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Leicestershire County Council.

ANNUAL REPORT

of the

MEDICAL OFFICER
:: OF HEALTH ::
FOR THE YEAR
1931.

J. A. FAIRER, M.D., D.P.H.
County Medical Officer.

Alfred Tacey, Printer, Leicester.

Leicestershire County Council.

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J. A. FAIRER, M.D., D.P.H.
County Medical Officer.

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17 Friar Lane,
Leicester.

Mr. Chairman and Gentlemen,

I have the honour to submit the Annual Report on the Health of the County for 1931.

The Vital Statistics show that there has been a slight increase in the Death Rate of the County but the figure 10.97 compares favourably with that (12.3) of the country as a whole.

The Birth Rate again shows a slight decrease from 17.0 in 1930 to 16.3 during the current year, and there has been an increase in the Infant Mortality Rate from 55 in 1930 to 59 in 1931, but this rate is still considerably lower than that for England and Wales which is returned as 66.

The most noteworthy feature in relation to the occurrence of disease in the County has been the continued prevalence of the epidemic of mild Small Pox. This outbreak originated in July, 1929, and has continued since that date, the number of cases notified during 1931 being 754.

Full particulars of the work of the Health Department are given under each Section and details of various improvements and extensions carried out or contemplated will be found under the appropriate headings.

There have been several changes in the personnel of the Staff during the year.

The death in November last of Dr. T. Robinson, Consulting Medical Officer, and the first County Medical Officer of Health for Leicestershire, was a severe loss not only to me personally but to the whole Department. Dr. Robinson was appointed County Medical Officer of Health of Leicestershire in 1899 and from that date until his retirement through ill-health in 1926 was in control of the Health Services of the County. He was a man of strong views, eminently just in all his dealings, and endeared himself to his staff whom he was ever ready to help and advise on any matter personal or professional.

Dr. Robinson displayed remarkable administrative ability and under his guidance the Health Department developed along sound lines with each increasing activity imposed by legislation or initiated under his control. His advice and help was always willingly available to me both as his Junior and later as his successor and I regret very deeply that the enjoyment of his retirement and freedom from the worries of office should have been marred by ill-health.

I also deplore the loss of two members of the Staff, Nurses W. M. Cruikshank, and G. Bennett, who were killed in a motor car accident whilst proceeding to Scotland for their Summer holidays. Nurse Bennett had been a member of the staff for seven years and Nurse Cruikshank for two years. Both were highly efficient officers, and their death was a

serious blow not only to their colleagues in the Health Department, but to their many friends in the districts in which their duties were carried out.

In September last, Dr. J. F. Davidson, the Deputy County Medical Officer of Health, resigned in order to take up the appointment of County Medical Officer of Health for West Suffolk. Dr. Davidson had been a member of the staff for a period of two years and I would like to take this opportunity of paying a tribute to his excellent work in this County. The vacancy created by Dr. Davidson's resignation was filled by the promotion of Dr. K. Cowan.

In September Dr. D. G. Anderson was appointed to take over the duties previously undertaken by Dr. Cowan.

Other changes in the staff were the resignation owing to ill-health of Mr. D. D. Pochin, Assistant School Dental Surgeon and the appointment in April of Mr. D. R. A. Willcox, his successor.

The vacancies caused by the deaths of the two Health Visitors were filled by the appointment in September of Miss V. L. Davies and Miss C. E. Bangham.

I am indebted to Dr. J. M. Mackintosh, late Assistant County Medical Officer, Leicestershire, and now County Medical Officer of Health, Northamptonshire, for his special report on Infantile Paralysis in Leicestershire which is included in this report. It is particularly gratifying to note that a previous member of the staff on promotion to a higher appointment still retains such interest in the work of your County as to prepare and produce such an admirable contribution.

My thanks are also due to Dr. K. Cowan, Deputy County Medical Officer, for his valuable assistance in the compilation of this report. Much of the work involved in its production has been undertaken by him and its relatively early appearance is largely the result of his energy and zeal.

In conclusion I would like to thank the Chairman and Members of the Public Health Committee for their encouragement and help and also the members of my staff for their loyal and efficient service during the past year.

I have the honour to be,

Mr. Chairman and Gentlemen,

Your obedient Servant,

J. A. FAIRER,

County Medical Officer of Health.

June, 1932.

THE COUNTY PUBLIC HEALTH AND HOUSING COMMITTEE, 1931.

J. W. BLACK, Esq. (*Chairman*).

ARMSTRONG, A. E.
BRIERS, A. J.
BROUGHTON, A. H.
FORSELL, J. T.
FULLER, B.
GOODACRE, C. (*resigned* 14-3-31).
GOODMAN, J. A.
HOLMES, J. H.
HUBBARD, B.
JACQUES, J. T.
LEVERS, G. T.
MARTIN, Lt.-Col., R.E., C.M.G. (*ex-officio*)
PICKERING, C.H.
POCHIN, V. R. (*ex-officio*).
RIPPIN, W. H.
STUBBS, W.
TANDY, E. W.
TIMMS, R. (*Vice-Chairman*).
WARD, G.
WILLETT, F.
WILSON, C.
WRIGHT, W. H.

MATERNITY AND CHILD WELFARE COMMITTEE.

This Committee consists of all the members of the Public Health and Housing Committee with the addition of the following ladies :—

Mrs. A. SHIRLEY ATKINS.
Mrs. E. E. BUCKINGHAM.
Mrs. B. EVERARD.
Mrs. S. M. JOYCE.
Mrs. G. SPENCER.
Mrs. W. R. TUCKETT.

REPORT.

STATISTICS AND SOCIAL CONDITIONS OF THE AREA.

Area in acres 524,197	Urban	41,336
	Rural	482,861
Population (Census 1921)		260,326
,, Preliminary Census return 1931		302,683
,, Urban 121,256		
,, Rural 181,427		
,, Estimated Resident (June 1931)		304,000
,, Urban 121,900		
,, Rural 182,100		
Number of inhabited houses (1921)		58,849
Number of families or separate occupiers		60,560
Rateable Value		£1,258,112
Sum represented by Penny Rate		£4,913

SOCIAL CONDITIONS OF COUNTY.

Leicestershire is one of the most centrally situated Counties in England and within its environs will be found much that is representative of English industrial and agricultural life. Although a large part of the County is devoted to agriculture there are several important industrial areas. The North-western area forms the mining district, while in the vicinity of Leicester, in the Soar Valley and the South-west, manufacture of worsted and cotton hose and boots and shoes is extensively carried on.

In common with the rest of the country all these trades have suffered from the prevailing depression with much consequent hardship to the workers concerned. It is of interest to note that notwithstanding the widespread prevalence of lowered living conditions there is no evidence of increase in malnutrition to any extent as evidenced by the returns from School Medical Inspection. The extensive social services now in being afford great assistance towards the prevention of real want amongst the population.

The development of housing estates in the County districts adjacent to the City of Leicester has made extra demands upon the resources of the County Health Department, particularly in the Tuberculosis and Maternity and Child Welfare branches. As these housing schemes have developed it has been found necessary to extend the administrative arrangements to meet the extra needs of the growing population.

EXTRACT FROM THE VITAL STATISTICS OF THE YEAR.

			Males.	Females.
Live Births	Legitimate	4,766	2,476	2,290
	Illegitimate	194	91	103
	Total Births	4,960	2,567	2,393

Birth Rate per 1,000 population, 16.3.

Still-births : Total 219.

Rate per 1,000 total births, 42.3.

Deaths : Total 3,334. Death Rate, 10.97.

Number of women dying in, or in consequence of, childbirth :—
Sepsis 5. Other causes 12.

Deaths of infants under one year of age per 1,000 live births :—
Legitimate 58.5. Illegitimate 82.5.
Total Rate per 1,000 .... 59.

Deaths from Measles (all ages)	31
,, ,, Whooping Cough (all ages)	11
,, ,, Diarrhœa (under 2 years)	20

INFANT MORTALITY.

The Infant Mortality rate for 1931 is returned as 59. This figure shows some increase on that for 1930 but is still considerably lower than the rate for England and Wales, which is returned as 66.

The increase in the Infant Mortality rate for the year is in the nature of a fluctuation. It is to be expected that with a steadily declining rate fluctuations may occur from year to year, but the general tendency continues to be a downward one. It must also be borne in mind that the rate for last year was a record for the County.

INFANT MORTALITY.

Year	URBAN		RURAL		WHOLE COUNTY		Rate for England and Wales
	No.	Rate	No.	Rate	No.	Rate	
1927	136	66	182	64	318	65	68
1928	112	55	169	56	281	55	65
1929	114	57	172	57	286	57	74
1930	108	53	170	57	278	55	60
1931	**122**	**61**	**173**	**58**	**295**	**59**	**66**

The steady decline in the birth rate has had a considerable influence in the fall in the Infant Mortality rate, mainly through the greater care which is possible to the individual nurture of infants in smaller families. The improvement in the general living conditions of the people and the increased interest in and knowledge of infant management derived from education at Welfare Centres and through other agencies remain the most important factors in the gratifying decrease in infant mortality, but the practical application of these principles has been facilitated to some extent by the decrease in the size of families.

DEATHS.

The Death Rate of the County (10.97) shows a slight increase but that of the country as a whole (12.3) has risen much higher proportionately.

In 1930 the Death Rate was 10.41 and the total number of deaths, 3,075. In 1931 this latter figure has risen to 3,334.

The seven chief causes of death in 1931 with the corresponding percentages of total deaths were :—

(1)	Heart Disease	19.5
(2)	Cancer	12.5
(3)	Cerebral Hæmorrhage	6.9
(4)	Phthisis	6.3
(5)	Congenital Debility	5.1
(6)	Senility	4.6
(7)	Pneumonia	4.4

The principal cause of death, as in previous years, is Heart Disease, and this rate has again risen from 1.89 (18.2%) in 1930 to 2.13 (19.5%) in 1931. There has been a slight increase in the death rate from Cancer and this disease still remains the second commonest cause of death in the County. During the past twenty years there has been a slow but steady increase in the death rate from Cancer and the rate for this year is more than fifty per cent. as high again as in 1911.

The third, fourth, and fifth positions in the Table show no alteration from those of last year but there has been a slight increase in the rates for both Cerebral Hæmorrhage and Phthisis. Senility displaces Pneumonia in the sixth position, the latter rate showing some slight decrease.

It is worthy of note that although violence other than suicide has been displaced from the Table as one of the seven principal causes of death the rate (0.43) remains the same as in 1930. During the year 132 persons met with a violent death in the County. The number of persons who died from Tuberculosis during the same period was 210. This comparison serves to illustrate the growing importance of undertaking measures to combat the risks of death from avoidable violence encountered by the population in the course of their everyday activities. Public

Health measures have been successful in reducing mortality from many causes and the expectation of life has been increased by many years during the past half century. There would appear to be a real danger of this work being counteracted to a considerable extent by lack of care for their own safety or for the safety of others on the part of many users of the roads.

TABLE OF SEVEN CHIEF CAUSES OF DEATH.

The Seven Chief Causes of Death	URBAN		RURAL		WHOLE COUNTY		Percentage of Total Deaths		
	No.	Rate	No.	Rate	No.	Rate	Urban	Rural	Whole C'nty
Heart Disease	256	2.10	393	2.16	649	2.13	19.5	19.5	19.5
Cancer	180	1.48	237	1.30	417	1.37	13.7	11.7	12.5
Cerebral Hæmorrhage	112	0.92	119	0.65	231	0.76	8.5	5.9	6.9
Phthisis	75	0.62	135	0.74	210	0.69	5.7	6.7	6.3
Congenital Debility	65	0.53	104	0.57	169	0.56	4.9	5.2	5.1
Senility	62	0.51	91	0.50	153	0.50	4.7	4.5	4.6
Pneumonia	52	0.43	95	0.52	147	0.48	4.0	4.7	4.4

The following Table shows the net number of registered deaths with corresponding rates (Urban and Rural) in Leicestershire, and England and Wales during the five years 1927-1931.

DEATHS.

Year	URBAN		RURAL		WHOLE COUNTY		Rate for England and Wales
	Net No. Reg'red	Rate	Net No. Reg'red	Rate	Net No. Reg'red	Rate	
1927	1351	11.45	1943	11.79	3294	11.61	12.3
1928	1186	9.88	1873	10.89	3059	10.48	11.7
1929	1441	11.91	2188	12.55	3629	12.29	13.4
1930	1256	10.38	1819	10.44	3075	10.41	11.4
1931	**1315**	**10.79**	**2019**	**11.09**	**3334**	**10.97**	**12.3**

It will be noted that during the whole period the Death Rate of the County has been lower than that of the country as a whole.

ZYMOTIC DEATHS.

In 1931 the Zymotic Deaths numbered 78. This figure shows an increase on that for 1930 but it will be observed from the following Table that this rate does not compare unfavourably with those of the previous five years.

YEAR	URBAN		RURAL		WHOLE COUNTY	
	No.	Rate	No.	Rate	No.	Rate
1927	30	0.25	41	0.25	71	0.25
1928	23	0.19	46	0.27	69	0.23
1929	36	0.30	68	0.39	104	0.35
1930	24	0.20	34	0.20	58	0.20
1931	**36**	**0.30**	**42**	**0.23**	**78**	**0.26**

BIRTH RATE.

The Birth Rate for 1931 is 16.3, which shows a decrease from that recorded in 1930 when the figure was 17.0. The total number of live births was 4,960. Of the births recorded 2,567 were males and 2,393 were females, the ratio of male to female births being 107.3 to 100.

Summary of Birth Statistics, Urban, Rural, and Whole County.

Population for Birth Rate	URBAN		RURAL		WHOLE COUNTY		ENGLAND AND WALES
	121,150		174,340		295,490		
	No.	Rate	No.	Rate	No.	Rate	Rate
Births	1983	16.2	2977	16.3	4960	16.3	15.8

GENERAL PROVISION OF HEALTH SERVICES FOR THE AREA.

