did not comply with the Byelaws. In the majority of cases most unsatisfactory conditions were brought to light, and it was decided to make all pigstyes conform to the standard required by the Byelaws. By the end of the year marked progress had been made with 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 248 and 249. Close co-operation continued to be maintained between the Department and H.M. Factory Inspectorate, enabling concerted effort to be made in many instances with attainment of maximum results.

**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 throughout the year. The total number of plans examined and commented upon was 258, as compared with 234 for the previous year.



## OTHER VISITS PAID BY MALE WORKSHOPS INSPECTORS.

	Factories.	Workshops.	Workplaces.
Non-abatements .. ..	374	313	75
Drain Inspection .. ..	88	45	35
Drains tested .. ..	51	47	31
Disease enquiries .. ..	173	29	77
River pollution .. ..	3	..	..
Complaints .. ..	57	29	2
Measurement of workrooms ..	1	3	..
Other causes .. ..	195	454	36
TOTAL .. ..	942	920	256

**Work of Women Inspectors.**—These Inspectors, two in number, continued to carry out their various duties, comprising the visiting of outworkers, the investigation of outbreaks of infectious disease 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. From the following table, which summarises their year's work, it will be seen that increased attention has rightly been directed towards ensuring a high standard of cleanliness in the preparation and cooking of food in restaurants. Stricter supervision was also exercised over public sanitary conveniences for women, 320 visits having been paid, as compared with 228 during 1929. The fall in the number of outworkers visited is explained by the smaller number of such workers on the register, consequent upon the general trade depression.

The following is a summary of their year's work :—

*Infectious Diseases.*—The following visits were made :—

To schools (on account of 1,510 cases) ..	1,637
To absent pupils .. ..	110
To factories (119 cases) .. ..	119
To workshops (7 cases) .. ..	7
To workplaces, including restaurants (40 cases)	46
To absent employees .. ..	2
Special visits .. ..	15

*Factories and Workshops.*—Part of the work done by the women inspectors under this heading appears on pages 248 and 249.

In addition to that appearing in the table the following visits were paid :—

Outworkers' homes	..	..	..	..	604
Outworkers, employers' premises	..	..	..	..	88
Factories	..	..	..	..	7
Workshops (routine and complaint)	..	..	..	..	451
Workplaces and restaurants do.	..	..	..	..	955
Special visits	..	..	..	..	33
					<hr/>
					2,138
					<hr/>

Inspections of public sanitary conveniences  
for women .. .. . 320  
Nuisances found 91, abated 88.

**Rag Flock Acts, 1911 and 1928.**—During the year 26 visits were made to premises occupied by persons engaged in the manufacture or use of rag flock. Six samples were taken and submitted to the City Analyst for analysis. Five of these were found to comply with the legal standard but in the sixth the amount of chlorine present was found to be 32 parts per 100,000, which is two parts in excess of the required standard. The firm responsible was warned.

One firm commenced the manufacture of rag flock during the year. A sample of this firm's product contained only two parts per 100,000 of chlorine, which clearly demonstrates the reasonableness of the standard demanded by the Act of 30 parts per 100,000.

There is evidence that the manufacturers of flock in the city are more than holding their own with competitors outside the city, the amount of flock coming into the city being appreciably less than in former years.

The use of "Black Fibre" for cheap suites of furniture still continues in the city. This fibre is dried algerian grass which is very liable to organic contamination and on that account not a desirable substitute for good rag flock.

With the improvement in the standard of rag flock, it is reasonable to believe that the use of "Black Fibre" will diminish in the near future.



## FACTORIES AND WORKSHOPS.

### 1.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories .. .. . (Including Factory Laundries.)	657	219	..
Workshops .. .. . (Including Workshop Laundries.)	2,573	160	..
Workplaces .. .. .	1,126	34	..
Total .. .. .	4,356†	413	..

### 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 .. ..	162	155	..	..
Want of ventilation .. ..	8	7	..	..
Overcrowding .. .. .	1	1	..	..
Want of drainage of floors ..	..	..	..	..
Other nuisances .. .. .	784	747	..	..
Sanitary accom- modation. { insufficient ..	28	23	..	..
{ unsuitable or { defective ..	180	165	..	..
Sec. 22 in force. { not separate for { sexes ..	54	48	..	..
<i>Offences under the Factory and Work- shop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) .. ..	..	..	..	..
Breach of special sanitary require- ments for bakehouses (SS. 97 to 100) .. .. .	13	13	..	..
Other offences .. .. .	..	..	..	..
Total .. .. .	1,230	1,159	..	..

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

† Exclusive of 3,885 visits to 636 bakehouses by ward inspectors, see page 235.

## 3. 4. 5.—OTHER MATTERS.

	Number of		
	Lists.	Outworkers.	
Homework :—		C.	W.
<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 .. .. .	336	560	670
„ once in the year .. .. .	19	21	29
Addresses of ) received from other Authorities .. .. .		129	
outworkers ) forwarded to other Authorities .. .. .		..	
Notices to occupiers as to keeping or sending lists .. .. .		443	
Prosecutions.. .. .		..	
Inspection of Homeworkers' premises .. .. .		790	
<i>Homework in unwholesome premises :—</i>			
Instances .. .. .		15	
Notices .. .. .		15	
Prosecutions.. .. .		..	
<i>Homework in infected premises :—</i>			
Instances .. .. .		13†	
Orders made (S. 110) .. .. .		13	
Prosecutions (SS. 109, 110) .. .. .		..	
[Infectious cases removed, disinfection carried out under ordinary powers.]			
<i>Workshops on the Register (S. 131) at the end of year :—</i>			
Ordinary (139 trades) .. .. .		1,064	
Domestic (4 trades) .. .. .		43	
Bakehouses on register as workshops .. .. .		320	
Do. domestic .. .. .		316	
Total number of workshops on Register .. .. .		1,743	
<i>Matters notified to H.M. Inspectors of Factories :—</i>			
Failure to affix Abstract of the Factory and Workshop Act (S. 133) .. .. .		43	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) {	Notified by H.M. Inspector .. .. .	143	
	Reports (of action taken) sent to H.M. Inspectors.. .. .	115	
Other .. .. .		..	
<i>Underground Bakehouses (S. 101) :—</i>			
Certificates granted during the year .. .. .		..	
In use at the end of 1930 .. .. .		27	

† 3 Diphtheria, 7 Scarlet Fever, 2 Chicken Pox and 1 Erysipelas.

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.	
Central .. ..	115	in 15	7	1	in 1	2	112
North .. ..	90	„ 30	10	3	„ 2	2	89
North-East .. ..	34	„ 20	31	2	„ 1	..	277
*New Ward .. ..	22	„ 13	5	..	..	..	182
East .. ..	28	„ 16	26	..	..	..	262
South .. ..	8	„ 4	19	1	in 1	..	243
East Hunslet .. ..	12	„ 5	31	5	„ 2	..	242
West Hunslet .. ..	43	„ 23	36	4	„ 2	..	211
Holbeck .. ..	183	„ 9	29	..	..	..	231
Mill Hill .. ..	43	„ 11	9	..	..	..	190
West .. ..	36	„ 16	18	..	..	..	89
North-West .. ..	116	„ 47	..	17	in 6	..	248
Brunswick .. ..	46	„ 14	6	3	„ 1	..	155
New Wortley .. ..	11	„ 5	10	..	..	..	84
Armley & Wortley .. ..	26	„ 16	21	..	..	..	413
Bramley .. ..	28	„ 20	16	..	..	..	247
Headingley .. ..	75	„ 37	34	5	in 3	4	610
Totals.. ..	916	in 301	308	41	in 19	8	3,885

\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

These visits made by Ward Inspectors only. This work is included in the figures given in table on page 235.

**Mortuary Accommodation.**—The public mortuaries in the city are the property of the Health Committee and are maintained by that Committee, but they are looked after by the police and are used mostly for the reception of bodies found by the police.

There are three public mortuaries in the city, two of which are out-of-date and imperfectly equipped, whilst the other is inadequate, both as regards size and construction for the number of bodies which it has to deal with. In view of the increase of the population of the city and the amount of motor traffic, the question of the reorganization of this part of the department's work has become urgent and must be undertaken without delay. A scheme for this purpose is now before the Health Committee and I hope to be able to report that definite progress has been made with it in my next report.

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### LEGISLATION IN FORCE.

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The following is a list of Acts relating to the Public Health in force in Leeds :—

#### GENERAL ACTS.

- The Public Health Act, 1875.
- The Public Health Acts Amendment Act, 1890 (Parts I., II. and III.).
- The Public Health Acts Amendment Act, 1907 (Sec. 19, 36, 37, 51).
- The Public Health Act, 1925.
- The Bakehouse Regulation Act, 1863.
- The Infant Life Protection Act, 1872.
- The Rivers Pollution Prevention Act, 1876.
- The Local Government Act, 1888 (relating to Pollution of Rivers).
- The Canal Boats Acts, 1877 and 1884.
- The Sale of Horseflesh, &c. Regulation Act, 1889.
- The Factory and Workshop Acts, 1883, 1891, 1895, 1901.
- The Infectious Disease (Notification) Act, 1889.
- The Infectious Disease (Prevention) Act, 1890.
- The Vaccination Acts, 1867 to 1898.