STAFF.

Consulting Medical Officer :

T. ROBINSON, M.R.C.S., L.R.C.P., D.P.H. (Camb.).
(*Deceased*, 6-11-1931)

County Medical Officer :
School Medical Officer :
Administrative Officer for Tuberculosis & Maternity & Child Welfare :

J. A. FAIRER, M.D., D.P.H.

Deputy County Medical Officer :
Deputy School Medical Officer :

J. F. DAVIDSON, M.B., B.Ch., D.P.H. (*resigned Sept*, 1931).

K. COWAN, M.D., D.P.H. (*appointed Sept.*, 1931).

Assistant County Medical Officer :
Senior Assistant School Medical Officer :

D. G. ANDERSON, M.B., Ch.B., D.P.H. (*appointed Sept.*, 1931).

Chief Tuberculosis Officer :

N. A. COWARD, O.B.E., M.D., D.P.H.

Assistant Tuberculosis Officer :

S. W. LANE, M.R.C.S., L.R.C.P.

Assistant Infant Welfare Officer and
Assistant School Medical Officer :

MARY E. WESTON, M.B., B.S.

Assistant Infant Welfare Officer :
County Oculist :

CONSTANCE WALTERS, B.Sc., M.B., B.Ch.

Assistant School Medical Officer :

S. E. MURRAY, M.B., B.S.

Assistant School Medical Officer :
Medical Officer for Venereal Diseases :

J. B. DALTON, M.B., Ch.B.

STAFF—Continued.

Chief Dental Surgeon :

P. ASHTON, L.D.S.

Assistant Dental Surgeons :

A. E. WARD, L.D.S.
C. L. R. McLELLAN, L.D.S.
D. POCHIN, L.D.S. (*resigned January*, 1931).
D. R. A. WILLCOX, L.D.S. (*appointed April*, 1931).

HEALTH VISITORS.

*Mrs. A. Warren, S.R.N. (*Superintendent*).

Mrs. A. D. Antrobus, S.R.N.

Miss A. J. Bailey, S.R.N.

Miss C. E. Bangham, S.R.N. (*appointed September*, 1931).

*Miss G. Bennett, S.R.N. (*deceased*).

Mrs. S. J. Bourne, S.R.N.

Mrs. P. Brunsdon, S.R.N.

*Miss G. E. Butler, S.R.N.

*Mrs. F. E. Cade.

Miss G. I. Carryer, S.R.N.

Miss W. M. Cruikshank, S.R.N. (*deceased*).

Miss V. L. Davies, S.R.N. (*appointed September*, 1931).

Miss M. A. Dilworth, S.R.N.

Miss E. Y. Feakin, S.R.N.

Miss L. Fox, S.R.N.

Miss T. M. Griffiths, S.R.N.

Miss B. M. Keeling, S.R.N. (*resigned December*, 1931).

*Miss K. A. Marsh, S.R.N.

Miss. S. H. G. Payne, S.R.N.

Miss E. H. Seabrook.

Miss W. A. Simmons, S.R.N.

Mrs. E. E. Wright, S.R.N.

Those marked * hold the Certificate of Sanitary Inspector.

All the above are fully trained Nurses and hold the Certificate of the Central Midwives Board. The Superintendent also holds the Child Welfare Workers Certificate. Miss Butler, Miss Bangham, Miss Carryer, Miss Davies, Miss Feakin, and Miss Payne, have the new Health Visitors' Certificate of the Ministry of Health.

All the above are full-time Officers of the County Council.

ADDITIONAL OFFICERS.

(1) District Medical Officers of Health.

URBAN :

District :	Name and Address :	
Ashby-de-la-Zouch	Dr. T. Forsyth	Hugglescote.
Ashby Woulds	Dr. R. Logan	Ashby-de-la-Zouch.
Coalville	Dr. A. Hamilton	Coalville.
Hinckley	Dr. J. H. Donnell	Hinckley.
Loughborough	Dr. N. B. M. Blackham	Loughborough.
Market Harborough	Dr. C. T. Scott	Market Harborough
Melton Mowbray	Dr. J. E. O'Connor	Kirby Muxloe.
Oadby	Dr. J. E. O'Connor	Kirby Muxloe.
Quorndon	Dr. J. E. O'Connor	Kirby Muxloe.
Shepshed	Dr. T. Bell	Shepshed.
Thurmaston	Dr. J. E. O'Connor	Kirby Muxloe.
Wigston	Dr. J. E. O'Connor	Kirby Muxloe.

RURAL :

District :	Name and Address :	
Ashby-de-la-Zouch	Dr. T. Forsyth	Hugglecsote.
Barrow-on-Soar	Dr. J. E. O'Connor	Kirby Muxloe.
Belvoir....	Dr. F. J. H. Martin	Bottesford.
Billesdon	Dr. J. E. O'Connor	Kirby Muxloe.
Blaby	Dr. J. E. O'Connor	Kirby Muxloe.
Castle Donington	Dr. T. M. Montford	Castle Donington
Hallaton	Dr. J. E. O'Connor	Kirby Muxloe.
Hinckley	Dr. J. E. O'Connor	Kirby Muxloe.
Loughborough	Dr. N. B. M. Blackham	Loughborough.
Lutterworth	Dr. J. E. O'Connor	Kirby Muxloe.
Market Harborough	Dr. J. S. Macbeth	Kibworth Beauchamp
Market Bosworth	Dr. T. G. Kelly	Desford.
Melton Mowbray	Dr. J. E. O'Connor	Kirby Muxloe.

(2) District Medical Officers (Poor Law) and Public Vaccinators.

District :	Name and Address :
Bottesford	Dr. F. J. H. Martin, Bottesford, Notts.
Croxton Kerrial	Dr. R. H. Hudson, Woolsthorpe, Grantham.

District.	Name and Address.
Waltham	Dr. W. Arnold, Waltham-on-the-Wolds, Melton Mowbray.
Long Clawson....	Dr. G. C. B. Atkinson, Long Clawson, Melton Mowbray.
Wymondham	Dr. H. S. Furness, Melton Mowbray.
Asfordby	Dr. G. S. A. Bishop, Melton Mowbray
Melton Mowbray (north)	Dr. R. H. Fagge, Melton Mowbray.
Melton Mowbray (south)	Dr. R. H. Fagge, Melton Mowbray.
Somerby	Dr. R. J. Mould, Somerby, Melton Mowbray.
Loughborough	Dr. C. L. Lapper, 25 Victoria St., Loughborough.
Shepshed	Dr. T. Bell, Shepshed, Loughborough.
Castle Donington	Dr. W. H. Dowell, Castle Donington, Derby.
Mountsorrel	Dr. J. S. Strachan, Mountsorrel, Loughborough.
Barrow-upon-Soar	Dr. J. S. Gray, Sileby, Loughborough.
Sileby	Dr. J. S. Gray, Sileby, Loughborough.
Syston	Dr. R. W. Taylor, Syston, Leicester.
Billesdon	Dr. E. K. Williams, Billesdon, Leicester.
Hallaton	Dr. P. Drummond, Hallaton, Market Harboro'
Market Harboro' (No. 1)	Dr. C. T. Scott, Market Harborough.
Market Harboro' (No. 2)	Dr. J. S. Macbeth, Kibworth Beauchamp, Leicester.
Wigston	Dr. S. B. Couper, Blaby, Leicester.
Enderby	Dr. W. R. M. Berridge, Enderby, Leicester.
Lutterworth	Dr. T. W. Crowley, Lutterworth, Rugby.
Peatling	Dr. C. R. Jones, Peatling Magna, Leicester.
Hinckley	Dr. H. Shirlaw, Hinckley.
Market Bosworth	Dr. H. N. Keeling, Market Bosworth, Nuneaton.
Ibstock	Dr. C. S. Agnew, Ibstock, Leicester.
Ashby-de-la-Zouch	Dr. S. Silley, Ashby-de-la-Zouch.
Coalville	Dr. T. Forsyth, Hugglescote.
Measham	Dr. J. R. Salmond, Appleby Magna, Burton-on-Trent.

OTHER OFFICERS.

(3) Vaccination Officers.

District :	Name and Address :	
Ashby-de-la-Zouch	Mr. J. W. Bowley	Ashby-de-la-Zouch.
Billesdon	Mr. T. Warham	Bushby.
Enderby	Mr. A. S. Collis	Narborough.

District.	Name and Address.	
Hinckley	Mr. W. H. Pendlebury	Hinckley.
Loughborough	Mr. A. L. Milner	Loughborough.
Lutterworth	Mr. H. Webb	Lutterworth.
Market Harborough	Mr. W. J. Fordham	Market Harborough.
Market Bosworth	Mr. E. L. Hunt	Ibstock.
Measham	Mr. W. S. Bacon	Measham.
Melton (north)	Mr. E. S. Cox	Melton Mowbray.
Melton (south)	Mr. H. N. Lock	Melton Mowbray.
Mountsorrel	Mr. C. F. F. Scott	Mountsorrel.
Syston	Mr. A. E. Williams	Syston.
Wigston	Mr. W. W. Farrar	South Wigston.

(4) Veterinary Surgeons.

District :	Name and Address :	
Ashby-de-la-Zouch	Mr. R. Lake	Ashby-de-la-Zouch.
Belvoir	Mr. V. P. Littler	Long Clawson.
Hinckley	Mr. J. D. C. Ward	Hinckley.
Leicester	Mr. H. Thornton	Leicester.
Long Clawson....	Mr. T. Littler	Long Clawson.
Loughborough	Mr. R. L. Phillips	Loughborough.
Lutterworth	Mr. W. L. Gascoyne	Lutterworth.
Market Bosworth and Coalville	Mr. H. E. Powell	Coalville.
Market Harborough	Mr. R. MacGregor	Market Harborough.
Melton Mowbray	Mr. J. N. Glass	Melton Mowbray.

The offices of the Health Department are divided into four main sections :—

General, and Maternity and Child Welfare Department :
Chief Clerk (H. Burditt) and five assistants.

Tuberculosis : Chief Clerk (H. Collington) and three assistants.

School Medical Service : Chief Clerk (W. A. Thornton) and three assisants. There are also four assistants in the Dental Department.

Laboratory : Assistant Bacteriologist (J. N. Graham) with one junior assistant.

NURSING IN THE HOME.

The general nursing services in the County are undertaken by the County Nursing Association in conjunction with the County Council. During the year, this service was extended by the formation of two new District Nursing Associations at Croft and Huncote, and Sapcote and Sharnford. The services in existence now cover the greater part of the County.

The County Nursing Association undertakes on behalf of the County Council, the nursing of home cases of Tuberculosis where suitable.

Details of arrangements with the Leicester City Nursing Association for the nursing of cases of Measles, and Whooping Cough, in children under five years of age, and of Opthalmia Neonatorum, on the Saffron Lane Estate, were given in my Annual Report of last year. This arrangement continues in force. No arrangements for the extension of this service were made during the year.

MIDWIVES.

(a) Statistical Particulars.

During the year, 214 Midwives notified their intention to practise and ten left the County or ceased to practise.

Of the County Midwives, 200 hold the Certificate of the Central Midwives Board, and four the L.O.S. Certificate; the remaining ten belong to the *bona fide* classification.

Inspection of midwives is carried out by four members of the County Health Visitors' staff. Three of these officers are specially appointed County Health Visitors, while the fourth is the Superintendent Health Visitor, under whose general supervision, the work in all districts is undertaken.

The Inspectors made 470 visits during the year. It was not found necessary as a result of their inspections to report any breach of the Rules to either the Local Supervising Authority or to the Central Midwives Board.

The annual returns received from the County Midwives are as follows:

Medical Help Records	797
Notice of liability to be a source of infection	47
Laying out of the dead records	69
Notice of death of Mother or Child (one Mother)	11
Still-birth records	70
Notice *re* Artificial Feeding	46
Notice of change of address	12

The Midwives called in medical help in 39 per cent. of the cases attended by them.

The chief causes for medical help for the mother were : Injuries to Perineum, Delayed Labour, Malpresentation, Raised Temperature, Adherent Placenta, Ante-partum Hæmorrhage, and Post-partum Hæmorrhage.

The chief causes of help required for the child were : Discharge from Eyes, Feebleness, Prematurity and Deformity.

The records show that 3,116 cases were attended by Midwives during the year and of this number, 2,023 were taken by them alone. In the remaining 1,093 cases, both Doctor and Midwife were in attendance.

(b) Doctor's Fees in Special Cases.

The sum of £2 . 12 . 0 was expended in one complicated case where it was necessary for a doctor to be in attendance.

(c) Midwives' Fees.

Applications were received from Certified Midwives in respect of their attendance on 14 necessitous cases. In 11 cases, the full fee was granted, whilst of the remaining three, a reduced grant was made in two cases and one application was withdrawn. Grants under this section amounted to £20 . 12 . 6.

(d) Subsidy to Midwives.

Subsidies to three Midwives were authorised by the County Council at a cost not exceeding £21 each per annum. The subsidy in each case has been given to the County Nursing Association for distribution.

For general emergency duties in the County, four Nurse-Midwives are maintained at the County Nurses' Home, Highfield Street, Leicester.

(e) Placing of Midwives.

A grant of £30 is made by the County Council for the training of Midwives newly-appointed either to fill a vacancy or to settle in a new area for which no previous provision has been made.

15 applications were considered and approved by the Committee, the total expenditure being £450.

(f) Mileage Grant for Midwives.

The sum of £10 . 0 . 0 was expended in mileage grants to Midwives taking cases outside their usual area of practice. During the year, the Committee received six applications, all of which were granted.

(g) Suspension of Midwives.

During the year no Midwife was suspended from duty through being in contact with infectious disease.

(h) Educational Facilities.

(1) *Midwifery Scholarships.* The selection of candidates and arrangements for training are carried out by the County Nursing Association and applications should be made to the Secretary of that Association. During the year, six candidates completed their training and a further nine began the course during the year.

(2) *Post-Certificate Courses.* Arrangements are in force for the purpose of making grants to Midwives who desire to take post-certificate courses in order to keep abreast of modern developments in their work. During the year, five Midwives took post-certificate courses at Camberwell. In each case, a grant of £12 . 0 . 0 was allotted, £4 . 0 . 0 towards the charge of the Training Institution, and £8 . 0 . 0 for travelling expenses and provision of a substitute.

(3) *Lectures to Practising Midwives.* During the year, Dr. E. Lewis Lilley, Obstetric Surgeon to the Leicester and Leicestershire Maternity Hospital, gave a series of lectures to practising Midwives. His report is as follows :—

" I beg to report completion of my recent course of lectures to Midwives under the Leicestershire County Council. The attendances were as follows :—

Leicester	25th February, 1931	21
Coalville	27th ,, ,, ...	13
Leicester	4th March, ,, ...	13
Loughborough	5th ,, ,, ...	16

" I took as my main subject lessons to be drawn from the interim report of the Departmental Committee on Puerperal Mortality and Morbidity. For the second lecture of each session, I took subjects which were sent up by the nurses themselves and the interest taken by them is shown by the receipt of 29 suggestions. I took also the opportunity to bring before their notice, some memoranda recently issued by the C.M.B., on antiseptics and the drugs to be used by Midwives.

" Much appreciation was expressed of the educational opportunities afforded by the Lecture Course provided by the Leicestershire County Council."

(*Signed*) E. Lewis Lilley.

(i) Additional Administrative Arrangements.

(1) *Sparsely Populated Areas.* There has been no change in the arrangements for the service of these districts during the year. The grants made during the year were as follows :—One of £104 ; two of £78 ; two of £58 and one of £52.

Bicycle allowance of £6 . 0 . 0 per annum was continued in the case of four Associations.

(2) *Necessitous Districts.* During 1931, grants amounting to £14 . 0 . 0 each, were made to two District Nursing Associations towards the initial expenses incurred in serving a necessitous district.

Grants varying from £5 . 0 . 0 to £21 . 0 . 0 per annum were made to 22 District Nursing Associations in which the service is already in operation.

There has been no alteration in the method of administering these grants, as detailed in my Annual Report for last year.

(3) *Midwives' Act,* 1918. During the year 354 claims were paid under the provisions of this Act. The total amount expended was £457 . 18 . 6 and £197 . 6 . 0 was recovered from persons responsible for payment.

HOSPITALS.

(1) **Infectious Diseases other than Small-pox.** The controlling authority for the isolation of cases of infectious disease is the Leicestershire Isolation Hospitals Committee. The personnel of this Committee is identical with the Public Health and Housing Committee of the County Council.

Full details of the present hospital provision for cases of infectious disease other than Small-pox were given in my Annual Report of last year, along with the contemplated re-organisation which will follow upon the opening of the new Isolation Hospital at Markfield.

The number of beds available for the reception of these cases after the opening of the Markfield Hospital in 1932, will be 117, distributed as follows :—

	Beds.
Blaby Isolation Hospital	17
Hinckley Isolation Hospital	23
Melton Mowbray Isolation Hospital	23
Markfield Isolation Hospital	54
Total	117

The re-organisation of the hospital accommodation will result in an additional 23 beds being available in these four central hospitals. This provision is considered adequate to meet the demand in the County for accommodation for infectious diseases other than Small-pox.

(2) **Small-pox.** Two hospitals are available in the County for the reception of cases of Small-pox, Syston Small-pox Hospital, 15 beds ; and Snarestone Small-pox Hospital, 23 beds ; allowing 144 square feet of floor space per bed in each Institution. These hospitals will continue in use and the accommodation may be considered adequate to meet present demands.

A reciprocal agreement exists between the County Council and the Council of the City of Leicester for the reception of cases of Small-pox residing in the County Borough into hospitals provided by the County Council.

(3) **Other Hospitals.** Full details of the hospital provision in the area were given in my Annual Report for 1930. There have been no changes during the year in these hospital services.

The following are the only arrangements in force for co-operation between the County Council and the Voluntary Hospitals :—

The Public Assistance Committee make a grant to the Leicester Royal Infirmary, Market Harborough Cottage Hospital, Hinckley Cottage Hospital, and Lutterworth Cottage Hospital, for the reception of cases of acute sick into these Institutions.

Under the Authority's scheme for operative treatment of Tonsils and Adenoids, provision is made for the use of the Cottage Hospitals at Ashby-de-la-Zouch, Market Harborough, Lutterworth, Melton Mowbray, and Hinckley, and at the Loughborough General Hospital for these operations.

With the completion of the new Sanatorium at Markfield, 126 beds will be available at this central Institution for the treatment of Tuberculosis. This provision will be adequate to meet the needs for this type of case and with the extra provision made for X-Ray examinations and for treatment by Artificial Pneumo-Thorax, the Tuberculosis scheme will be advanced materially towards the ideal of a complete service for the area.

There has been no change during the year in the arrangements for hospital treatment for maternity cases. No difficulty has been experienced in securing admission for these cases to the various hospitals which have an agreement with the County Council. The arrangement in force for the reception of County patients at the Leicester and Leicestershire Maternity Hospital is of great value, and notwithstanding the great demand on the beds at this Institution every effort has been made by the Hospital Authorities to facilitate the admission of any case provided for under the subsidy from the County Council.

Detailed information of the hospital accommodation available in the various transferred Poor Law Institutions is given in another section of this report.

MATERNITY AND NURSING HOMES.

The administration of the provisions of the Nursing Homes Registration Act, 1927, is undertaken by the County Council which is the Local Supervising Authority for the whole County, including the Borough of Loughborough. No application has been received from a District Authority under Section 9 (2) for delegation of powers under the Act to a District Council.

Periodic inspections of the registered Homes are carried out by Dr. Cowan and the County Superintendent Health Visitor. Before any application for a certificate of registration of a Home is granted, full inquiry is made as to the suitability and qualifications of the applicant and a complete investigation of the premises is undertaken to ensure that they conform to the necessary requirements.

The following are particulars concerning the administration of this section of the work :—

	Nursing Home	Maternity Home.	Nursing & Maternity Home.
No. of applications for registration	1	2	1
No. of Homes registered	1	10	2
No. of Orders made refusing registration	—	—	—
No. of Orders made cancelling registration	—	—	—
No. of appeals against such Orders	—	—	—
Appeals confirmed	—	—	—
Appeals disallowed	—	—	—

Exemptions from registration under the Act were made in seven instances, *viz.*, five Cottage Hospitals, one General Hospital and one "Home of Rest."

Provision is made for the reception of unmarried expectant mothers at St. Saviour's Home, Northampton. In addition, arrangements are in force for the Ely Diocesan Home, Cambridge and the Salvation Army Home, Birmingham to receive cases if required.

AMBULANCE FACILITIES.

(a) Infectious Diseases.

There have been no changes during the year in the ambulance facilities available for these cases. Motor ambulances are stationed at the Isolation Hospitals at Blaby and Melton Mowbray, and horse-drawn ambulances at Hinckley, Loughborough, and Ibstock. Only the shorter local journeys are undertaken by the horse-drawn ambulances.

A special ambulance is reserved for the transport of cases of Small-pox.

(b) Non-infectious and Accident Cases.

The removal of cases of Tuberculosis is undertaken by the County Council ambulance if necessary, but no responsibility is undertaken for other cases.

(c) Maternity Cases.

No special ambulance is provided for these cases, but transport is arranged for, when necessary.

CLINICS AND TREATMENT CENTRES.

The changes which have taken place in the Clinics and Treatment Centres administered by the County Council are outlined below.

During 1931, the new combined Clinic at Coalville was completed and work commenced in the new premises in the first week in January, 1932.

The building comprises School Clinic, Infant Welfare Centre, and Orthopædic Clinic, and will, in addition, be suitable for use by the Dental Staff and School Oculist when necessary.

These premises will replace those which have been in use at the Primitive Methodist Schoolroom.

The Clinic will be used for the following purposes at the hours stated :

Minor ailments	Tuesdays and Fridays, 10 a.m. to 12 noon. School Medical Officer attends on Tuesdays.
Orthopædic Treatment	Mondays and Wednesdays, 1-30 p.m. to 4-30 p.m. Orthopædic Surgeon attends second Wednesday in each month.
Infant Welfare Centre	Tuesdays, 2-30 p.m. Medical Officer attends alternate Tuesdays.
Dental Clinic	Saturdays 9-30 a.m. to 12-30 p.m.

In January 1931, an arrangement was made by the County Council with the Leicester City Authority for the attendance of County cases at the Leicester City Clinic for Orthopædic treatment.

This Clinic is available for patients living in County districts adjacent to the City and provides for all forms of out-patient orthopædic treatment and short periods of in-patient treatment in the beds provided at the Clinic. Mr. Morris, the Orthopædic Surgeon to the Leicester City Authority is in charge of the work, and a measure of continuity is secured by an arrangement, whereby cases requiring longer periods of hospital treatment can be referred direct from this Clinic to the Orthopædic Hospitals at Harlow Wood and Coleshill. This arrangement constitutes an additional facility for this form of treatment.

It was found necessary to close three Infant Welfare Centres at Donisthorpe, Measham, and Stathern, as from April 1st, 1931.

This policy was adopted because it was considered that at each of these Centres the attendance and general record of work accomplished, did not justify the time and money expended on their administration. In addition, increasing demands were being made on the Maternity and Child Welfare service from other areas of the County, whose populations justified the provision of Centres.

Owing to the fact that the full resources of the Health Department were already engaged, it had not been possible to make such provision.

It was felt that the closure of these poorly attended Centres would allow of greater concentration of effort in those areas in which the benefits of the work would accrue to the largest numbers.

ADMINISTRATIVE CHANGES UNDER THE LOCAL GOVERNMENT ACT, 1929.

(1) Poor Law Institutions.

The following are the Poor Law Institutions for the accommodation of House Inmates and Infirm Inmates in the County :—Ashby-de-la-Zouch, Billesdon, Hinckley, Loughborough, Lutterworth, Market Bosworth, Market Harborough, Melton Mowbray, Mountsorrel and Narborough.

Considerable difficulty has been experienced in formulating a scheme which would be suitable for the adaptation and development of the institutions along lines which would enable them to be co-ordinated successfully with the general health services of the County. The condition of the institutions at the time of their transfer to the Local Authority was such that much of the existing accommodation for the sick could not possibly be utilised without temporary alteration pending a complete scheme for improvement and extension of the facilities available. Where urgently necessary, alterations have been made in various institutions, and in so far as possible, the accommodation has been adapted in order to render it of immediate use.

During the year, a scheme has been drawn up for the re-organisation of the available resources and for their extension to meet adequately the needs of the area.

The general principles of the scheme provide for the closure of the existing Poor Law Institutions at Billesdon and Mountsorrel, and the re-organisation of institutional accommodation at Loughborough, Melton Mowbray, Market Harborough, Hinckley, Lutterworth, Narborough and Market Bosworth. The question of the closure of Ashby-de-la-Zouch Institution is sub-judice.

A considerable amount of time has been spent in carrying out investigations and surveys of the Institutions in order to arrive at the most economical re-arrangement of accommodation. It is hoped to arrange a conference with officials of the Ministry of Health early in 1932, when the proposals outlined in the draft scheme will be fully discussed and modified, if necessary, in accordance with the views of the Ministry of Health.

(2) Poor Law Medical Out-Relief.

The Poor Law Medical Out-Relief Districts have been re-constituted since their transfer to the Local Authority and the following Table shows the new districts and the name of the District Medical Officer in each :—

Table of Districts with Medical Officers.

Name of District.	Name of Medical Officer.
Bottesford	Dr. F. J. H. Martin.
Croxton Kerrial	Dr. R. H. Hudson.
Waltham	Dr. W. Arnold.
Long Clawson....	Dr. G. C. B. Atkinson.
Wymondham	Dr. H. S. Furness.
Asfordby	Dr. G. S. A. Bishop.
Melton Mowbray	Dr. R. H. Fagge.
Somerby	Dr. R. J. Mould.
Loughborough	Dr. C. L. Lapper.
Shepshed	Dr. T. Bell.
Castle Donington	Dr. W. H. Dowell.
Mountsorrel	Dr. J. S. Strachan.
Barrow-upon-Soar and Sileby	Dr. J. S. Gray.
Syston	Dr. R. W. Taylor.
Billesdon	Dr. E. K. Williams.
Hallaton	Dr. P. Drummond.
Market Harborough (1)	Dr. C. T. Scott.
,, ,, (2)	Dr. J. S. MacBeth.
Wigston	Dr. S. B. Couper.
Enderby	Dr. W. R. M. Berridge.
Lutterworth	Dr. T. W. Crowley.
Peatling	Dr. C. R. Jones.
Hinckley	Dr. H. Shirlaw.
Market Bosworth	Dr. H. N. Keeling.
Ibstock	Dr. C. S. Agnew.
Ashby-de-la-Zouch	Dr. H. H. Silley.
Coalville	Dr. T. Forsyth.
Measham	Dr. J. R. Salmond.

As stated in my Annual Report of last year, this re-arrangement was subject to a considerable amount of adverse criticism at the time of its inception. It is very gratifying to be able to report that the scheme continues to work satisfactorily and meets adequately the requirements of the various districts.

(3) Vaccination.

As from the 1st April, 1930, the districts of the Public Vaccinators were reduced to 29 and those of the Vaccination Officers to a total of 14. This re-arrangement has been of considerable help in administration and has simplified the means of general supervision of vaccination in the County.