The Cleansing of Persons Act, 1897.  
 The Midwives Acts, 1902 to 1926.  
 The Children's Act, 1908.  
 The Diseases of Animals Acts, 1894 to 1927.  
 The Public Health (Venereal Diseases) Regulations, 1916.  
 The Alkali, &c. Works Regulation Act, 1906.  
 The Rag Flock Acts, 1911 and 1928.  
 The Notification of Births Act, 1907.  
 The National Insurance Act 1911 (Provision of Sanatoria).  
 The Milk and Dairies (Consolidation) Act, 1915.  
 The Milk and Dairies (Amendment) Act, 1922.  
 The Maternity and Child Welfare Act, 1918.  
 The Rats and Mice (Destruction) Act, 1919.  
 The Public Health (Tuberculosis) Act, 1921.  
 The Housing Act, 1925.  
 The Fertilisers and Feeding Stuffs Act, 1926.  
 The Public Health (Smoke Abatement) Act, 1926.  
 The Nursing Homes Registration Act, 1927.  
 The Food and Drugs (Adulteration) Act, 1928.  
 The Agricultural Produce (Grading and Marking) Act, 1928.  
 The Artificial Cream Act, 1929.  
 The Local Government Act, 1929.  
 The Housing Act, 1930.

#### LOCAL ACTS.

The Leeds Corporation (General Powers) Act, 1901.  
 The Leeds Corporation (Consolidation) Act, 1905.  
 The Leeds Corporation Act, 1924.  
 The Leeds Corporation Act, 1927.  
 The Leeds Corporation Act, 1930.

#### BYE-LAWS.

Spitting in Public Places, 1904.  
 Pigstyes and Keeping of Swine, 1913.  
 Slaughterhouses (Public Abattoirs), 1922.  
 Slaughterhouses (Privately Owned), 1922.  
 Tents, Vans, Sheds and similar Structures, 1923.  
 Maternity Homes, 1926.  
 Common Lodging-houses, 1929.  
 Houses-let-in-Lodgings, 1929.



## Smoke Abatement.

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The way of the smoke reformer is hard. On the one hand he has the industrialist asking to be excused because of the hardness of the times, and on the other, the householder who refuses to surrender any of his ancient prerogative with regard to the burning of raw coal for warming his house and cooking his food. One has sympathy with both, but more with the industrialist—who in these days of financial stress has not the capital to lay out to improve his plant—than with the householder who is simply concerned with his own comfort and cares very little for the comfort of his neighbour who he knows very well is doing precisely the same thing. But there is a communal side to the question as well which cannot be disregarded, and the comfort of the individual cannot be placed above the welfare of the community as a whole. As part of the community the individual has obligations, one of the most important of which is to protect its health. Is it in the interest of the public health that the atmosphere should be fouled with smoke? If the answer is yes, then the action of the householder in making smoke is completely vindicated. If, however, it is no, then how can he square his conduct with his duty as a citizen and what defence can he put up against the accusation that instead of protecting the public health he is injuring it? Smoke is one of the greatest curses of urban civilization, but the curse is the curse of man and not the curse of nature which has provided sunshine and pure air for the promotion of his physical health, growth, and well-being. Domestic smoke forms 60 per cent. probably more (seeing that so many factories are shut down or only working short time), of the total smoke which envelops the city of Leeds, hence the problem is one for the private citizen as much as, if not even more, than for the industrialist. We can coerce the latter but we cannot coerce the former for the law as it now exists takes no cognisance of domestic smoke. But no true citizen should require to be coerced to do a thing which is in the highest interest of his city and on which the health and happiness of its inhabitants depend.



The table on page 258 shows the work of the smoke inspectors during the year. The average duration of dense smoke per observation decreased from 45 seconds in 1929 to 39 seconds in 1930, but the number of chimneys found offending against the byelaw increased from 77 to 80. The percentage of chimneys found offending to observations in 1930 was 1.7 as compared with 2.3 in 1929 and 1.7 for the average of the previous five years. There were no prosecutions to record though warning letters were sent to all the offenders.

*West Riding of Yorkshire Regional Smoke Abatement Committee.*—The Executive Committee have held seven meetings during the year and the average attendance has been 15. During the year the attention of the Committee has been directed to many subjects in connection with Smoke Abatement. Amongst these were:—

The arrangement of courses of training for stokers and boiler attendants, the holding of examinations, and the issue of certificates to successful candidates. The revision of the syllabus and examination regulations in conjunction with the Yorkshire Council for Further Education.

The adoption of byelaws under section 5 of the Public Health (Smoke Abatement) Act of 1926.

The collection and tabulation of meteorological data from certain of the constituent authorities.

*Work of the Examination Board.*—The Examination Board has devoted a good deal of time to the perfecting of the syllabus and the completion of the arrangements for holding examinations for stokers and boiler attendants throughout the area.

It has met on six occasions, and there has been an average attendance of eight. It has also on two occasions held joint meetings with the First Reference Committee of the Yorkshire Council for Further Education with the object of revising the syllabus and examination regulations so as to make them conform as far as possible with the practice of the various Technical Schools and Colleges in the area, and thus obtain a degree of uniformity without which the value of the Committee's certificate might have been seriously prejudiced. These conferences had also the effect of stimulating the interest of the Principals of the Schools and Colleges and ensuring their active and sympathetic co-operation.

During the year examinations were conducted under the aegis of the Board at seven centres, namely, Batley, Bingley, Brighouse, Bradford, Halifax, Spensborough, Wakefield.



At each examination two Assessors attended on behalf of the Board and assisted in the marking of the candidates' scripts, the assessment of the practical test, and the fixing of the final marks to be awarded to each candidate. The total number of candidates examined was 72, of whom 57 were successful in attaining the required standard and have been recommended for the Board's certificate.

Courses of training to prepare candidates for examination were held at 11 centres, in the establishment of which the Board has co-operated and when requested has given advice on matters relating to them. It has also through the Advisory Committee, the local Chambers of Commerce, and by articles in the press drawn the attention of the public to these courses, and sought to interest not only stokers and boiler attendants, but employers of labour and others interested in the question of smoke abatement as well.

During the year application for its Technical College to be included in the scheme was received from the Education Authority of Kingston-upon-Hull. The Board agreed to grant the application on special conditions, and this action was in due course endorsed by the Regional Committee. A course of lectures on the lines of the Board's syllabus was inaugurated in the Hull Technical College and an examination held at which assessors from the Board attended in the usual way.

*Adoption of Byelaws under Section 5 of the Public Health (Smoke Abatement) Act, 1926.*—The question of the adoption of byelaws under Section 5 of the Public Health (Smoke Abatement) Act of 1926 engaged the attention of the Committee. It will be remembered that this section of the Act relates to the adoption of byelaws requiring the provision in new buildings (other than private dwelling-houses) of such arrangements for heating and cooking as are calculated to prevent or reduce the emission of smoke. After some consideration it was decided to communicate with the various constituent authorities and enquire whether they would agree to the Committee drafting a series of byelaws on their behalf, the byelaws in draft form to be submitted to each authority for approval before being forwarded to the Ministry of Health. Replies in the affirmative were received from most of the authorities. Before the work of preparing the byelaws could be started, however, a communication was received from the National Smoke Abatement Society to the effect that the opinion of Counsel had been taken on the subject, which was to the effect that as the section now stands it is impracticable to prepare satisfactory byelaws. The matter was, therefore, allowed to drop.

In the same connection it may be stated that the Royal Institute of British Architects and the Institute of Civil Engineers have been asked by the National Smoke Abatement Society to consider and report as to the possibility of amending this portion of the Act in order to make the formulation of byelaws practicable.

*Collection and Tabulation of Meteorological Data.*—In order to stimulate interest in the keeping of records of soot fall, sunshine, etc., as well as to provide a basis of comparison of the state of the atmosphere in the



different parts of the area, it was decided to ask those constituent authorities who were already keeping records, as well as those who might be willing to purchase the necessary apparatus to take regular observations, to supply the Committee with the data collected so that a tabulated statement could be prepared and submitted to the Committee each month.

Fifteen of the authorities agreed to the suggestion and are now regularly sending in returns of the soot fall, etc., in their district. The information thus received is analysed and tabulated and a statement presented to the Committee at each monthly meeting.

The method generally in use for measuring the amount of sunlight has been the subject of considerable criticism within the Committee and a letter asking for information on the matter was sent to the Department of Scientific and Industrial Research. The reply received was to the effect that the Department was at that period engaged in perfecting an instrument which, it was hoped, would give more satisfactory results than the method now in use, and stating that specimens of the instrument would be forwarded to those authorities willing to experiment with it as soon as it was ready.