The following Tables show the state of vaccination in the Administrative County :—

(1) Return showing the Numbers of Persons successfully Vaccinated and re-Vaccinated at the cost of the rates by the Medical Officers of the Poor Law Institutions and the Public Vaccinators during the period 1st January to 31st December, 1931.

Numbers of successful primary vaccinations of persons.			Number of successful re-vaccinations, *i.e.* successful vaccinations of persons who had been successfully vaccinated at some previous time.
Under 1 year of age.	One year and upwards.	Total	
306	1,350	1,656	416

Summary of Vaccination Officers' Returns for the year 1st January to 31st December, 1931.

Vaccination Districts.	No. of Births entered on Birth Lists	Entered in Vaccination Register.				Other successful vaccinations received	No. of cases successfully vaccinated after Statutory Declaration had been made.
		Successful Vaccinations.	Insusceptible to vaccination.	Died unvaccinated.	Statutory declaration.		
Ashby	631	85	—	40	578	11	31
Billesdon	240	36	4	11	160	35	—
Enderby	461	22	1	26	397	26	—
Hinckley	488	13	1	12	454	32	1
Loughborough	679	36	2	32	581	208	146
Lutterworth	153	24	—	6	128	4	1
Market Bosworth	369	50	1	23	282	12	176
Mkt. Harborough	238	16	3	5	192	2	—
Measham	187	23	1	5	149	6	—
Melton (nth).	219	51	1	6	157	—	—
Melton (sth).	243	39	2	7	191	1	1
Mountsorrel	227	18	2	14	195	—	—
Syston	267	11	—	6	250	1	—
Wigston	266	13	—	8	239	12	—
TOTALS	4,668	437	18	201	3,953	350	356

Summary of Vaccination Officers' Returns for the year 1st January to 31st December, 1931 (*contd.*).

Vaccination Districts.	No. of children at end of year shewn as :—			Cases otherwise outstanding at end of year.	
	Postponement by Medical Certificate.	Removed to other Districts.	Removed— unable to trace.	Under 6 months.	Over 6 months.
Ashby	—	5	—	15	25
Billesdon	—	—	—	47	—
Enderby	—	—	—	70	—
Hinckley	—	—	—	49	1
Loughborough	2	—	—	140	—
Lutterworth	3	—	—	21	—
Market Bosworth	—	—	—	36	40
Mkt. Harborough	2	2	9	26	26
Measham	—	—	—	20	10
Melton (north)....	—	—	—	16	3
Melton (south)....	2	2	1	31	3
Mountsorrel	—	—	—	25	1
Syston	—	—	—	26	—
Wigston	—	2	3	33	1
TOTALS	9	11	13	555	110

Summary of Vaccination Officers' Returns rendered to the Registrar-General respecting the Vaccination of Children whose births were registered from 1st January to 31st December, 1930.

(1) No. of births entered in "Births Lists" as registered during 1930 4692

(2) Statement relating to these births on 31st January, 1932 :—

(*a*)	No. successfully vaccinated	401	
(*b*)	No. insusceptible to vaccination	11	
(*c*)	No. had Small-pox	—	
(*d*)	No. of Statutory Declarations received	3,952	
(*e*)	No. died unvaccinated	203	
(*f*)	No. temporarily unaccounted for	70	
(*g*)	No. otherwise unaccounted for	55	
		——	4,692

(3) No. of cases of children successfully vaccinated after Statutory Declaration had been received (included in sub-heading (*d*)) 9

(4) Boarded-out Children.

The work of inspection of these children is carried out by the County Health Visiting Staff.

Routine visits of inspection are made to each case once every six weeks. When necessary, owing to special circumstances, more frequent visits are paid and in all cases a detailed report of the conditions found at each visit is made by the Health Visitor.

The number of children on the register on 31st December 1931, was 58.

Although it would appear at first sight that the visiting of these cases could best be undertaken by the Health Visiting Staff who with their knowledge of local conditions and circumstances, are in a position to exercise strict supervision, it is found in practice, that certain difficulties are encountered. Not the least of these is the high proportion of time which has to be allocated to this work in proportion to the small number of cases on the register.

To ensure that each individual boarded-out child is being cared for in the manner required detailed inquiry and inspection is essential at each visit. Where some defect is found in the condition of the home or in the care of the child, it is necessary to make a re-inspection after a short interval.

It would appear that to secure a uniformity of procedure and adequate supervision of these children that the work could best be undertaken by an officer devoting her whole time or part time in conjunction with similar work to the necessary visits of inspection.

During the year, two unsatisfactory reports, in relation to overcrowding were received from the Inspectors. Appropriate action was taken in each case to remedy the unsatisfactory conditions existing.

PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.

The outstanding feature in connection with notifiable diseases has again been the marked prevalence of minor Small Pox. The total notifications during the year were 754 as compared with 567 in 1930 and 230 in 1929. The disease first became epidemic in the County in the latter year and has continued to increase with little intermission until the present year when the County has been widely affected. A full survey of the outbreak is contained in a subsequent section of this report.

Amongst the commoner infections of childhood, Measles and Scarlet Fever show a relatively high incidence, but there has been a welcome decrease in the number of cases of Diphtheria. The decrease in the number of cases of Primary Pneumonia noted last year has been main-

tained and even fewer notifications have been received during the current period.

There has been no difficulty encountered in meeting the demands for Isolation Hospital treatment and the administration of the service has been carried on with comparatively little difficulty.

DIPHTHERIA.

The number of cases of Diphtheria notified during 1931 was 166 or slightly more than half the number of cases which occurred during 1930. The disease showed a fairly general distribution throughout the County but at Market Harborough and Wigston the relative incidence has been high.

It was not found necessary to close any school in the County on account of an outbreak of Diphtheria.

The notifications show that the cases were fairly evenly distributed between the Urban and Rural Districts and no particular seasonal prevalence was indicated.

The number of admissions to the Isolation Hospitals of the County was 136 (82 per cent. of the total notifications).

There were 12 deaths recorded as due to Diphtheria as compared with 14 in the previous year. The death rate from this disease is thus relatively higher than that in 1930.

SCARLET FEVER.

The notifications of Scarlet Fever totalled 618, a decrease of 124 on last year. The incidence of the disease was highest at Loughborough where 109 cases occurred during the year. Coalville, Lubbesthorpe, Quorn, and Barrow-on-Soar, also showed a relatively high incidence. In other parts of the County the cases were more sporadic in distribution.

It was not found necessary to close any school for the control of this disease and no low attendance certificates were issued during the year.

The cases admitted to Isolation Hospitals totalled 430 (70 per cent. of the total notifications).

There were two fatal cases of Scarlet Fever during the year.

It has not been considered practicable to undertake artificial means of immunisation against Diphtheria and Scarlet Fever and the Department has not adopted the practice of Schick and Dick tests respectively for these diseases.

MEASLES.

The weekly returns from Elementary Schools showed a considerable increase in Measles during the year.

Only one school was closed on account of this infection, the period of closure in school days being 13 and the number of children affected 17. Certificates of reduced attendance were granted to 45 schools involving 4,824 children. This figure is high in comparison with last year when only 19 certificates were issued affecting 776 children.

INFLUENZA.

From the evidence contained in the weekly school returns there has been an increased prevalence of this disease during the year. It was not found necessary to close any school on account of this disease but 13 certificates of medical attendance were issued affecting 668 children as compared with only one Certificate in 1930.

There were no indications amongst the adult population of the incidence of Influenza reaching serious epidemic proportions.

PNEUMONIA.

There were 290 cases of Pneumonia notified as compared with 302 in 1930. Seventy per cent. of the cases occurred during the first two quarters of the year. As in previous years many more cases occurred in Rural areas than in Urban. The chief centres from which notifications came were Melton Mowbray, Hinckley, and Coalville.

PUERPERAL FEVER AND PUERPERAL PYREXIA.

There were 11 cases of Puerperal Fever and 11 of Puerperal Pyrexia notified during the year. The number of deaths recorded as due to to Puerperal Sepsis was 5.

ERYSIPELAS.

During the year 84 cases of Erysipelas were notified, a decrease of 11 on the figure for 1930. The distribution of the cases was Urban 33, Rural 51, and over thirty per cent. of the cases occurred during the first quarter of the year.

GASTRO-INTESTINAL GROUP OF DISEASES.

The number of cases of Enteric Fever notified during 1931 was 7. No case of Paratyphoid Fever was notified. The cases which occurred were sporadic and no special investigation of any outbreak was necessary. The cases were distributed over the Urban Districts of Ashby, Loughborough, Market Harborough, and Melton Mowbray, and the Rural Districts of Ashby, Hinckley, and Market Bosworth.

No case of Dysentry was notified during 1931.

MALARIA.

One case of Malaria was notified during the last quarter of the year from Beeby.

DISEASES OF THE CENTRAL NERVOUS SYSTEM.

(a) Encephalitis Lethargica.

In 1931 there were eleven cases of Encephalitis Lethargica notified. These cases occurred in the Urban Districts of Loughborough, and Melton Mowbray, and the Rural Districts of Ashby, Barrow, and Blaby.

(b) Poliomyelitis.

Two cases were notified as compared with five last year. The districts affected were the Rural areas of Barrow and Blaby.

(c) Cerebro-Spinal Fever.

A total of six cases was notified as compared with 13 last year. The districts affected were Braunstone, Barwell, Bruntingthorpe, Bagworth, and Desford (2 cases).

DISEASES LOCALLY NOTIFIABLE.

Chicken Pox.

This disease was notifiable in certain areas of the County during the year and 78 cases were notified. Almost fifty per cent. of the cases recorded occurred at Loughborough and this was the only area where the incidence of the disease approached epidemic proportions.

It was found necessary to close one school on account of this disease, the period of closure in school days being 9 and the number of children affected 33.

The cases occurring were evenly distributed between the Urban and Rural Areas, the notifications totalling 39 from each. The distribution of Small Pox during the same period was Urban Districts 354 and Rural Districts 400.

Ophthalmia Neonatorum.

The following is the record for 1931 :—

Notified.	Cases		Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
	Treated					
	At Home	In Hospital				
24	22	2	24	—	—	—

There has been an increase of 7 in the total number of cases as compared with 1930. It is satisfactory to note that in no case has there been any impairment of vision.

SMALL POX.

During the year there was a continuance of the epidemic of mild Small Pox which has prevailed since July, 1929. As in 1930 there was an increase in the number of notifications in the early part of the year. The increase in 1930 was gradual and reached a maximum in May. In 1931, there was a very marked rise in January followed by a very slight rise to a maximum in March. The decline of notifications during April and May was small but in June there was a rapid fall similar to that of the previous year. This was followed by a slighter decrease to a minimum in October, during which month only one case occurred. During November and December, there was, however, an increase in the number, the notifications in the latter month totalling 20.

The total number of cases of mild Small Pox notified during 1931 was 754, of which 354 occurred in Urban Districts and 400 in Rural Districts. These figures may be compared with those for 1930, *i.e.*, a total of 567 cases composed of 209 from Urban Districts and 358 from Rural Districts. It is to be noted that though Rural District cases preponderate most of the cases occurred in the industrial parts of these areas.

Deaths.

Two deaths occurred, one a male aged 65 and the other a male infant of four weeks. The older patient was debilitated and suffering from severe lobar pneumonia which was present before the onset of the Small Pox, but under the Registrar-General's rules this death is classified under Small Pox. This man had not been vaccinated. The mother of the infant was confined on March 24th, Small Pox was diagnosed on March 27th, the baby developed Small Pox on April 10th, and died on April 21st. He had not been vaccinated, had a confluent rash and was too ill to move to hospital.

Distribution.

The districts which bore the brunt of the 1929 epidemic were Shepshed and Ibstock. Shepshed had been free since the first quarter of the year 1930, and Ibstock free from July (apart from two cases, which occurred in December), but although both centres had a small recrudescence of cases in the first half of 1931, no further cases have been notified.

Loughborough, Lubbesthorpe, Coalville, and Barwell, which had notifications in every quarter since the beginning of the epidemic in 1929, have been free during the last quarter of 1931.

The greater incidence in the first half of 1931 was due to an increased prevalence in districts already affected, outbreaks in areas formerly affected, and a spread to districts not previously involved. In Loughborough, the total number of cases in 1930 was 50, and yet 75 were notified in the first quarter of 1931, and in Coalville, where only 24 cases were detected in 1930, 26 occurred in the first quarter and 58 in the second

quarter, while in the first six months in Ibstock and Shepshed, there was a recrudescence of 43 and 42 cases respectively.

From these affected districts there was a spread to Stanton-under-Bardon, Markfield, Barlestone, Osbaston, Newbold Verdon and Desford, in which cases had only been sporadic formerly. To the East, Mountsorrel, Sileby, Thrussington and Wymeswold, and to the North, Castle Donington and Hathern were affected for the first time. The disease continued in the Hinckley, Barwell, and Earl Shilton areas at much the same intensity as in 1930. In the districts abutting on the City of Leicester, there was an increased prevalence, Thurmaston and Wigston Magna being especially affected.

The Eastern side of the County has continued unaffected apart from sporadic cases, two occurring in Asfordby, and one in Market Harborough.

At the end of the year the only districts affected were Wigston Magna and Countesthorpe.

In Ullesthorpe and Fleckney, although there were several cases in 1930, none were notified in 1931.

The irregular spread remarked on in the previous report (1930) persisted, the contrast between the practically one continuous village of Thurmaston and Syston being even more marked, 53 cases occurring in the former village and only five in the latter though it is only a mile further from Leicester.

The work of attempting to control the epidemic devolves on the District Medical Officers of Health and they have made every endeavour to trace contacts, and vaccinate or keep them under observation. The greatly increased prevalence and its concentration into a shorter period has involved an intense pressure and an enormous volume of work. The factors militating against effective control are mainly connected with the mild type of the disease. Individuals have the attack so mildly that they do not consult a doctor or may even conceal the disease deliberately ; further, contacts seeing the mild nature of the disease are much more difficult to persuade as to the advisability of taking prophylactic measures.