Applications were received from certain of the constituent authorities for instruments to be supplied at the Committee's expense. It was decided, however, that the Committee had no power to expend money in this way and the authorities concerned were informed accordingly.

The Committee has also had under consideration a communication from the Department of Scientific and Industrial Research relating to an instrument for determining the amount of sulphur gases in the atmosphere, but seeing that the method of estimation was still in the experimental stage it was decided not to make any general recommendation to the constituent authorities at the present time concerning the matter, but to leave it to each individual authority to decide whether or not it would purchase an instrument and undertake an investigation of this kind in its own area.

*Smoke Gauges.*—The table on page 259 shows the monthly deposits of soot and ash in English tons per square mile for the years 1929 and 1930. Increases were recorded at Headingley and Park Square and decreases at York Road and Hunslet. The figures for the Templenewsam Station are not comparable with those for the other stations as for two months in 1929 the gauge was out of order, but taking the monthly averages of all the Stations there was a slight increase. The station with the highest monthly average during 1930 was Park Square (30·8 tons) and that with the lowest Headingley (10·3 tons).

*Sunlight and Daylight Gauges.*—The table on page 257 shows the amount of daylight registered at Headingley and Park Square



Stations. 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 declined from 6.71 in 1929 to 6.30 in 1930 and the figure for Park Square from 5.62 to 5.26.

The amount of actinic light in the atmosphere continued to be recorded by the acetone methylene blue method at four of the smoke stations as well as at Middleton. The results are set out in the table on page 260. It will be noticed that there was a further reduction in the amount of actinic light recorded at each of the stations. The station with the greatest amount of actinic light was Headingley, and that with the least York Road. It should be noted that the actinic light was not measured at Templenewsam.

TABLE SHOWING AMOUNT OF DAYLIGHT FOR THE YEAR 1930.

(Value expressed as Milligrams of Iodine liberated by the action of daylight on a mixture of dilute Sulphuric Acid and Potassium Iodide Solution).

Month.	Headingley.		Park Square	
	1929.	1930.	1929.	1930.
January .. ..	3.48	2.78	2.20	2.13
February .. ..	4.53	4.06	3.52	2.94
March .. ..	6.12	6.73	5.09	5.60
April .. ..	9.24	6.79	7.97	5.30
May .. ..	9.98	9.09	8.73	8.10
June .. ..	10.39	9.11	8.88	8.53
July .. ..	9.67	9.03	8.88	8.29
August .. ..	8.16	8.56	7.12	7.77
September .. ..	7.27	6.88	6.21	5.84
October .. ..	5.85	6.20	4.66	4.27
November .. ..	3.32	4.40	2.32	3.10
December .. ..	2.49	1.97	1.84	1.27
YEAR (Average) ..	6.71	6.30	5.62	5.26



The work of the smoke inspectors is given in detail in the subjoined table.

	(1)	1930.	1929.
Furnaces inspected .. .. .	.. .. .	1,458	1,275
Observation of chimneys .. .. .	.. .. .	4,670	3,384
Number of Minutes dense smoke .. .. .	.. .. .	3,024	2,546
Average duration of dense smoke per observation	0 mins. 39secs.		0 mins. 45 secs.
Number of chimneys offending against the regulations .. .. .	.. .. .	80	77
Smoke prevention appliances adapted to furnaces		23	14
Furnaces altered or reconstructed .. .. .	.. .. .	60	50
Firms who have adopted smokeless fuel .. .. .	.. .. .	16	10
Chimneys newly erected .. .. .	.. .. .	10	—
Furnaces in connection with new chimneys .. .. .	.. .. .	12	—
Number of firms adopting electricity .. .. . (Steam boilers discarded)	.. .. .	1	—
Notices served on owners and occupiers .. .. .	.. .. .	80	74
Prosecutions .. .. .	.. .. .	—	—

#### SMOKE OBSERVATIONS, 1922-1930.

(2)

Year.	Observations of Chimneys.	No. of Chimneys found offending against the regulations.	Percentage to observations.
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

SOOT AND ASH GAUGES.  
MONTHLY DEPOSIT IN ENGLISH TONS PER SQUARE MILE.  
YEARS 1929 AND 1930.

Period.	STATIONS.									
	Headingley.		Park Square.		York Road.		Hunslet.		Temple Newsam	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
January ..	9.4	10.8	28.6	42.5	22.7	22.5	26.4	23.0	6.4	9.0
February ..	8.7	7.4	14.3	18.4	17.7	18.7	9.2	11.5	*	4.4
March ..	7.9	11.5	25.9	38.7	22.5	26.6	32.0	27.4	5.9	7.9
April ..	§	13.1	23.0	30.5	29.9	30.2	34.3	16.6	9.2	9.7
May ..	8.9	10.2	26.6	29.4	26.1	33.3	19.7	26.3	7.2	7.4
June ..	8.2	11.5	23.3	26.4	20.7	26.6	33.3	28.9	7.4	7.4
July ..	11.5	11.8	25.6	30.5	28.4	29.7	34.6	42.5	9.5	11.0
August ..	9.7	9.4	27.7	28.8	22.5	23.2	20.7	27.0	5.6	12.8
September ..	6.7	8.7	25.3	25.9	27.9	21.9	24.3	20.7	7.4	7.7
October ..	9.5	9.2	34.1	31.9	26.9	20.4	26.1	27.3	11.0	6.9
November ..	12.8	9.4	41.2	30.9	25.6	22.9	22.5	25.3	10.8	7.9
December ..	15.1	10.9	49.4	36.2	31.7	23.5	22.3	14.0	†	9.7
Year ..	108.4 (11 months)	123.9	345.0	370.1	302.6	299.5	305.4	290.5	80.4 (10 months)	101.8
Monthly Average ..	9.9	10.3	28.8	30.8	25.2	25.0	25.5	24.2	8.0	8.5

\* Gauge broken by frost.

§ Gauge tampered with.

† Gauge overturned by gale.







## Housing.

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Practically no change has taken place in the housing situation in Leeds since my last report.

The demand for new houses has not diminished and is still far from being satisfied. The waiting list extends to as many as 11,000, and even after careful revision it has not been possible to reduce this figure by any appreciable amount. In order to keep the size of the waiting list within reasonable limits and to give an opportunity of overtaking the demand, it was decided to close the register and to accept no further applications after the middle of the current year.

That so many people, some of them already fairly comfortably housed, should desire new houses is an indication that the advantages to health and well-being of good housing and a clean environment are being widely recognised by the population as a whole, especially by that section whose lot has been cast for so many years amid the squalor and drabness of the city's congested areas. After all, ideals are born of knowledge, and as knowledge spreads regarding this important question of housing, one must expect a change of standard in the minds of the poorer classes. They now begin to realise what it means to themselves and their children to live unhealthily and they desire an opportunity of participating in the advantages which they have been taught to associate with a modern house in open surroundings.

The difficulty which faces so many of them is that the rental of these new houses is beyond their means. To meet this difficulty the Corporation has adopted the cottage flat type of building which can be let at a fairly low rent and which since its introduction has become very popular. Up to date, some 872 such flats have been erected in various parts of the city. Of the 872 flats erected, 278 have two bedrooms and 594, three bedrooms. Contracts have been placed, or work is in progress on an additional 412, 92 with two bedrooms and 320 with three bedrooms. When these are completed the total number of cottage flats in the city will be 1,284, but even that will not satisfy the demand, and no doubt the number will be added to in the near future.

The question of slum clearance is dealt with in a later paragraph of this section of the report. I have referred to this subject in previous reports, and I need only reiterate that, whilst the problem



is one of great complexity, it is also one of extreme urgency which has an important bearing on the vital interests of the community as a whole. The year, I regret to say, has been barren of achievement as far as slum clearance is concerned, for with the exception of the demolition of a few houses in the West Street Unhealthy Area nothing has been effected in the way of reducing the amount of insanitary property of which the city has more than its share. One reason for the delay was the imminence of the new Housing Act which only received assent on August 1st and came into force on August 16th. A second reason was the decision of the High Court in, what has now come to be known as the Derby Scheme, the effect of which was to nullify an Order of the Minister of Health on the ground that the Improvement Scheme as presented by the Local Authority for confirmation was not in accordance with the provisions of the Housing Act, 1925. All this delay is very irksome to those who desire to see headway made in the eradication of the city's unhealthy spots. Now, however, that the Act of 1930 has been passed, the way has been cleared for definite and immediate action and there is no longer any excuse for hanging back. There is, of course, the financial difficulty but, though that may retard progress, it should not stop it.

**Number of Houses.**—As a result of the redistribution of the population and the increase in the number of Municipal Wards (referred to in my last report) a census has been taken of the number of houses in the new wards. The total number of houses in the city on December 31st, was 128,432, made up of 74,805 back-to-back houses and 53,627 through houses.

Details are given in the table on page 264.

*Empty Houses.*—There were in the city on December 31st, 1930, approximately 1,207 vacant houses, mostly of the larger type.