Though the disease practically died out in October, it is probable that it will recur in various districts, as it has done towards the end of the year in the Wigston area.

Of the 754 cases notified, 699 were admitted to the County Hospitals at Syston and Snarestone, 38 to the City Hospital and the remainder treated at home, several of them having already suffered from the disease before being detected.

Age and Sex Distribution.

The following Table shows the cases admitted to the County Small Pox Hospitals during the year, divided into age groups, and sub-divided according to sex :—

TOTAL ADMISSIONS.

Age-Groups.	Male.	Female.	Total.
0— 5	20	19	39
5—10	47	45	92
10—20	121	116	237
20—30	99	63	162
30—40	32	49	81
40—50	20	17	37
50—60	24	15	39
60—70	9	6	15
70—80	2	2	4
80—90	—	1	1
Total	374	333	707

Included in this total are "transfers" from Leicester City and a single case from East Leake.

Vaccinal Condition.

Of the total 707 cases the number vaccinated was 17 (2.4%); [Cases vaccinated as contacts on which the vaccination was performed too late to avert Small Pox are not included]. The following Table shows the vaccinated cases divided into age groups and sub-divided according to sex.

VACCINATED ADMISSIONS.

Age-Groups.	Male.	Female.	Total.
0—10	—	—	—
10—20	—	—	—
20—30	—	—	—
30—40	2	1	3
40—50	2	—	2
50—60	5	4	9
60—70	1	2	3
70—80	—	—	—
80—90	—	—	—
Totals	10	7	17

In the two last reports similar Tables were given, and this year's figures are confirmatory of the previous experience in Leicestershire that an immunity to the present type of mild Small Pox results from vaccination in infancy and that the protection thus conferred is prolonged over many years. Thus out of a total of 100 vaccinated cases in the past three years, no case of Small Pox occurred in persons successfully vaccinated within the last 29 years.

Hospitals.

During the early part of the year when the incidence was greatest, both hospitals (Syston and Snarestone) were in use. On May 23rd it was found possible to close Syston Hospital, and, on September 30th, Snarestone Hospital also. Twenty-eight cases were admitted after this date to the Leicester City Hospital; Syston Hospital was re-opened on December 29th owing to the renewed prevalence in the Wigston area.

The following is a summary of the hospitals used for the isolation and treatment of Small Pox during the year, with the number of County cases received at each Institution.

The figures do not include cases transferred from one hospital to another :—

Hospital.	Period.	Admitted.
Snarestone Hospital	1.1.31 to 30.9.31	492
Syston Hospital	1.1.31 to 23.5.31	206
,, ,, ...	29.12.31 to 31.12.31	1
Leicester City Hospital	Various times	38
		737

No Leicester City cases were treated at County Small Pox Hospitals during the year. One case was admitted for Leake Rural District (Notts.) to Syston Hospital.

At various times during the year, seven cases were transferred from Leicester City Hospital to the County Small Pox Hospitals.

INFANTILE PARALYSIS IN LEICESTERSHIRE.

Report on the After-history of the cases affected by the 1926 Epidemic.

In the year 1926 an outbreak of acute poliomyelitis occurred in Leicestershire, affecting the City and the County in almost equal numbers. The disease was prevalent from July until November and showed a conspicous peak in the third week of September. The main characteristics of the outbreak were common to both City and County. The symptoms were predominantly spinal in type, associated with a lower motor neuron paralysis of the extremities. The cases were widely diffused, without concentration in any one quarter, and without any tendency to spread along recognised routes of communication. It was remarkable that, out of 164 recorded cases, there was not a single instance of paralysis occurring in two members of the same household. In fact, a striking feature of the epidemic was that, with one or two doubtful exceptions, exhaustive enquiries failed to trace any channel of infection between one patient and another. It was rare to find a history of even transient illness in other members of an affected family. Immediate contacts numbered many hundreds ; and some idea of the number of more remote contacts may be gained from the fact that the sixty patients of school age were represented by fifty-six separate schools. All the evidence pointed to a widespread epidemic of sub-infection—of 'disease without symptoms.'

A report upon the 83 cases which occurred in the Administrative County of Leicester was published in the Annual Report of the County Medical Officer of Health for the Year 1927. The following observations are supplementary thereto.

The primary object of the present analysis of cases is to trace the after-history of the patients who survived the epidemic of 1926. The scope of the enquiry is therefore determined by the findings of the investigation undertaken in 1927.

Of the 83 County cases under review, nine died in the acute stage of the disease ; the remainder suffered from some degree of paralysis. The following Table presents a short summary of the condition of the patients (*a*) at the end of twelve months ; (*b*) at the end of five years.

TABLE I.

	Died of A.P.M.	Died of other causes	Still paralysed	Completely Rec'v'rd	Lost sight of	Total
Acute stage 1926....	9	—	74	—	—	83
Twelve months later—1927....	9	2	63	9	—	83
After five years —1931	10	2	48	21	2	83

The above Table shows that at the end of twelve months nine patients had made a complete recovery (expressed in terms of functional capacity), and two had died of intercurrent disease. The remaining 63 cases were classified according to the extent of residual paralysis, as follows :—

TABLE II.—1927.

Condition of patients at the end of twelve months.

	No. of cases.
GROUP I.—Some slight persistent defect. The patient is able to move about freely without mechanical support and has adequate use of all limbs	14
GROUP II.—A moderate degree of paralysis. The patient is able to move about (*e.g.*, indoors) without mechanical support, but wears, or ought to wear some form of apparatus to enable his limbs to function efficiently and to prevent deformity	28
GROUP III.—Severe paralysis. The patient cannot move about without the aid of apparatus, and his activities are greatly restricted	12
GROUP IV.—Helplessness. The patient is unable to move about, even with the aid of apparatus	9
Total	63

Five years have passed since the epidemic. What progress has been made by these 63 patients ?

It is possible to answer this question in 61 cases, for only two (both in Group II.) have escaped the net cast by the investigators (Dr. Mary Weston and Dr. Constance Walters).

Reference to Table I. shows that practically complete recovery is recorded in 1931 in a further 12 cases, making a total of 21 (25%). One of the most severely damaged cases (Group IV.) died in 1928 from the effects of paralysis.

Forty-eight cases, therefore remain for final classification :—

TABLE III.

Summary of progress between 1927 and 1931.

Group	1927	Progress and Transfers	1931
I.	14	— 9 recoveries .... + 9 improved (from G. II.) .... — 1 retrogressed (to G. II.)	13
II.	28	— 3 recoveries .... — 9 improved (to G. I.) .... — 2 retrogressed (to G. III.) .... + 1 retrogressed (from G. I.) .... + 2 improved (from G. III.) .... — 2 lost sight of	15
III.	12	+ 2 retrogressed (from G. II.) + 4 improved (from G. IV.) .... — 2 improved (to G. II.)	16
IV.	9	— 1 death .... — 4 improved (to G. III.)	4
		Total	48

The above Table shows "the movement of cases" during the period under review. The net result of five years' after-history of 83 cases may now be summarized :—

TABLE IV.

Analysis of 83 cases of Poliomyelitis at a period of five years after the onset of the epidemic.

Result.	Number of cases	Percentage.
Recovered	21	25
Improved	15	18
Retrogressed	3	4
Stationary	30	36
Died of Poliomyelitis	10	12
Died of other causes	2	2.5
Lost sight of	2	2.5
TOTALS	83	100

A rough estimate of the result in terms of earning capacity indicates that about 35 per cent. of those who survived might be expected to earn a living without external assistance. A further 35 per cent. might be capable of some contribution to a family income, while the remaining 30 per cent. must necessarily be wholly dependent upon others for their support.

PROGNOSIS.

What are the determining factors in prognosis ?

This is a question of great practical importance, to which some tentative answers may be suggested, out of the material available in this investigation.

(i). Age of Patients.

The great majority of the cases occurred in children under ten years of age :—

TABLE V.

Age period at onset.	Result in the year 1931.				
	Recovery.	Slight paralysis	Severe paralysis	Died of paralysis	TOTAL.
Under 5 years	10	14	7	2	33
5-10 ,, ...	6	10	10	5	31
10-15 ,, ...	1	2	2	—	5
15-20 ,, ...	1	2	1	1	5
20 years and over	3	—	—	2	5
Died of other causes			2	Total	79
Lost sight of			2		83

There appears to be no significant relationship between the age of the patient and the severity of the attack. The younger children fared a little better in the long run, possibly because both early and late treatment can be applied more effectively.

(ii). Sex.

The disease affected 47 males and 36 females. There was no evidence that the sex of the patient had any influence upon the severity of the attack or the ultimate issue.

(iii). Previous health of the patient.

The general condition of the patient at the time of onset had no bearing upon the severity of the attack. Weaklings made a complete recovery, while death or severe paralysis occurred amongst the most robust.

(iv). Date of onset of paralysis.

The figures given in the 1927 report showed no relation between the date of onset of paralysis and the extent of the final disability. In any case it requires careful and accurate observation to determine the date of onset of paralysis, and this virtue was not conspicuous among the parents.

(v). Severity of the initial attack.

The severity of the initial symptoms and the extent of early paralysis offer no indications of prognostic value. Among those who recovered completely 11 had a severe onset with more or less generalized paralysis and 9 were mild cases from the start. The majority of the cases suffered from extensive paralysis in the early stages.

(vi). Social environment.

In the following Table "Class A" denotes patients in such circumstances that every form of treatment known to modern science was at their disposal.

"Class B" denotes patients whose parents were anxious to provide the best treatment available, but limited means, difficulty in reaching a treatment centre, and other obstacles permitted only a moderate amount of regular treatment (*e.g.*, attendance at a clinic two or three times a week, or massage at home under skilled supervision).

"Class C" refers to cases in which, through poverty, ignorance, or remoteness from a centre—or owing to the ministrations of charlatans—no orthopædic treatment was applied.

TABLE VI.

Clinical Result, 1931.	Social Environment. Class A.	Class B.	Class C.
Recovery	3	15	3
Improvement	3	7	5
Deterioration	—	—	3
No change — Group I.	—	1	3
No change — Group II.	—	6	5
No change — Group III.	1	5	4
No change — Group IV.	—	1	3
Death from Paralysis	3	6	1
	10	41	27

The following points are of some significance :—

(*a*) All the deaths in the acute stage of the disease occurred among patients in good social circumstances, and in houses in which there was no overcrowding.

(*b*) Marked improvement took place in all the "Class A" cases who survived. The only case recorded as "stationary" has made excellent progress, but is still unable to walk without the aid of apparatus.

(*c*) Deterioration was observed in ten "Class C" cases, three of which had to be relegated in 1931 to a lower group than that in which they were entered in 1927.

(*d*) The development of late deformities, such as spinal curvature, talipes, etc., was a feature of the cases recorded as "Class C."

(vii). Treatment.

A sharp distinction must be drawn between "early" and "late" treatment of Poliomyelitis. The former extends from the moment of diagnosis until all trace of active disease—as represented by fever, pain, tenderness, etc.,—has subsided. The latter begins cautiously when the patient's condition has become stabilized and it is possible to take stock of the residual paralysis.

Early Treatment.

It is generally recognised that the most important object of the early treatment of Poliomyelitis is to secure the immobilization of the patient so long as acute inflammatory changes continue to take place in the central nervous system. Complete immobilization, it is stated, relieves pain, limits extension of the paralysis, and, if the limbs are maintained in a position of muscular relaxation, goes far to prevent ultimate deformity. The supreme importance of early diagnosis and immediate treatment has been emphasized by many observers.

It must be confessed, however, that in attempting to assess the value of early treatment in Poliomyelitis from a study of the treatment carried out in actual cases, two formidable difficulties arise.

In the first place, the great majority of the cases, irrespective of the treatment applied, presented extensive lesions during the acute phase of the disease which ultimately narrowed down to a comparatively localised paralysis. One cannot in fact determine the severity of a given case until the acute stage has virtually passed. In this connection, one may quote four cases in which a more or less generalised paralysis of the limbs was observed during the acute stage. Cases (1) and (2) were diagnosed as "Rheumatism" and treated by vigorous massage ; cases (3) and (4) were diagnosed as Poliomyelitis and treated by complete immobilisation. All four cases had residual paralysis of both legs ; the upper extremities recovered in each case. It may be mentioned, however, that "severe pain" was recorded in cases (1) and (2) only. This example is quoted merely as showing the difficulty in ascribing a given result to a particular form of treatment.

In the second place, in determining the efficacy of early treatment, allowance must be made for the important factor of "individual resistance." It is reasonable to assume that the virulence of the infecting agent in this epidemic was fairly uniform, as there was no concentration, in

time or in space, of severe or fatal cases. This has been the common experience in previous epidemics affecting rural areas. On the other hand, many observers have pointed to significant variations in individual resistance. We have seen that social status does not affect the incidence of the disease ; but does it bear some relation to the severity of the attack ? There is a good deal of evidence—supported by the cases under review—that, broadly speaking, patients in good social circumstances, show a lower degree of resistance. Again, Dr. Farrar pointed out, in his Report upon the Leicestershire Epidemic of 1910, that a number of the patients lived "in lone farm lodges remote from other dwellings." This point has been noted on several occasions. In the cases now under consideration, two types of patient were individually more severely striken than the rest ; (*a*) patients in good social circumstances, (*b*) patients living in remote dwellings or having infrequent contact with the outside world. One further class noted in previous epidemics may be mentioned, *viz.*, patients returning from holiday to the infected area. It may be suggested that these types were more susceptible to severe infection because of their fewer opportunities for acquiring herd immunity. It would be outside the scope of this Report to stress the epidemiological significance of this point ; so far as treatment is concerned it is evidently unreasonable to expect that all cases which are promptly diagnosed and efficiently treated from the outset, will necessarily make a good recovery.