*New Houses.*—The number of new houses completed during the year was 1,792, of which 516 were cottage flats, 432 working-class houses, and the remaining 844 were of a larger type.

The number of houses, including flats, built by the Municipality since the war is 7,804, and the number built by private enterprise 9,259, making a grand total of 17,063 houses. The municipal houses have been built on 17 estates situated mostly in the outer zone and on practically every side of the city.



TABLE SHEWING THE NUMBER OF HOUSES ERECTED IN LEEDS DURING THE LAST TWENTY-NINE YEARS, ENDED 31st MARCH, 1931.

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
Totals .. ..	24,221	7,804	32,025



TABLE SHEWING TOTAL NUMBER OF HOUSES IN LEEDS,  
DECEMBER 31st, 1930.

WARD.	Back-to-back and similar houses old type erected prior to 1872.	Back-to-back houses with open space at end.	Back-to-back houses with open space in front.	Total number of back-to-back houses in Ward.	Through Houses.	Total number of houses in City in Municipal Wards.
Mill Hill and South	2,141	771	75	2,987	691	3,678
Westfield .. ..	2,892	1,294	85	4,271	1,201	5,472
Blenheim .. ..	1,244	319	611	2,174	3,022	5,196
Central .. ..	1,843	1,988	131	3,962	1,207	5,169
Woodhouse .. ..	1,482	2,473	346	4,301	1,317	5,618
North .. ..	308	61	147	516	4,103	4,619
Far Headingley ..	300	106	243	649	4,094	4,743
Hyde Park .. ..	136	905	348	1,389	2,456	3,845
Kirkstall .. ..	981	1,601	1,073	3,655	1,836	5,491
Burmantofts .. ..	2,669	1,646	195	4,510	1,039	5,549
Harehills .. ..	..	262	2,627	2,889	2,635	5,524
Potternewton .. ..	..	525	1,289	1,814	3,281	5,095
Roundhay .. ..	29	16	103	148	4,154	4,302
Cross Gates and Templenewsam	23	..	..	23	3,828	3,851
Richmond Hill ..	4,228	798	66	5,092	1,206	6,298
Osmondthorpe ..	444	1,249	754	2,447	2,874	5,321
East Hunslet .. ..	1,853	1,534	693	4,080	645	4,725
Hunslet Carr and Middleton .. ..	913	1,007	787	2,707	1,981	4,688
West Hunslet .. ..	1,647	1,727	376	3,750	1,354	5,104
Beeston .. ..	509	794	469	1,772	2,667	4,439
Holbeck (South)	1,041	1,608	683	3,332	697	4,029
Holbeck (North)	3,018	1,055	205	4,278	526	4,804
Armley and New Wortley .. ..	2,485	1,555	406	4,446	875	5,321
Upper Armley .. ..	646	1,194	388	2,228	2,762	4,990
Bramley .. ..	1,123	1,382	488	2,993	2,234	5,227
Farnley and Wortley .. ..	1,677	2,284	431	4,392	942	5,334
Total .. ..	33,632	28,154	13,019	74,805	53,627	128,432



**General Observations as to Housing Conditions.**—There are 74,805 back-to-back houses in Leeds which may be divided into three groups :—

(a) Those built prior to 1872	.. ..	33,632
(b) Those built from 1872 to 1890	.. ..	28,154
(c) Those built from 1890 until the passing of the Housing Act, 1909, which forbade the building of any further back-to-back houses	..	13,019

Of the first group (a), I am of opinion that from 14,000 to 16,000 are in need of immediate treatment, by demolition or otherwise. The remainder are also unsatisfactory, being much below the standard of modern requirements and should receive attention within the next ten years.

As regards the houses which should be demolished, they exist mostly near the centre of the city, around the river, and in the vicinity of the canal and railways. The older the type of house, the greater the congestion, and the greater the congestion, the greater the need for improvement and opening out. Generally speaking, these old back-to-back houses consist of a living room and one bedroom imperfectly lighted and ventilated, without scullery, food store or bathroom. Sink and wash "copper" are in the living room; while the sanitary conveniences are outside in yards or sandwiched in between houses—sometimes under bedrooms. These conveniences are often at considerable distance from the houses they serve, in some cases as far away as 100 yards; they are bad in construction, inadequate in number and obsolete in type. Domestic refuse is stored in raised or sunken ashpits, out-of-date, insanitary and dangerous. Complaints are frequent of leaking roofs, broken plaster, uneven and dangerous steps and floors, defective flues, broken sash cords, etc. The cost of upkeep of such places must be great, and after the money is expended, they are still unfit because however improved, they are incapable of being made fit for human habitation. In addition to the condition of disrepair, many of the houses are verminous, and because of their age and the broken state of floors, ceilings, etc., incapable of being properly cleansed.

The health records of the populations living in those houses when compared with those of families in other parts of the city are bad. Sickness and mortality rates are higher, whilst the standard of living is low. For the majority of these houses there



is only one remedy and that is complete demolition. Less than that would only palliate, it would not cure.

As regards the others the same indictment applies, though possibly not to the same degree or with the same urgency. Time, however, is gradually forcing them into the same category and demolition must come sooner or later.

Houses in group (b) are of a rather better type but even they are far from ideal and will have to be dealt with as soon as circumstances permit. Meanwhile if anything can be done to improve and preserve them, it would be wise policy to spend a little time and thought upon them now.

About group (c) I have nothing to say, as generally speaking, they are satisfactory both as regards construction and state of repair.

Amongst the "through" houses of which there are 53,627, there are some which are just as bad as the worst type of back-to-back and should be treated in the same way. They are mostly old buildings which have been in occupation since Leeds was little more than a moderate sized village. Age and decay now demand that they shall cease to exist. Others are less objectionable whilst the majority are good.

**Overcrowding.**—From all sections of my department reports reach me that overcrowding is common. A comprehensive enquiry was made in 1925 covering 17,500 houses taken indiscriminately in various parts of the city, which showed that 1,770, or 10·1 per cent., were grossly overcrowded. More recent figures compiled as a result of house-to-house inspection confirm these findings. In a small area consisting of 57 back-to-back houses 35, or 61·4 per cent., were definitely overcrowded, the worst case recorded being that of a house with one living room and one bedroom which was occupied by six persons over 10 years, and five children under 10 years of age, or 11 persons in all. In a second group in another part of the city, out of 58 houses 12, or 20·7 per cent., were overcrowded.

Turning to the scheduled unhealthy areas, overcrowding—as one would expect—is very prevalent, though with regard to these areas, a surprising feature is the number of houses occupied by one person only. To cite three of these areas which for convenience I shall designate *a*, *b*, and *c*; in (*a*) out of 689 houses 12·3 per cent. were overcrowded; in (*b*) out of 283 houses 20·1 per cent. were



overcrowded and in (c) out of 37 houses 64·9 per cent. were overcrowded. I might add that these facts were ascertained during 1930 as a result of house-to-house inspection and may therefore be taken as accurate.

The number of cases of overcrowding which came to my notice during the year as the result of complaints from various sources was 255 as compared with 236 during the previous year.

The standard of overcrowding adopted in this report is that of more than two persons per sleeping-room.

The rents of the municipal houses range from 6s. 5d. weekly, inclusive of rates, for a two bedroomed flat to 18s. 6d. weekly, also inclusive, for a parlour house with three bedrooms. The smaller rent is reasonable and within the means of the majority of the working classes; the latter is beyond the means of the majority. The higher rented houses are occupied by artisans rather than persons of the working class. High rents lead to subletting, subletting to overcrowding, overcrowding to ill-health.

The number of notices served by the Department for overcrowding during the year was 255, of which 64 were abated.

Last year the Improvements Committee decided to devote 5 per cent. of the new houses to meet cases of overcrowding which came to the notice of the Health Department. A list is prepared and submitted to the City Engineer each month on which all the material facts are set out in detail. Unfortunately the demand has greatly exceeded the supply and there is at present rather a formidable list still waiting for houses. Until more houses are available it is useless to press for the abatement of overcrowding, and the service of notices is futile and a waste of time.

**Sufficiency of Supply of Houses.**—The number of applications for Corporation houses still on the register on December 31st, was 10,649. The number of houses (Municipal) completed during the year 1930 was 584, and the number contemplated or in course of erection 972. The register is revised from time to time so as to keep it "live" and up-to-date.

Suitable sites in the vicinity of the industrial part of the city are becoming more difficult to find. There is a limit to the distance one can expect workers to travel to reach their work. Time and cost of transport have to be thought of. Existing estates are being extended wherever possible, and at least one, Sandford House, Kirkstall, is now being developed.



**Fitness of Houses.**—Much more use is being made of the powers conferred on Local Authorities under Section 3 of the Housing Act, 1925 (now Section 17 of the Housing Act, 1930) than in former years. The number of notices for the repair of houses have increased in number (*vide* table on page 273), and it is gratifying to report that the response to these notices has been exceedingly good. Up to the present it has not been necessary for the Local Authority to undertake repairs in consequence of the default of the owner to comply with the terms of the notices served upon him by the department.