The record of the early treatment actually given may now be briefly considered :—

(a) Recovery Group.

All the cases who ultimately recovered were treated during the acute stage by rest in bed for periods varying from four weeks to four months. Three cases were admitted to hospital and treated by immobilisation ; and four attended Orthopædic Clinics for short periods.

(b) Group I. (1931 Classification).

Four of the thirteen cases received inpatient treatment during the acute stage ; it is worthy of note that six cases in this Group had very slight general symptoms and were not kept at rest while the infective process was still active.

(c) Group II.

Among the cases remaining in this Group there is evidence of more active 'treatment' in the early stages. Case 13 began active massage on the third day of the disease ; case 32 after one week ; and cases 59 and 71 within a month. Case 21, on the other hand, had no treatment at all, but was allowed to crawl about while the disease was still acute.

(d) Groups III. and IV.

The patients in these Groups all suffered from severe symptoms, necessitating more or less prolonged treatment in bed. In a few cases, active massage was begun within the first few weeks, but was generally given up on account of the pain which it produced.

Many of the patients who ultimately recovered full functional capacity in all probability benefited by the relative severity of the onset which kept them quietly in bed during the acute stage. It is noteworthy, at any rate, that a number of cases with a mild onset, treated at once by massage and exercises, have not shown the same tendency to recovery.

The most important advantage of early treatment is the contribution which it makes to continuity. By prompt diagnosis and early immobilisation of the limbs in a position of relaxation a good foundation is laid for effective 'late treatment,' and a great deal of deformity is prevented.

Late treatment.

In estimating the results of late treatment we are on surer ground. By this time the extent of residual paralysis following the acute phase can be determined with some accuracy. The premises from which conclusions are to be drawn are less open to dispute.

Among the patients who recovered very little late treatment was necessary ; four cases attended Orthopædic Clinics for short periods, but no other treatment except home massage was provided.

Group I. (1931 classification).

Seven of the thirteen cases in this Group attended out-patient clinics ; apparatus has been worn but is now discarded in eight of the cases ; some degree of shortening is present in five. Three of the cases would undoubtedly have made better progress if treatment had been continued longer, and two of these ought still to be wearing apparatus and are developing deformities as a result of having discarded this form of support.

Group II.

Five of the cases in this Group are now wearing surgical apparatus, and three have been able under medical advice to discontinue its use. Four cases are still under active out-patient treatment. Surgical operations have been performed in three cases for the prevention of deformity.

A distressing feature which comes into evidence in this Group is the considerable number of late deformities resulting from neglect of treatment or more commonly from lack of zeal in attending orthopædic clinics. In this Group alone, it is estimated that five children who have discarded apparatus are still in need of some form of support ; seven cases have given up treatment altogether, who, in the opinion of the medical investigators, would greatly benefit by regular attendance at a clinic ; in two instances operative treatment, recommended by an orthopædic surgeon, has been refused. There are four cases of shortening and five of other deformities (*e.g.*, talipes, genu recurvatum). Scoliosis has developed —through lack of attention—in two cases. On a conservative estimate, it may be stated that nearly half of the cases in Groups I and II ought to have recovered full functional capacity if treatment had been early and continuous.

Group III.

In this Group, the need for continuous treatment is naturally more fully recognised, and consequently there are fewer instances of carelessness and neglect. Some form of apparatus is still worn in eleven out of the sixteen cases, and ought to be worn in the remaining five. Nine cases are at present under regular active treatment, and three have undergone operations. It is estimated that six patients who are no longer under treatment are actually losing ground (*i.e.*, developing deformities) on this account, and in four cases, there is evidence of neglect. Definite shortening is present in ten cases, and Scoliosis has developed in eight—avoidable in five at least. Other deformities have developed in three cases and it is estimated that six cases altogether are in need of operative treatment for the correction of deformities which might have been prevented.

Group IV.

Two of these patients have received regular and efficient treatment throughout the illness, and two have been (technically) neglected; in consequence, the former have improved to the extent that they are able to sit up in a special chair, while the latter are permanently helpless on account of contractures.

Examination of the condition of patients at the end of a period of five years points to certain conclusions regarding the effect of treatment. Most of these conclusions have been emphasised again and again by Orthopædic Surgeons, and the study of results in the present series of cases serves to give confirmation to their views :—

(1). Prompt diagnosis and early treatment by immobilization of the patient is essential. The evidence that such treatment limits the extent of residual paralysis is not conclusive, but the fact that slighter cases who were not kept at rest during the early stages have remained permanently paralysed, while a considerable number of patients who were kept in bed during the first few weeks of their illness have completely recovered, is of some significance. There is no doubt that early immobilization prevents a great deal of pain and distress, but its most important function is to prevent deformity. It may be mentioned here that the aim of early treatment is to maintain the muscles as far as possible in a state of general relaxation, but when paralysis has finally set in, special care has to be taken to fix the limbs in such a way that an optimum balance between powerful and weakened muscles is maintained.

If early and continuous treatment has been adopted, and a patient has received every possible care and attention, the question arises as to whether operative interference will ever be necessary. It appears from the analysis of cases that operation should rarely be required for the treatment of deformity, but that it is sometimes desirable at a late stage, *e.g.*, after 4 or 5 years, for the improvement of functional efficiency. In one well-treated case the operation of stabilization of one foot was carried out at an interval of more than five years from the original illness.

(2). An unfortunate feature in this series, observed especially among the slighter cases of Group II., is that some of the parents become weary in well-doing and give up attendance at Clinics ; they discard apparatus before the affected limbs are strong enough to function efficiently under their own power. The result of this is a growing number of "stationary" cases in which various signs of late deformity are beginning to appear. It is probable that a number of these patients will drift back to Orthopædic Centres at a later date for the correction of deformities which could have been prevented by persistent and intelligent treatment.

(3). In Group III. cases the tendency to discard apparatus is less marked, as the need for support is greater, but it may be anticipated that unless these cases attend Orthopædic Centres for regular supervision for many years to come, serious deformities may develop at a later date. This applies especially to the case of children who outgrow their supports, above all when there is some degree of shortening. A Clinic should exercise great caution before it discharges a patient finally as "requiring no further treatment."

(*Signed*) J. M. MACKINTOSH.

MATERNITY AND CHILD WELFARE SERVICE.

The year has been marked by steady progress and continuing valuable work in the Maternity and Child Welfare service. There are 37 Infant Welfare Centres in the County administered by the County Council with the help of Voluntary Committees. Of these 10 are open weekly, 26 fortnightly, and one monthly. At each session a Health Visitor is in attendance and a Medical Officer is present at least once per month. Valuable assistance is rendered to the Department in the administration of the Centres by the Voluntary Committees, whose services are utilised in keeping records, etc., in addition to their work in relation to the social activities of the Centres.

Details of the work under various headings are outlined below.

(a) Administration.

The service is administered under the direction of the County Medical Officer who is the Administrative Officer for Maternity and Child Welfare. A complete system of co-ordination between this Department and the School Medical Service is rendered possible by the fact that the County Medical Officer is also School Medical Officer, both services thus being united under a single administrative control.

With the exception of Dr. Murray and Dr. Dalton whose duties are confined to the School Medical Service, the clinical work of both Departments is undertaken by the same Medical Officers and the Nursing staff is common to both Departments.

There is thus existing a uniformity of procedure both administrative and clinical directed towards the unification of all services related to the health and well being of the child from infancy to adolescence.

Arrangements are in force for the transfer of information from the medical record cards in use at the Infant Welfare Centres to the School Medical Department when the child attains school age. This ensures that all important items in the medical history of children who have attended these Centres will be available for the Medical Inspection schedules prior to the entrant examination at school.

During the year a further extension of this principle was carried out. The Birth Enquiry Cards and Infant Record Cards in use by the Health Visiting Staff during the first five years of life have been filed in a card index system according to name and date of birth. This enables these cards when completed to be available at the end of each month for transfer to the School Medical Department. As these cards contain information both personal and environmental appertaining to each child gathered from periodic visits over the whole period of pre-school age, they are of immense value to the School Medical Department. History of pre-school life will now be available from a much greater proportion of the child population of the County, since only a certain percentage of the children attend Infant Welfare Centres and the information originally taken from the Medical Record Cards at these Centres was thus limited in scope.

The administration of a Maternity and Child Welfare service in a County presents fundamentally the problem of providing the maximum benefit for the greatest numbers. The provision of Infant Welfare Centres to serve the needs of the population has attendant upon it many complexities. A small Centre in a sparsely populated area is undoubtedly of as much value to the inhabitants as a flourishing Centre in a large industrial district ; but the amount of benefit to be attained must, of necessity, be assessed, from the administrative point of view, in terms of numbers reached by the educational and clinical work of the Centres. Particularly does this apply where the staff available is limited and constant demands have to be met from populous areas. The general policy of the Department has been to endeavour to provide the benefit of Infant Welfare Centres for all classes of the population in every area of the County. Where the response has been poor, the numbers in attendance small and the general attitude of the population apathetic it has been necessary to modify this procedure and close down such Centres in order to allow of further concentration of effort where enthusiasm was more marked and the benefits more easily obtainable. It was only after earnest consideration that such measures were decided upon and it is clearly recognised that this modification of policy is very far from desirable. With an increased staff it would be possible to expend a greater amount of time and energy in cultivating

the interest of parents in backward areas. In sparsely populated districts difficulties of transport and of time and money expended in travelling where these districts are outlying are insuperable at the present time.

Having due regard to all these considerations it may be said that the Maternity and Child Welfare service of the County is of a nature to deal as adequately as is possible with the needs of the County under present circumstances.

During the year it was found necessary to close three Infant Welfare Centres—Stathern, Donisthorpe, and Measham. Owing to depletion in the number of attendances in the two latter Centres the meetings had been altered during 1930 from weekly to fortnightly intervals, but as no improvement was manifested it was reluctantly decided to close them entirely from 1st April, 1931. Likewise it was felt that the Centre at Stathern did not justify itself either from the point of view of attendance or general record of work and it was closed from the same date.

No new Centres have been commenced during the period under review but those in existence show a very gratifying return for the work done, both clinical and educational.

(b) Clinical Work.

Periodic visits are made to each Infant Welfare Centre in the County by the whole-time Medical Officers of the County Council. Arrangements are in force whereby each Centre has a visit from a Medical Officer at least once per month and at certain Centres once every fortnight.

All infants and children under five years attending the Centre for the first time are submitted to a thorough medical inspection. An examination of the heart, lungs, and abdomen is carried out and in addition, a full investigation is made of the dietary, method an d regularity of feeding, etc. It is the aim of the Department to carry out an examination at twelve-monthly intervals of all children in attendance at the Centres. In addition to these initial examinations and periodic re-inspections, any infant or child suffering from defect or disease or whose progress is considered unsatisfactory by the Health Visitor or parent is examined by the Medical Officer. All clinical notes are entered upon the Medical Record Cards which are filed in a card index system and kept at each Infant Welfare Centre until the child attains school age when they are available for transfer to the School Medical Department.

The clinical work of the Infant Welfare Centre is, in so far as possible, directed entirely toward the preventive aspect and no treatment is undertaken which would in any way encroach upon the work of the general practitioner.

At the commencement of each year, lectures are given on the work of Infant Welfare Centres and special emphasis is laid upon the fact that the Centres must not be regarded as out-patient departments to be used for the treatment of disease.

Infants and children found to be suffering from illness requiring treatment are referred to their own doctor.

The Medical Officers made 4,167 clinical examinations during the year, and 1,557 children were examined for the first time. The total number of weighings carried out by the Health Visitors was 26,228.

The principal defects observed at examinations made by the Medical Officers were :—

Skin conditions 221, Bronchitis 140, Phimosis 142, Umbilical Hernia 127, Diarrhœa 97, Naso-pharyngitis 63, External Eye conditions 58, Rickets 43, Ear disease 39, Strabismus 32, Hernia 19.

Provision is made for Ophthalmic treatment in necessitous cases and this forms an important preventive branch of the service. During the year 10 cases were examined by the County Oculist and appropriate treatment carried out.

(c) Educational Work.

Undoubtedly, the most important single factor in securing the maximum benefit from Infant Welfare services is education. Whether this education is individual and undertaken during personal talks to the mother or by means of lectures to the parents collectively, it should be the basic principle underlying all the activities in connection with Infant Welfare work.

In assessing the beneficial results from the establishment of Maternity and Child Welfare services prevention has played the most prominent part, and it is mainly through educational work that the idea of prevention has been disseminated.

The importance of the clinical work carried out at Infant Welfare Centres is not to be deprecated ; but at those Centres where the main activities of the Medical Officers are devoted to examinations of ailing infants, it becomes difficult not to lose sight of the ideal of prevention. The tendency towards converting these Centres into clearing houses for various defects and diseases becomes more marked as time progresses and educational work is neglected.

The increased interest awakened not only in health matters pertaining to infants but also to their application to the needs of the adult population, will eventually result in a profound effect on the general health of the community. The educational work carried out at Infant Welfare Centres thus assumes an importance which far outreaches the direct resultant benefit and becomes the source of primary instruction to many members of the community in the care of their own health.

In addition to the individual instruction given to parents during the clinical examination of their infants, Medical Officers and Health Visitors gave 752 talks on general health subjects during the year.

The instruction included talks on Ante-natal Care, Infant Feeding and Management, the Care of the Toddler, and in addition, on the commoner infectious diseases and other special subjects. As mentioned above, in the earlier part of each year, the aims and objects of Infant Welfare work are outlined and special emphasis is laid upon the preventive aspect of the service. It is the constant endeavour of the Department to keep the latter object prominently in the foreground and all the instruction given is directed towards this end.

A special pamphlet dealing in detail with the many difficulties encountered by parents in the upbringing of their infants has been prepared and when it is considered necessary is available to mothers. The distribution of these pamphlets or of any other form of literature at the Centres is limited to those parents where there is felt to be real need for such methods of instruction and no wholesale distribution of literature is undertaken.