With the exception of a few houses on the outskirts of the city all houses have an adequate supply of water, whilst no houses are without a water closet or other adequate sanitary accommodation. It is not an uncommon thing in certain working-class districts of the city for one water closet to serve two or even more families. The shortage is particularly noticeable in connection with back-to-back houses of the oldest type as I have already pointed out in a previous paragraph. I am strongly of opinion that each house should have its own water closet, inside if possible, but where that is impossible, within a few feet of the house. This may be thought to be an unreasonable standard but judged from a purely hygienic point of view, apart from any question of ordinary decency, to require the members of a family to traverse any greater distance is unjustifiable. This fact should be borne in mind when any proposals for the re-conditioning of back-to-back houses are under consideration.

What I have said with regard to water closet accommodation applies, with the same force, to the accommodation for household refuse. In some parts of the city the ashpit may be situated as far as 100 yards from the house it serves, quite an unreasonable distance to ask any housewife to walk in order to dispose of domestic refuse. It is in consequence of the ashpits being so inaccessible that the streets become littered with filth of all kinds, causing unsightliness and sometimes even giving rise to dangerous nuisance. The ideal standard is one ashbin for each house and that ashbin should be placed adjacent to the house. This again, I appreciate, may be thought to be unreasonable but after all it is no more than is demanded by Law for new houses and therefore it is what should be aimed at for existing houses wherever there is sufficient space for the accommodation of the necessary bins. In any scheme of re-conditioning each house should have its own ashbin.



TABLE SHEWING THE TOTAL AMOUNT OF HOUSING WORK DONE  
BY THE LEEDS CITY COUNCIL TO 31st MARCH, 1931.

ASSISTED SCHEMES.

NAME OF ESTATE.	Sewers laid. Length in yds.	Roads formed, pitched and ashed. Length in yds.	No. of Houses and Flats for which Contracts have been signed.	No. of Houses and Flats 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 .. ..	9,045	8,041	1,424	952	1,196
Hollin Park .. ..	2,647	2,396	345	345	345
York Road .. ..	7,222	8,592	1,606	1,226	1,536
Harehills .. ..	690	787	112	112	112
Hawksworth .. ..	639	541	206	162	162
Greenthorpe .. ..	1,161	1,290	216	216	216
Southfield .. ..	465	479	84	84	84
Dewsbury Road ..	1,296	1,080	254	150	254
Westfield .. ..	2,177	1,887	352	92	352
Potternewton .. ..	425	..	134	..	54
East End Park (pur- chased for re-housing)	Existing	..	192	192	192
Totals .. ..	30,212	30,449	5,869	4,475	5,447
Grand Totals ..	51,648	57,077	9,198	7,804	8,776



**Unhealthy Areas.**—The important event of the year was the coming into force on August 16th of the Housing Act, 1930. The objects of the Act are to simplify the procedure in dealing with slum areas, and facilitate the task of clearing these away, at the same time of preventing the creation of new slums by the deterioration of the property in other areas.

Where complete clearance is the only way of dealing with an area of insanitary property there is no longer any necessity for the presentation of a formal scheme such as had to be presented under previous Housing Acts, and distinction is drawn between the procedure under which an area may be declared to be insanitary and the subsequent procedure under which the area may be dealt with when cleared.

Areas which are capable of being improved by the cutting out of some houses and the re-conditioning of others may be dealt with as improvement areas for which the Act provides entirely new machinery.

Financial assistance on a new basis is offered to Local Authorities to assist them in meeting the economic difficulty of re-housing poor persons displaced by the demolition of condemned property at rents which they can afford, and this assistance is available not only in respect of displacements by reason of clearance and improvement schemes for large areas but also from individual houses which have to be demolished.

Another very important provision of the Act is that which deals with the repair or demolition of individual unfit houses. The powers of a Local Authority in respect of such houses are considerably extended and the procedure in connection with the application of these powers greatly simplified.



The Act lays upon Local Authorities with a population of more than 20,000 the duty of reviewing the housing conditions in their areas every five years and framing proposals with regard thereto. It also sets up new standards of re-housing and modifies the Housing and General Powers Act, 1923, with regard to the provision of housing for aged persons.

As soon as the Act came into force, a preliminary survey of the houses in the city was made, and the information already in possession of the department was reviewed, with the object of preparing a programme of work for the first five years called for by the Act and due for presentation to the Minister of Health before the end of the year. As a result of this review a preliminary statement of the requirements of the city during the next five years with regard to the demolition of insanitary property in large and small areas, in improvement areas, as well as in groups of individual unfit houses was prepared ready for presentation to the Improvements Committee by the end of September. The statement in its preliminary form was presented to a meeting of the negotiating members of the Committee in October, when I was instructed to prepare a complete statement to be presented to the Improvements Committee after the Municipal Elections in November.

This was done and the statement, a copy of which appears on page 272 was presented to the Improvements Committee in January of this year. It should be observed that this was not the original statement, but one which was amended after consultation with the financial advisers of the Committee. The scheme received the approval of the City Council in February of the current year and was forwarded to the Ministry of Health. The original statement provided for the treatment of 3,000 houses included in 14 clearance areas, and three improvement areas, together with 146 individual unfit houses, or 600 houses per year during the five year period.



QUINQUENNIAL HOUSING STATEMENT AS REQUIRED BY SECTION  
25 (2) OF THE HOUSING ACT, 1930.

A. Estimated production of houses by the local authority during the next five years ..	5,000
B. Estimated production of new houses of working class type by private enterprise during the next five years :—	
(i.) with subsidy under the Act of 1924 ..	200
(ii.) under arrangements made under Section 29 of the Act of 1930 .. .. .	200
(iii.) otherwise .. .. .	100
Total .. ..	5,500
C. Estimated number of new houses to be allocated by the local authority during the next five years to the purposes of the Housing Act, 1930 ( <i>i.e.</i> , the purposes mentioned in E and F) ..	1,800
D. Estimated number of new houses to be allocated by the local authority during the next five years to the purposes of the Act of 1924 ( <i>i.e.</i> , new housing) .. .. .	3,200
Total .. ..	5,000
E. Estimated number of houses to be demolished during the next five years :—	
(i.) in clearance areas .. .. .	1,820
(ii.) in improvement areas :—	
(a) for opening the area .. .. .	—
(b) as unfit houses .. .. .	—
(iii.) individual houses outside clearance and improvement areas .. .. .	180
Total .. ..	2,000
F. Estimated number of persons to be displaced during the next five years :—	
(i.) by any of the processes mentioned in E ..	8,000
(ii.) to abate overcrowding in improvement areas .. .. .	—
Total .. ..	8,000
G. Estimated number of houses to be repaired under Part II. of the Housing Act, 1930, during the next five years .. .. .	9,000



## HOUSING ACTS, 1925 and 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, 1930, and the numbers represented or otherwise dealt with, pursuant to the Housing Acts, with the corresponding figures for 1928 and 1929.

	1928.	1929.	1930.
Number of new houses erected during the year:—			
(a) Total including numbers given separately under (b)	1,731	2,711	1,792
(i) By the Local Authority .. .. .	..	..	948
(ii) By other Local Authorities .. .. .	..	..	..
(iii) By other bodies and persons .. .. .	..	..	844
(b) With State assistance under the Housing Acts:			
(i) By the Local Authority—			
(a) For the purpose of Part II. of the Act of 1925 .. .. .	..	..	252
(b) For the purpose of Part III. of the Act of 1925 .. .. .	544	594	696
(c) For other purposes .. .. .	..	..	..
(ii) By other bodies or persons .. .. .	715	1,535	..
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 .. .. .	13,351	12,050	12,012
(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 .. .. .	515	1,159	1,474
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation .. .. .	83	159	689
(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 .. .. .	433	1,050	1,669
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 .. .. .	376	870	1,059
3. <i>Action under Statutory Powers during the year.</i>			
A.—Proceedings under Section 3 of the Housing Act, 1925 and Section 17 of the Housing Act, 1930.			
(1) Number of dwelling-houses in respect of which notices were served requiring repairs .. .. .	..	180	462
(2) Number of dwelling-houses which were rendered fit after service of Formal Notices:—			
(a) By owners .. .. .	382	166	486
(b) By Local Authority in default of owners .. .. .	..	..	..
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close .. .. .	10	..	..



## Housing Acts, 1925 and 1930 (continued).

	1928.	1929.	1930.
B.—Proceedings under the Public Health Acts.			
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied .. .. .	26,970	29,467	28,010
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—			
(a) By owners .. .. .	25,736	28,080	28,922
(b) By Local Authority in default of owners .. .. .	..	..	..
C.—Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925, and Section 19 of the Housing Act, 1930.			
(1) Number of representations made with a view to the making of Closing Orders .. .. .	44	12	14
(2) Number of dwelling-houses in respect of which Closing Orders were made .. .. .	41	12	14
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit .. .. .	..	1	..
(4) Number of dwelling-houses in respect of which Demolition Orders were made .. .. .	1	42	14
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders .. .. .	11	42	14
4. Number of houses owned by the Local Authority distinguishing those built in the last two years and held under :—	..	..	9,400
(1) Part III. of the Housing Act, 1925 .. .. .	..	785	590
(2) Part II. of the Housing Act, 1925, and .. .. .	..	..	..
(3) Other powers .. .. .	..	192	148



# Health Education, and Propaganda.

BY

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

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"I see more and more that we shall work no deliverance until  
we teach people a little more of the laws of health."—

—Charles Kingsley.