With regard to infant feeding the general line of teaching employed by Medical Officers and Health Visitors is that in all cases, mothers should breast feed their infants. Where for some good reason this is rendered impossible, it is recommended that fresh cow's milk (preferably of Grade "A" standard) should be used as a substitute and in cases of exceptional difficulty a dried milk may be used as a temporary expedient or permanently if the case necessitates it.

That this teaching is producing the hoped for result is apparent from the figures below. A note is kept on each Medical Record Card of the method of feeding employed during the first twelve months of the infant's life. In 2,064 cases in which this information was recorded, 1,416 or 69% were breast-fed, 422 or 20% were fed on Cow's milk and 226 or 11% on dried milk or patent foods.

It is very satisfactory to note the high percentage of infants who were breast fed in comparison with those in the other groups. It is apparent that with continued teaching the advantages of natural foods are becoming more generally realised by the mothers and we have here a sound indication of the results accruing from the continued instruction carried out by the staff at Welfare Centres. Where it is possible to gain direct evidence, such as this, of the results of instruction there is considerable encouragement to believe that education in other directions is also bearing fruit although the effects are not so immediately apparent or so readily assessed.

(d) Statistics.

During the year, 967 meetings were held at the various Centres in the County. The total number of mothers on the register at the end of the year was 3,400 and the number of attendances made was 35,689.

The total number of babies under one year was recorded as 2,120 and the number of attendances made was 18,431. The number of toddlers attending the Centres was 2,378 and these made a total of 24,469 attendances.

The average attendance of children per session at all Centres during the year was 44.4.

During 1931, 1,451 women, 1,335 infants under one year of age, and 461 toddlers attended the Centres for the first time. In addition, 22 expectant mothers made 172 visits of attendance at the Centres. Of the total number of children born during the year, 34 per cent. attended the Infant Welfare Centres in the County.

The Medical Officers made 457 visits to Maternity and Child Welfare Centres during the year. The visits of the individual Medical Officers were as follows :—

Dr. Fairer 17 ; Dr. Davidson 21 ; Dr. Cowan 71 ; Dr. Anderson 37 ; Dr. Coward 11 ; Dr. Weston 150 ; and Dr. Walters 150.

The Medical Officers, as previously stated, carried out 4,167 clinical examinations during the year and of these 1,557 were primary examinations.

Supply of Milk to Necessitous Mothers.

This section of the work is under the direct supervision and control of the County Maternity and Child Welfare Committee to whom all applications for grants of milk are submitted. Grants of milk are made to (*a*) Expectant Mothers ; (*b*) Nursing Mothers ; and (*c*) Children under two years of age whose requirements on medical grounds necessitate assistance.

Owing to the large increase in the number of applications made and the urgent need for economy in all Public Departments, it was decided by the Committee that the grant of milk should be available only to Expectant and Nursing Mothers and to children under two years of age instead of under five years as was the case previously. Commencing from 28th October, grants of milk were thus curtailed to this extent.

Careful investigation of each case is made both with regard to the medical and financial circumstances. The administrative staff take every precaution to avoid making grants to non-necessitous cases and in accordance with existing regulations no grants are made to persons in receipt of Poor Law Relief.

In a scheme of this nature, it is essential for success that the most stringent inquiry should be carried out in order to ensure that the grant is made only to those who are genuinely in need of assistance. Acting on this principle, grant is made not only upon economic but also on medical grounds and undoubtedly in many cases the milk has been invaluable in preserving the health and physical condition of children and mothers, whose financial circumstances were such as to preclude any likelihood of obtaining the extra nourishment required.

The quality of the milk supplied is of the highest standard and Grade "A" milk is distributed in all cases in which it can be obtained.

As far as possible the mothers in receipt of grants are required to attend the local Infant Welfare Centre where the case may be kept under the supervision of the Medical Officer in charge.

During the year, 1,279 applications for milk grants were received and 1,126 were approved by the Committee for periods not exceeding two months, after which time the cases were re-considered. The total amount expended on this service was £1,025, this figure being an increase of £156 on that of the previous year.

Inspection of Children under the Children Act.

The administration of this work is controlled by the County Maternity and Child Welfare Committee and the inspections are carried out by the County Health Visiting Staff.

The following is a summary of the work undertaken during the year :

CHILDREN ACT, 1908.

No. of cases on Register on December 31st, 1930	53
No. of new cases	47
Returned to parents	21
Adopted	4
Attained seven years of age	14
Transferred to Poor Law Institutions	1
No. of cases on Register on 31st December, 1931	59
No. of unsatisfactory cases	1
Removed by order of the Maternity and Child Welfare Committee	1

Each case is visited by the Health Visitor at least once every three months, additional visits being made as circumstances require.

MATERNAL MORTALITY.

(a) Maternal Deaths.

Investigation of maternal deaths under the scheme of the Ministry of Health continues to be carried out in the County.

This work is undertaken by Dr. Cowan in co-operation with the general practitioners. The investigation is strictly private and the case sheets are forwarded direct to the Ministry of Health without any record being filed in the County Public Health Office.

(b) Puerperal Fever and Puerperal Pyrexia.

Hitherto, no arrangements have been in force in Leicestershire for dealing with cases of Puerperal Fever and Puerperal Pyrexia under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926.

In the latter part of the year, the Maternity and Child Welfare Committee approved of the principle of the provision of consultants and of facilities for bacteriological examination for these cases and it was decided to institute such a scheme from April 1st, 1932.

The scheme will provide for the services of a number of consultants with special training and experience in obstetrics who will be available through the Public Health Department to any general practitioner on request. In addition, it will be possible to make use of the existing laboratory arrangements for any bacteriological examinations required by practitioners.

No responsibility will be undertaken at present by the County Council for the provision of hospital treatment for these cases, but with the opening of the Isolation Hospital at Markfield, it may be possible to allocate a few beds for this purpose at the hospital.

(c) Report by Maternal Mortality Officer (Dr. K. Cowan, *Deputy County Medical Officer*).

The Maternal Mortality rate for the County during the year 1931 is returned as 3.3 deaths per 1,000 births. This rate is identical with that recorded during the previous year.

The appended Table demonstrates the returns of Maternal Mortality in Leicestershire during the ten years from 1922 to 1931.

Leicestershire Maternal Mortality per 1,000 Births.

No. of Puerperal Deaths :—

Year.	Births.	Sepsis.	Other Causes.	Total.	Rates per 1,000 Births Total.
1922	5,522	3	10	13	2.4
1923	5,319	3	10	13	2.4
1924	5,130	3	11	14	2.7
1925	4,874	8	15	23	4.7
1926	4,868	5	12	17	3.5
1927	4,887	7	10	17	3.5
1928	5,074	12	12	24	4.7
1929	5,013	9	15	24	4.8
1930	5,201	7	10	17	3.27
1931	5,179	5	12	17	3.28

It is evident that the Maternal Mortality rate during the past ten years shows no progressive tendency towards a permanent reduction.

Some attempt has been made by most Local Authorities in recent years to cope with the problem and extensions of services dealing with ante-natal supervision and care, obstetrical emergencies and puerperal complications have been undertaken.

The organisation of ante-natal services or a County area involves many considerations of a complex nature. In a County such as Leicestershire thickly populated industrial areas alternate with sparsely populated rural districts and it is equally necessary to provide an adequate service for each. It would appear fairly obvious, on the surface, that the same type of provision is not going to serve the needs of the population for these widely differing types of district, and that the problem will not allow of consideration as an entity in so far as exact similarity of provision for the whole County is concerned.

In all areas there are three distinct classes of women to be dealt with :

(*a*) Those who engage a doctor for the confinement ;
(*b*) Insured women ; and
(*c*) Uninsured women.

In categories (*a*) and (*b*) ante-natal supervision should be undertaken by the patient's own doctor. There is thus remaining the large class of uninsured women to be dealt with in any scheme undertaken by the Local Authority. Provision should also be made for the use of the services provided by the Local Authority for consultation for medical practitioners undertaking the ante-natal work in categories (*a*) and (*b*).

The conditions which have the greatest direct bearing upon Maternal Mortality and Morbidity include Contracted Pelvis or Disproportion, Albuminuria and Malpresentation. In addition, many other conditions will come under review, which while they may not influence maternal deaths or morbidity directly, have an indirect bearing. These are concerned with the patient's health during her pregnancy, *viz.*, vomiting, constipation, varicose veins, etc., and with instruction in the hygiene of pregnancy and in the preparation for the baby. Thorough ante-natal supervision of the patient will thus require frequent consultation, examination, advice and treatment.

In making provision for ante-natal services to deal with the conditions mentioned, the midwife, the general practitioner, and the Local Authority, each must undertake a share of the responsibility. In addition, the patient must be educated in order to ensure that any services provided will be utilised to the fullest extent possible.

In Urban areas it is probable that the Ante-Natal Clinic, notwithstanding its many disadvantages, will be the most successful method of dealing with ante-natal supervision in the area. It is essential, of course, that such a clinic should work in the closest co-operation with the midwives and general practitioners of the district. Probably the greatest disadvantage associated with the Ante-Natal Clinic conducted and staffed by the Local Authority is that the supervision of pregnancy and the responsibility for the confinement are in different hands. This may be overcome to some extent by referring such cases to a private practitioner selected by the patient, with an arrangement between the Local Authority and the practitioner as to the fee to be paid for attendance upon the patient but it remains a fundamental and serious defect in this method of attacking the problem. It is essential also for the success of the Clinic that the midwives practising in the area should make the fullest possible use of the facilities available for their patients. The midwife in her district wields a considerable influence over her patients and the importance of making use of this influence towards securing adequate ante-natal attention for her patients cannot be over emphasised.

Whether the Ante-Natal Clinic should be used solely as a centre for diagnosis, advice and education, or whether in addition it should be utilised as a treatment centre is a question which can only be decided in the light of local conditions with reference to other facilities existing in the area.

Easy access to in-patient hospital treatment must be available for all patients attending the Ante-Natal Centre who are found to require it. The Clinic must, therefore, be supported by an adequate number of hospital beds capable of dealing with any abnormality considered to require in-patient treatment of long or short duration. Failing this, the provision of Ante-Natal Clinics does not even attempt to touch the fringe of the problem. Adequate in-patient accommodation, easy of access, and with specialist facilities available forms the fundamental asset whether the ancillary services are in the nature of Ante-Natal Centres or provided by general practitioners.

There are many obstacles to the successful working of Ante-Natal Centres in Rural areas which do not exist in Urban Districts, and if the area be sparsely populated, it will be impossible to undertake ante-natal supervision by this means. The difficulties encountered are mainly concerned with the fitness of the patient to travel considerable distances, the facilities for such travel, the provision of the services of medical and other staff at frequent intervals to deal with small attendances and the relatively high expenditure necessary. The only method of dealing with the problem successfully in Rural areas is by means of general practitioner services. The inception and working of such a provision would entail a certain amount of difficulty both in relation to administration and remuneration. Failing the provision of a panel of specially experienced practitioners to cover all areas adequately it might be possible to organise ante-natal services on an insurance basis which would make an adequate return to the general practitioner for the frequency of examinations necessary for thorough supervision. In whatever way the service is organised in the Rural Districts it is necessary that it should be equal in sufficiency to that in Urban areas. This implies the provision of consultants who will be available to travel to outlying districts at the request of the general practitioner. In addition, as mentioned previously, the provision of adequate hospital accommodation is a fundamental necessity.

In all areas the need for education of the expectant mother in the necessity for continuous ante-natal supervision is obvious. This is aptly illustrated by the prevalent idea in many areas that ante-natal care is synonymous with birth control—due to the unfortunate phonetic similarity between "ante" and "anti". A great deal of this educational work can be undertaken by the midwives in their districts and post-graduate instruction of midwives in ante-natal care, and the necessity for its more general application should prove of value in reaching the patient through the midwife.

ANTE-NATAL CENTRES.

(a) Report on Clinics.

(1) *The Hinckley Clinic.*

The work of this Centre has been continued during the year under the control of Dr. Mary Weston as Medical Officer.

The following is a report by Dr. Weston on the work of the Clinic during the year :—

"Supervision of pregnancy has been carried on at the monthly sessions of this clinic, on the same lines as in previous years. It has not proved feasible in the country's present abnormal circumstances, to put into operation a more fully organised scheme ; but satisfactory work has

been done within the unavoidable limits pointed out in my report last year. Only eleven sessions were held this year and the closing down of both Ante-Natal Clinic and Infant Welfare Centre in August may well have been responsible for the very poor attendance in September. In 1930, a session was held on the fifth Monday in July instead of the first Monday in August, and our figures were somewhat higher in consequence."

No. of sessions held during 1931	11
No. of expectant mothers who attended	56
Total number of attendances made	83
Average attendance per session	7.5

(2) *The Wigston Magna Centre.*

This Clinic has been conducted on the same lines as last year under Dr. Constance Walters as Medical Officer. Eleven sessions were held during 1931 and the total number of attendances made was 96. The number of expectant mothers who attended the Clinic was 48 and the average attendance per session was 8.7.

The attendances at the Clinic show an increase on those of previous years. It is also gratifying to note that the interest and help of the general practitioners and midwives continues to be sustained.

(b) Instruction for County Midwives in Ante-Natal Treatment.

The arrangement made during 1930 whereby County Midwives might attend the Ante-Natal Clinic at the Leicester and Leicestershire Maternity Hospital for a course of practical instruction in Ante-Natal care was continued during 1931.

A panel of midwives has been formed and the midwives attend the Clinic in rotation. Each midwife attends the centre during four sessions for general instruction at a charge of 5/- per session, the cost being met entirely by the County Council.

MATERNITY HOSPITALS.

The Leicester and Leicestershire Maternity Hospital has been approved by the Council for the reception of County cases and a grant of £50 is made to this Institution.