It is useless to pass laws on health, no matter how wise and far seeing, unless the people are able to understand and appreciate these laws and have the will to put them into effect. Further progress in the reduction of sickness and death will depend on the part played by each individual citizen in applying the knowledge which science has already furnished. The dissemination of this knowledge in an attractive and easily understood form is one of the primary duties of any Public Health Department.

During the year under review, efforts to further public education in health were continued with increased vigour.

*Health Week.*—Health Week was held from October 5th to 11th, 1930, the arrangements being on somewhat similar lines to those made for the Health Weeks of previous years, except that a more ambitious programme was attempted and successfully carried through. The most interesting developments were the innovation of a health poster competition open to all children in the city under the age of fourteen years, and of an essay competition amongst the mothercraft classes in the schools, both arranged under the auspices of the Leeds Insurance Committee, with the co-operation of the Education Committee. An extended scheme of advertising was attempted which included the display of health posters in the principal railway stations, General Post Office, public baths, and on some sixty public buildings in the city. The proprietors of some of the Cinema Houses, the Yorkshire Council of the British Empire Cancer Campaign and the Salvation and Church Armies all took part in the activities of the week and contributed to its success. For the first time since these "weeks"



were started an open-air meeting was held in Victoria Square. The experiment proved quite a success. The main object was to convey information concerning the principles of healthy living to persons of all ages in every section of the population. The methods employed may be conveniently classified under three headings:—

1.—Verbal Publicity.—Lectures or talks to the number of 42 were given to various guilds, clubs, religious and welfare associations at afternoon and evening meetings and to the employees of large factories during dinner hour intervals. The audiences totalled 8,950, as compared with 5,620 last year. At each lecture questions were invited and the discussions which followed indicated a keen and growing interest in health matters.

In addition, under the auspices of the Leeds Babies' Welcome Association and arranged by Dr. Gladys Russell, special health talks were given by the Medical Officers to mothers at the Babies' Welcomes. The mothers of one of the Welcomes gave three public performances of two short health plays before large and appreciative audiences; and an interesting exhibition of home-made baby garments was held at the Central Welcome.

2.—Printed Publicity.—This included the distribution of 40,000 bookmarks issued in books from the various public libraries in the city, the display of 400 health posters in prominent places, the distribution of 30,000 leaflets and booklets at the various meetings and lectures, the exhibition of 300 bills in the tramcars, the insertion of a health page in the two prominent evening papers, the circularising of 325 ministers of religion with the request to insert in their church magazines a few health notes prepared for the purpose and to include the subject of health in their sermons on Health Week Sunday.

3.—Lantern Slides and Films.—A special effort was made to extend this means of propaganda, which has exceptional potentialities for the dissemination of knowledge on matters of health. At nine cinemas a short health film lasting from ten to fifteen minutes was displayed and the arrangements were made whereby thirty-four cinemas exhibited three lantern slides during the first or second half of the week. The Maternity and Child Welfare Department showed two appropriate health films at various Babies' Welcomes.



*Special Propaganda.*—An experiment was tried in the form of a Health Poster Competition, open to all children in the city under fourteen years. The Leeds Insurance Committee kindly consented to offer the prizes, and the help of the Education Department and the public press was readily given in making public the rules and conditions of the competition. The 52 posters submitted were judged by the Director of the Art Gallery and the Principal of the Leeds College of Art on Wednesday, October 1st, and 12 coloured lantern slides were made of the winning design. This competition created widespread interest amongst the public and undoubtedly was a good "curtain raiser" for Health Week.

*Cost of Health Week.*—Excluding the propaganda work carried out by the Babies' Welcome Association, the total cost of the Week was £71 6s. 10½d., a very modest sum considering the extent of the field covered. Thanks are due to the Health and Cleanliness Council, the Dental Board of the United Kingdom, and the Mutual Property Insurance Company for supplying free of charge most of the films, booklets, and posters.

*Wayside Pulpits.*—So great has been the success of these "pulpits," as gauged by unsolicited appreciation by the public at large, that their number was increased during the year from 6 to 11. Thanks to the favourable comments which appeared in the press, much interest has been aroused in this type of propaganda. The health slogans displayed are changed weekly.

*"Better Health" Journal.*—The magazine *Better Health* has continued to be distributed at the rate of 10,000 copies per month during the year. Two pages are set apart for the exclusive use of the Public Health Department. The articles for these pages have been written by members of the staff and have dealt with a wide variety of subjects of public health interest. Extracts from the annual report of the Medical Officer of Health have also appeared.

*Leeds Committee for Social Hygiene.*—Particulars of the membership and scope of this voluntary committee, which is the Leeds Branch of the British Social Hygiene Council, have been given in previous annual reports. The number of meetings held during the year 1930 was seven. An active part was taken by the Committee in the arrangements for Health Week. A series of lectures



on Social Hygiene was delivered to various church guilds, associations, and clubs during the year and a large number of leaflets were distributed.

With a view to obtaining a more even distribution of health propaganda during the year, it was decided to hold the next series of Parents' Conferences in the latter part of the Winter, instead of soon after Health Week, as has formerly been the case.

The total number of addresses on health subjects given under the auspices of the Health Department and the Leeds Committee for Social Hygiene during 1930 was 72, as compared with 43 for the previous year.

## Staff Changes.

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E. M. Jenkins, M.B., Ch.B., appointed Assistant Resident Medical Officer at Killingbeck Sanatorium for 12 months, March, 1930, in place of J. F. Russell, M.B., Ch.B., resigned February, 1930.

R. C. Holderness, M.B., B.S., M.R.C.S., L.R.C.P., appointed Second Assistant Resident Medical Officer at Seacroft Hospital for six months, April, 1930.

S. Thompson, M.B., Ch.B., L.M.S.S.A., appointed Assistant Clinical Tuberculosis Officer, April, 1930, in place of Leonard W. Hearn, M.B., B.S., resigned March, 1930.

M. I. Jackson, M.R.C.S., L.R.C.P., appointed Assistant Clinical Tuberculosis Officer, September, 1930, in place of Alexandrena M. Maclellan, M.D., Ch.B., resigned July, 1930.

N. F. Pearson, M.R.C.S., L.R.C.P., appointed Resident Medical Officer at Killingbeck Sanatorium, December, 1930, for one year in place of E. M. Jenkins, M.B., Ch.B., resigned November, 1930.



# APPENDIX 1.

## MINISTRY OF HEALTH TABLES.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1930 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 Resi- dents not registered in the District.	Under 1 Year of Age.		At all Ages.		
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate.	
1	2	3	4	5	6	7	8	9	10	11	12	13	
1920	448,913	11,587	11,229	25.0	6,725	15.0	417	283	1,232	110	6,591	14.7	
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	

Area of District in acres (land and inland water) } 38,106

Total population at all ages at the 1921 Census 458,232

Do. adjusted for the 1921 Census 465,500  
 \* Population adjusted to allow for change in boundary during the year. The mid-year population after the change is 476,500.



TABLE II. CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE CALENDAR YEAR 1930.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.							TOTAL CASES NOTIFIED IN EACH LOCALITY. (e.g. Parish or Ward) of the District.													Total Cases removed to Hos- pital.					
	At all Ages.	At Ages—Years.						Central.	North.	North-East.	New Ward.	East.	South.	East Hunslet.	West Hunslet.	Helbeck.	Mill Hill.	West.	North-West.	Brunswick.		New Wortley.	Armley and Wortley.	Bramley.	Headingley.	
		under 1.	1 and 5 years.	5 and 15 years.	15 and 25 years.	25 and 45 years.	45 and 65 years.																			
Small-pox .. ..	42	..	4	11	11	6	7	3	1	14	2	..	1	5	8	1	..	1	5	1	..	..	1	..	2	42
Chicken-pox .. ..	2,768	111	937	1,664	41	14	1	..	50	279	206	171	194	96	204	158	94	11	189	108	179	56	304	211	258	19
Cholera (C) Plague (P) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Mem- branous croup) .. ..	994	12	203	624	85	60	9	1	13	73	56	39	84	17	86	187	85	19	28	91	33	22	30	24	107	948
Erysipelas .. ..	423	5	9	30	37	123	164	55	13	32	39	13	37	11	27	26	16	24	21	21	25	16	32	21	49	196
Scarlet Fever.. ..	2,383	18	522	1,336	346	144	17	..	51	251	245	110	201	56	176	140	145	50	54	159	134	115	118	154	224	2,221
Measles .. ..	913	99	314	464	27	8	..	1	11	101	84	32	30	5	33	34	29	2	42	63	47	39	117	58	186	9
German Measles .. ..	343	20	90	193	28	10	2	..	5	34	28	14	1	6	12	12	5	5	3	24	17	52	32	10	83	16
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever .. ..	4	..	..	1	..	1	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	2	1
Relapsing fever (R) Continued fever (C) .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever .. ..	51	..	..	..	16	35	..	..	1	2	1	1	4	..	3	4	2	2	13	4	3	3	2	1	5	15
Puerperal Pyrexia .. ..	46	..	..	..	13	33	..	..	1	5	2	1	3	1	3	..	4	..	11	4	1	4	2	2	2	7
Cerebro-Spinal Meningitis ..	2	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Poliomyelitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum ..	49	49	..	..	..	..	..	..	1	3	3	2	7	2	4	3	4	..	5	2	4	3	2	..	4	..
Encephalitis Lethargica ..	1	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Malaria .. ..	1	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery .. ..	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..
Other Diseases .. ..	96	17	21	13	26	14	5	..	1	10	3	22	5	1	6	7	3	7	5	6	4	3	2	2	9	96
Pulmonary Tuberculosis ..	642	1	2	70	160	265	133	11	13	75	44	17	58	15	62	42	50	5	34	40	38	25	48	13	63	486
Other Forms of Tuberculosis ..	251	..	37	88	61	39	22	4	8	21	28	15	21	8	21	19	20	1	11	10	12	3	13	12	28	46
Pneumonia (Acute primary)	645	20	101	113	89	148	121	53	..	40	45	27	50	29	94	52	76	7	30	21	21	28	52	29	38	10
Do. (Acute Influenzal)	65	4	12	6	7	16	13	7	..	8	13	1	7	..	2	3	3	..	2	12	1	1	..	4	8	..
TOTALS .. ..	9,721	356	2,252	4,614	947	920	497	135	175	948	801	465	703	252	742	688	537	134	449	571	521	370	755	541	1,069	4,112

In addition to the 2,221 Scarlet Fever cases removed, 1 case notified in 1929, was removed in 1930.

Isolation Hospital or Hospitals, Sanatoria, &c.:—City Fever Hospital, Seacroft and Killingbeck.

In addition to the 486 Pulmonary Tuberculosis and 46 Tuberculosis (Other Forms), removed, [48 Pulmonary Tuberculosis and 23 Tuberculosis (Other Forms), were admitted to "The Hollies," Westwood Lane, and 117 Pulmonary Tuberculosis and 3 Tuberculosis (Other Forms), were admitted to Gateforth Sanatorium which is outside the City. They are included in the 642 and 251 notified.



## APPENDIX 3.

### CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR 1930

REGISTRAR GENERAL'S FIGURES.

CAUSES OF DEATH.	Sex.	All Ages.	0-	1-	2-	5-	15-	25-	45-	65-	75-
All Causes .. ..	M.	3,091	297	45	63	72	139	356	1,024	677	418
	F.	2,839	215	39	54	84	114	311	790	626	606
1. Enteric Fever .. ..	M.	1	..	..	..	..	..	..	1	..	..
	F.	1	..	..	..	..	1	..	..	..	..
2. Small-pox .. ..	M.	..	..	..	..	..	..	..	..	..	..
	F.	1	..	..	..	..	..	..	..	..	1
3. Measles .. ..	M.	2	..	..	2	..	..	..	..	..	..
	F.	..	..	..	..	..	..	..	..	..	..
4. Scarlet Fever .. ..	M.	6	..	..	3	2	1	..	..	..	..
	F.	16	1	1	7	7	..	..	..	..	..
5. Whooping Cough .. ..	M.	16	10	3	3	..	..	..	..	..	..
	F.	16	6	6	3	1	..	..	..	..	..
6. Diphtheria .. ..	M.	22	2	..	8	10	1	1	..	..	..
	F.	32	..	2	8	22	..	..	..	..	..
7. Influenza .. ..	M.	40	..	1	1	3	1	6	11	8	9
	F.	20	..	..	..	1	..	1	6	9	3
8. Encephalitis Lethargica	M.	5	..	..	..	..	1	3	..	1	..
	F.	4	..	..	..	..	2	..	2	..	..
9. Meningococcal	M.	8	3	2	..	2	..	1	..	..	..
Meningitis	F.	4	..	2	2	..	..	..	..	..	..
10. Tuberculosis of	M.	265	2	1	..	..	44	89	119	10	..
respiratory system	F.	171	3	1	3	5	52	84	21	2	..
11. Other Tuberculous	M.	48	3	9	8	7	11	8	2	..	..
Diseases	F.	52	2	10	4	9	9	9	7	1	1
12. Cancer, malignant	M.	334	..	..	..	..	..	29	160	107	38
disease .. ..	F.	400	..	..	1	1	1	35	196	101	65
13. Rheumatic Fever .. ..	M.	9	..	..	..	1	2	1	5	..	..
	F.	7	..	..	..	2	2	..	3	..	..
14. Diabetes .. ..	M.	27	..	..	..	1	..	5	10	10	1
	F.	52	..	..	..	..	..	1	22	26	3
15. Cerebral Hæmorrhage,	M.	157	..	..	..	..	1	5	57	66	28
&c.	F.	214	..	..	..	..	..	7	66	70	71
16. Heart Disease .. ..	M.	513	..	..	1	7	5	34	190	163	113
	F.	588	..	..	1	5	14	41	173	183	171
17. Arterio-sclerosis .. ..	M.	229	..	..	..	..	1	1	41	101	85
	F.	189	..	..	..	..	..	1	28	57	103
18. Bronchitis .. ..	M.	173	14	4	2	..	3	11	54	50	35
	F.	119	12	1	..	..	2	6	22	32	44
19. Pæumonia (all forms)	M.	254	22	13	8	9	11	48	100	33	10
	F.	145	28	14	8	9	2	11	34	26	13
20. Other respiratory	M.	30	1	1	2	..	4	7	11	3	1
diseases	F.	17	..	..	..	2	1	..	9	..	5
21. Ulcer of stomach or	M.	43	..	..	..	..	3	6	29	4	1
duodenum	F.	13	..	..	..	..	..	..	8	4	1
22. Diarrhœa, &c. .. ..	M.	27	18	3	..	2	1	1	2	..	..
	F.	23	11	..	2	1	1	1	1	2	4
23. Appendicitis and	M.	20	..	..	1	2	5	6	5	..	1
Typhlitis	F.	21	..	..	..	3	1	7	8	2	..
24. Cirrhosis of Liver .. ..	M.	6	..	..	..	..	..	1	4	1	..
	F.	4	..	..	..	..	..	..	3	1	..
25. Acute and Chronic	M.	97	..	2	1	..	3	7	53	24	7
Nephritis	F.	116	1	1	..	2	1	19	49	25	18
26. Puerperal Sepsis .. ..	F.	13	..	..	..	..	2	11	..	..	..
27. Other accidents and											
diseases of preg-											
nancy & parturition	F.	18	..	..	..	..	3	15	..	..	..
28. Congenital debility	M.	154	153	..	..	..	..	1	..	..	..
Malformation, and	F.	103	102	..	1	..	..	..	..	..	..
premature birth											
29. Suicide .. ..	M.	47	..	..	..	..	1	15	22	8	1
	F.	17	..	..	..	..	1	5	10	..	1
30. Other deaths from	M.	136	11	2	10	13	19	24	33	15	9
Violence	F.	59	6	1	3	4	2	8	14	10	11
31. Other defined diseases..	M.	422	58	4	13	13	21	46	115	73	79
	F.	403	43	..	11	10	17	49	108	74	91
32. Causes ill-defined or	M.	..	..	..	..	..	..	..	..	..	..
unknown	F.	1	..	..	..	..	..	..	..	1	..

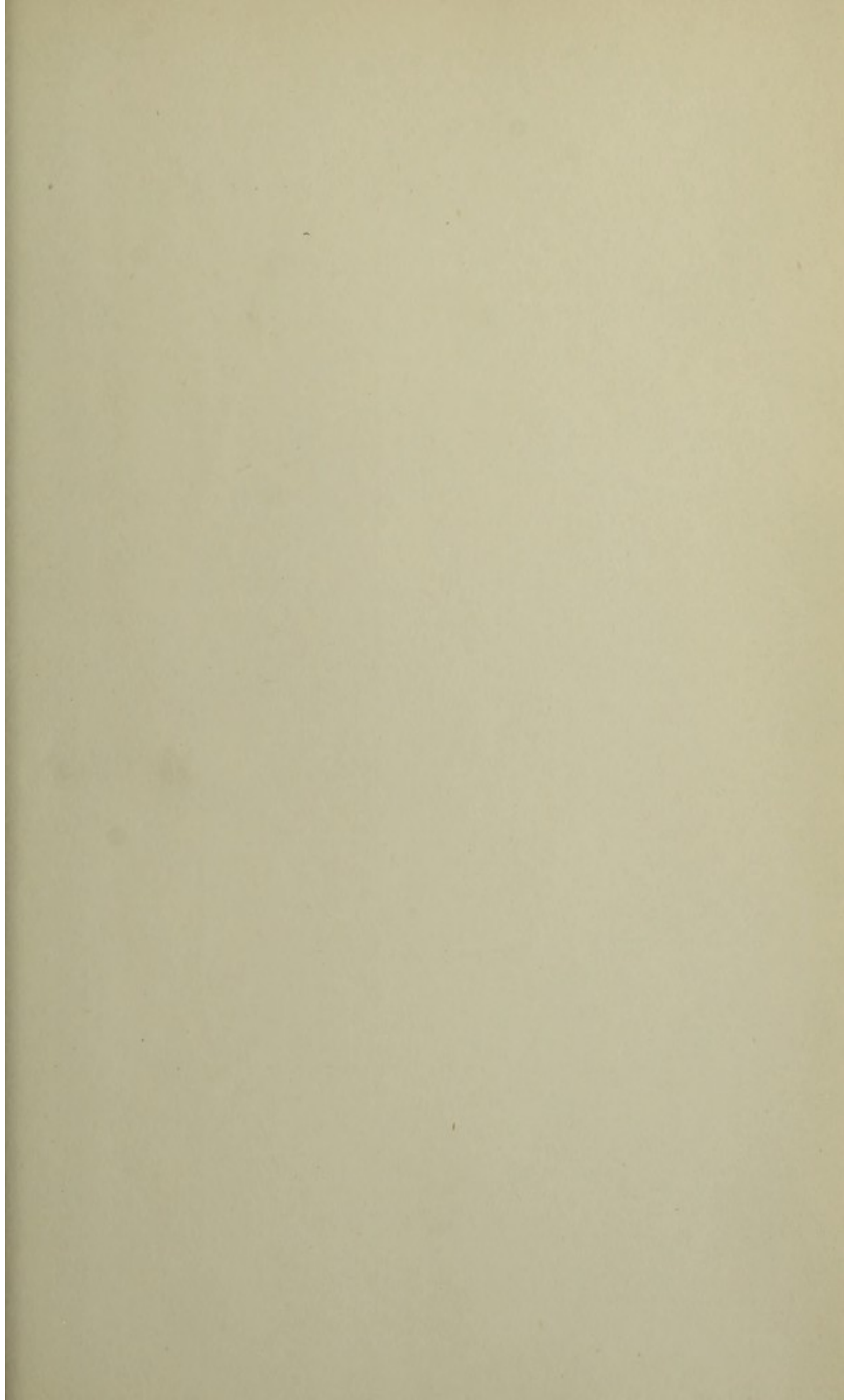


## APPENDIX 4.

INFANT MORTALITY    CALENDAR YEAR 1930.    NETT DEATHS FROM STATED CAUSES  
AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
{ Small-pox .. .. .	..	..	..	..	..	..	..	..	..	..
Chicken pox .. .. .	..	..	..	..	..	..	..	..	..	..
Measles .. .. .	..	..	..	..	..	..	..	..	..	..
Scarlet fever .. .. .	..	..	..	..	..	..	..	1	..	1
Whooping Cough .. .. .	..	..	..	..	..	3	4	4	5	16
{ Diphtheria .. .. .	..	..	..	..	..	..	..	1	1	2
Influenza .. .. .	..	..	..	..	..	..	..	..	..	..
Erysipelas .. .. .	..	..	..	..	..	..	1	..	..	1
{ Tuberculous Meningitis .. .. .	..	..	..	..	..	..	1	1	..	2
Abdominal Tuberculosis .. .. .	..	..	..	..	..	..	..	..	2	2
{ Other Tuberculous Diseases .. .. .	..	..	..	..	..	..	1	1	4	6
Meningitis (not Tuberculous) .. .. .	..	..	..	..	..	1	..	..	..	1
Convulsions .. .. .	9	2	1	1	13	4	2	2	..	21
Bronchitis .. .. .	1	..	..	2	3	9	4	4	3	23
Pneumonia (all forms) .. .. .	6	..	2	3	11	6	10	17	10	54
Other diseases of respiratory organs .. .. .	..	..	..	..	..	..	1	..	..	1
{ Diarrhoea .. .. .	..	2	2	3	7	12	6	3	3	31
{ Enteritis .. .. .	..	..	..	..	..	..	..	..	..	..
Gastritis .. .. .	..	..	..	..	..	1	1	..	1	3
Syphilis .. .. .	1	1	..	1	3	..	..	..	..	4
Rickets .. .. .	..	..	..	..	..	..	1	2	..	3
Suffocation, including overlying	7	..	1	..	8	3	4	1	..	16
Injury at birth .. .. .	15	1	..	..	16	..	..	..	..	16
Atelectasis .. .. .	17	..	..	..	17	1	..	..	..	18
{ Congenital Malformations .. .. .	13	5	1	2	21	8	3	2	3	37
Premature birth .. .. .	107	14	14	3	138	14	..	..	..	152
{ Atrophy, Debility and Marasmus .. .. .	22	5	3	2	32	6	5	1	1	45
Other Causes .. .. .	10	5	4	3	22	6	12	9	8	57
Totals .. .. .	208	35	28	20	291	74	57	49	41	512







APPENDIX

Table showing the results of the experiments conducted during the year 1881.

Date		Description of Experiment		Results	
Jan 1	1881	Experiment 1	First trial	100	100
Jan 2	1881	Experiment 2	Second trial	100	100
Jan 3	1881	Experiment 3	Third trial	100	100
Jan 4	1881	Experiment 4	Fourth trial	100	100
Jan 5	1881	Experiment 5	Fifth trial	100	100
Jan 6	1881	Experiment 6	Sixth trial	100	100
Jan 7	1881	Experiment 7	Seventh trial	100	100
Jan 8	1881	Experiment 8	Eighth trial	100	100
Jan 9	1881	Experiment 9	Ninth trial	100	100
Jan 10	1881	Experiment 10	Tenth trial	100	100
Jan 11	1881	Experiment 11	Eleventh trial	100	100
Jan 12	1881	Experiment 12	Twelfth trial	100	100
Jan 13	1881	Experiment 13	Thirteenth trial	100	100
Jan 14	1881	Experiment 14	Fourteenth trial	100	100
Jan 15	1881	Experiment 15	Fifteenth trial	100	100
Jan 16	1881	Experiment 16	Sixteenth trial	100	100
Jan 17	1881	Experiment 17	Seventeenth trial	100	100
Jan 18	1881	Experiment 18	Eighteenth trial	100	100
Jan 19	1881	Experiment 19	Nineteenth trial	100	100
Jan 20	1881	Experiment 20	Twentieth trial	100	100
Jan 21	1881	Experiment 21	Twenty-first trial	100	100
Jan 22	1881	Experiment 22	Twenty-second trial	100	100
Jan 23	1881	Experiment 23	Twenty-third trial	100	100
Jan 24	1881	Experiment 24	Twenty-fourth trial	100	100
Jan 25	1881	Experiment 25	Twenty-fifth trial	100	100
Jan 26	1881	Experiment 26	Twenty-sixth trial	100	100
Jan 27	1881	Experiment 27	Twenty-seventh trial	100	100
Jan 28	1881	Experiment 28	Twenty-eighth trial	100	100
Jan 29	1881	Experiment 29	Twenty-ninth trial	100	100
Jan 30	1881	Experiment 30	Thirtieth trial	100	100
Jan 31	1881	Experiment 31	Thirty-first trial	100	100
Jan 32	1881	Experiment 32	Thirty-second trial	100	100
Jan 33	1881	Experiment 33	Thirty-third trial	100	100
Jan 34	1881	Experiment 34	Thirty-fourth trial	100	100
Jan 35	1881	Experiment 35	Thirty-fifth trial	100	100
Jan 36	1881	Experiment 36	Thirty-sixth trial	100	100
Jan 37	1881	Experiment 37	Thirty-seventh trial	100	100
Jan 38	1881	Experiment 38	Thirty-eighth trial	100	100
Jan 39	1881	Experiment 39	Thirty-ninth trial	100	100
Jan 40	1881	Experiment 40	Fortieth trial	100	100
Jan 41	1881	Experiment 41	Forty-first trial	100	100
Jan 42	1881	Experiment 42	Forty-second trial	100	100
Jan 43	1881	Experiment 43	Forty-third trial	100	100
Jan 44	1881	Experiment 44	Forty-fourth trial	100	100
Jan 45	1881	Experiment 45	Forty-fifth trial	100	100
Jan 46	1881	Experiment 46	Forty-sixth trial	100	100
Jan 47	1881	Experiment 47	Forty-seventh trial	100	100
Jan 48	1881	Experiment 48	Forty-eighth trial	100	100
Jan 49	1881	Experiment 49	Forty-ninth trial	100	100
Jan 50	1881	Experiment 50	Fiftieth trial	100	100