Provision is made for the reception of unmarried expectant mothers at St. Saviour's Home, Northampton. During 1931, six cases were admitted to this Home. In addition, arrangements are in force with the Ely Diocesan Home, Cambridge, and the Salvation Army Home, Birmingham, to receive cases if required.

The County Council allows the expenditure of £25 a year for the Convalescent Home treatment of nursing mothers.

Arrangements are in force with the Warwickshire County Council to receive at their Maternity Home at Rugby, maternity cases from Leicestershire near the Warwickshire boundary.

Hospital of St. Cross, Rugby.

Provision has been made for the admission to this Institution of complicated maternity cases (other than Puerperal Fever or Puerperal Pyrexia) from the County.

(a) Emergency Cases.

The County Maternity and Child Welfare Committee undertakes the responsibility for the payment of the cost of such cases (£3 . 3 . 0 per week) provided that the County Medical Officer is notified as soon as possible after the patient's admission. The recovery of the whole or part of the charge is subsequently considered by the Committee.

(b) Ordinary Cases.

Approval of the Maternity and Child Welfare Committee must be obtained before an ordinary case can be admitted. Some contribution towards the cost will be required except in necessitous cases.

Treatment of Children.

In addition to the provision made for the treatment of Tuberculous children at the County Sanatorium, the Children's Convalescent Home, Woodhouse Eaves, provides accommodation for pre-tubercular children and for cases of early closed tuberculosis from five to ten years of age. Ill-nourished and delicate children from three to five years are also received.

Fifteen beds at this Home are reserved for County cases. The Home is under the supervision of the Senior Tuberculosis Officer.

The following is a report from Dr. Tuckett, Medical Officer of the Home :—

"During the year 82 children were admitted to the Home against 75 for 1930. Every child gained in weight and one child gained 16½-lbs. in four months.

Summary of Cases.	Tuberculosis.		M. & C.W.		Total.	
Total number of children admitted	67		15		82	
Average stay of each child (in days)	45.5		37.1		44.0	
	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.
Average gain in weight	4	10	2	9	4	3

State of health on discharge.			
Improved	43	11	54
Much improved	24	4	28
Diseases for which children were admitted.			
Pre-tuberculosis	57	—	57
Early-closed T.B.	2	—	2
Convalescent Surgical T.B.	3	—	3
Other forms	5	—	5
Debility	—	13	13
Other diseases	—	2	2

"This year we were very much impeded in our work by two outbreaks of Diphtheria during the months of May, June and July, and the Home had to be closed for the month of August.

I must thank Dr. Fairer and his Staff for the very great assistance and ready help they gave in tracing the source of infection and examining the very many throat and nose swabs. In spite of this outbreak of Diphtheria and the cold wet summer, the children did wonderfully well."

W. R. TUCKETT,

Medical Officer.

THE COUNTY ORTHOPAEDIC SCHEME.

(Dr. K. Cowan, Deputy County Medical Officer.)

The Orthopædic scheme in Leicestershire has now been in operation for a period of over three years. Many factors have influenced its development and progress, but the underlying principles of success in every scheme for dealing with crippling defects, *viz.*, due regard to the preventive aspect and continuity in treatment have been afforded a prominent position at all stages of its growth.

The epidemic of Infantile Paralysis in Leicestershire in 1926 has had a profound effect on the general operation of the scheme. Many of the cases resulting from the epidemic have required long periods of out-patient and expensive in-patient treatment, and, consequently a considerable proportion of the financial outlay has been confined to the treatment of these cases. In addition many old standing cases of crippling defect which through lack of provision for treatment had been allowed to accumulate in previous years have added considerably to the burden of expenditure. Happily, many of these cases have now received all the treatment necessary or possible and with extended arrangements in force for early ascertainment of cases of crippling defect the average expenditure on treatment per case should be reduced to some extent in the future.

As a general rule, the sooner a crippling defect is submitted to treatment, the greater is the possibility of effecting a cure in a short period and with a minimum of expenditure.

It is thus essential that the whole energies of the Department in relation to crippling should not be concentrated solely on treatment. Every available aid to early detection should be employed and in addition, measures directed towards the prevention of diseases which give rise to crippling deformities should also be afforded a major part in the conduct of the scheme.

In an assessment of the results achieved in return for financial outlay, there must be cause for greater satisfaction in the successful treatment, with a small financial outlay per case, of many cases secured early, than in the cure of a few cases treated at a late stage, however spectacular, the result, where the expenditure per case may run into some hundreds of pounds. Moreover, this still holds good even where the aggregate expenditure in both instances reaches a very similar figure.

It is plain, therefore, that the preventive side of the Orthopædic scheme is as important to its successful working as the treatment side. If the agencies of detection employed are such that crippling defects are allowed to progress to a comparatively gross stage of deformity before being treated then the best is not being obtained from the scheme as a whole either from the point of view of the patient or the Local Authority.

Where an Authority is dependent to some extent on working arrangements with outside agencies, Voluntary Hospitals, other Authorities, etc., expenditure on measures directed to early and exact diagnosis, *e.g.*, X-Ray examinations, must be considered not only justifiable but essential, however much they may appear to raise the costs. It must be borne in mind that a guinea expended upon an X-Ray examination particularly for diagnostic purposes may effect a considerable saving in later treatment. Similarly, money spent on other activities related to early detection effects a speedy return in reduced expenditure on long periods of expensive in-patient hospital treatment.

The County Orthopædic scheme has reached a stage of development marked by a diminution in the number of old standing cases requiring treatment. It is now possible, therefore, to make a greater effort to deal with the problem of earlier ascertainment of crippling defects and during the year, steps have been taken to improve and consolidate all the agencies available.

Health Visitors and Secretaries of Infant Welfare Centres have been circularised regarding the importance of securing treatment for slight deformities and of devoting special attention to their detection. In addition, the Health Visiting Staff notify each case of deformity or disability to the central office irrespective of any other action taken with regard to treatment. Each case can then be followed up by the medical staff if necessary and appropriate treatment secured.

At the Infant Welfare Centres talks have been given to mothers on orthopædics and on the methods of prevention of crippling disease. As a consequence of these measures, many cases of early disability have been brought to the notice of the Department and have been referred for treatment to the Orthopædic Surgeons. It is to be hoped that with the growth and extension of these activities the orthopædic scheme will deal mainly with early defects and that the number of cases which through late application of treatment, have been an expensive burden will proportionately diminish.

An important addition to the scheme during the year has been the inception of an arrangement with the Leicester City Authority for the treatment of County cases at the City Orthopædic Clinic. Consultations and all forms of out-patient treatment will now be available at this Clinic for County cases residing in districts adjacent to Leicester. Short periods of in-patient treatment are also provided for in the wards attached to the Clinic. Cases requiring in-patient treatment of longer duration can be referred direct from the Leicester Orthopædic Surgeon to the Surgeons at either Coleshill or Harlow Wood Hospitals. This secured a certain measure of continuity in treatment. With a view to obtaining complete continuity it is hoped to institute further co-operation with the City Authority for these long stay cases. Certain wards at the City General Hospital at North Evington have been converted for use as an orthopædic wing and the City Authority have obtained the approval of the Board of Education for the use of these wards for their own Orthopædic cases. An extension of the arrangement with the Leicester City Authority to embrace provision for

all cases requiring hospital treatment is contemplated and it is hoped will materialise early in 1932. This will secure complete continuity in treatment for these cases and will add considerably to the efficiency of the scheme as a whole. With this new arrangment the ideal of continuity in treatment will become an accomplished fact in the various branches of the scheme. The three main treatment centres at Loughborough, Coalville and Leicester will each form a complete unit. The out-patient Clinics at Loughborough and Coalville are conducted in conjunction with the parent hospitals at Harlow Wood and Coleshill respectively. The same Surgeons undertake both the out-patient and in-patient hospital treatment, Mr. Malkin at Loughborough and Harlow Wood Hospital, and Mr. Allan at Coalville and Coleshill Hospital.

The administration of the various units is controlled at the central office, where the general and financial aspects of the scheme are dealt with and the working arrangements co-ordinated. It will be plain that the scheme is growing on a sound basis and is as serviceable as is possible without having recourse to the expense which would be involved in establishing a County Orthopædic Hospital. Undoubtedly, the latter method of dealing with the problem would simplify it enormously and is the ideal procedure, but one which is entirely impracticable under present conditions.

The new combined Clinic at Coalville was completed during the year and work was commenced in all departments in the first week in January, 1932. The orthopædic section includes rooms equipped for all types of plaster work, electrical treatment and remedial exercises. The out-patient work of this clinic has been carried out for years under conditions which have been far from ideal and the provision of these new premises, excellently adapted for all forms of treatment, should alleviate the burden considerably.

Work is progressing on the building of the new combined Clinic at Melton Mowbray which will be completed and ready for use early in 1933.

The following arrangements are in force for dealing with the Crippled child :—

(1) Ascertainment of the number of Cripples.

Physically defective children of pre-school age are dealt with through the Health Visitors and Medical Officers, and special arrangements, as detailed in a previous paragraph, are in being for their ascertainment. Many more cases of early disability are being brought to the notice of the Department than formerly and with further assistance and co-operation from voluntary agencies, the system of ascertainment which is in being will ensure that few cases will escape early attention.

Records of all physically defective children of school age are kept at the central office. Cases are referred for examination by Teachers, School Attendance Officers, etc., in addition to those discovered by the School Medical Officers at routine and special inspections in schools and at the homes.

The importance of this branch of the work cannot be over emphasised and constant attention is given to the development and co-ordination of all the agencies available for early detection.

(2) Orthopædic Hospitals.

Three hospitals are available for the orthopædic treatment of County cases :—Warwickshire Orthopædic Hospital for Children, Coleshill; Harlow Wood Orthopædic Hospital, Nottinghamshire, and in certain cases, use may be made of Manfield Orthopædic Hospital, Northampton. In addition, Leicester City Clinic is available for cases requiring in-patient treatment of short duration. As previously mentioned, further co-operation will probably take place with the City Authority during 1932 for the admission of cases to the City General Hospital.

Cases are admitted to these hospitals through the contributory clinics. In necessitous cases, the County Council bears part or whole of the expenses involved.

(3) Out-patient Clinics.

(*a*) *The Coalville Clinic.*

This Clinic is directly controlled by the County Council. The treatment is in the hands of Mr. Allan of Coleshill Hospital.

All financial transactions are made through the central office.

The Clinic is open on two afternoons per week from 1-30 p.m. until 4-30 p.m. and the Orthopædic Surgeon attends for one session per month when all new cases are seen and the treatment of those in attendance comes under review.

A fully-trained Masseuse from Coleshill attends each session and carries out the treatment which has been prescribed by the Orthopædic Surgeon.

During the year, a great deal of valuable work has been carried out, and the thanks of the Department are due to the Secretary and members of the Voluntary Committee who have given fully of their time and to whom a great deal of the success of the Clinic is due. The Orthopædic Sister is devoted to the work and has a personal interest in the welfare of the children attending. Her continued successful treatment under arduous conditions is most praiseworthy. With the opening of the new Clinic, many of the difficulties encountered in carrying out the work will pass and treatment will be much facilitated.

(*b*) *Loughborough Cripples' Guild.*

This Clinic differs from Coalville in that the financial responsibility rests entirely with the Voluntary Committee. The local Education Authorities, Leicestershire County Council and Loughborough Borough Council contribute towards the Guild according to the number of treatments their patients receive.

The charge for ordinary County cases is 2/6 per attendance and small additional charges are made for special forms of treatment.

The Clinic is associated with its parent institution, the Nottingham Cripples' Guild. The staff consists of: the Orthopædic Surgeon, Mr. Malkin, who visits the Clinic once a month ; the Orthopædic Sister who attends once a week from Nottingham ; one masseuse who is employed full time and four voluntary workers.

The Clinic is open all the week for massage and other forms of treatment.

(*c*) *Leicester City Clinic.*

During the early part of the year, arrangements were made for the treatment of County cases at Leicester City Clinic. This Clinic is available for cases resident in the vicinity of Leicester and provides for all forms of out-patient and short periods of in-patient treatment. The work of the Clinic is carried out under the direction of Mr. Morris, the Orthopædic Surgeon to the City Authority. A contemplated extension of the arrangements in force will be brought into operation in 1932. This will allow of in-patient treatment of long duration being undertaken at North Evington Infirmary. Consultations and treatment are paid for on a *pro rata* basis and recovery of the cost in whole or in part is made from parents.

(*d*) *Leicester Royal Infirmary.*

Out-patient treatment is available in the Orthopædic Department of the Leicester Royal Infirmary for County cases. No charge is made for attendance but financial responsibility is assumed by the County Authority for surgical appliances in necessitous cases according to the needs of the parent. These cases are notified to the Department by the Secretary of the hospital with full particulars of the nature of the disease and the treatment recommended.

(*e*) *Rugby Orthopaedic Clinic.*

Arrangements are in force whereby the County Maternity and Child Welfare Committee sanctions the charge of 2/6 per attendance for Leicestershire children whose treatment is undertaken by the Clinic provided that—

(1) The application is first made to the County Medical Officer to enable the case to be visited by one of the medical staff.

(2) Each application is considered by the Committee after an investigation into the financial circumstances.

(3) Monthly reports are rendered by the Clinic to the County Medical Officer.

(*f*) *Additional facilities.*

Orthopædic treatment is provided at Hinckley by the Hinckley Cripples' Guild and at Market Harborough at the Cottage Hospital. In both these districts, much valuable work is being done by voluntary

bodies entirely on their own initiative. There are at present, no arrangements in existence for co-operation between the County Council and these voluntary bodies and the County Orthopædic scheme is in that respect incomplete.

(4) Provision of Surgical Apparatus.

Complete arrangements are in force for the provision of surgical apparatus for County cases.

Upon application being received, inquiry is made into the financial circumstances and each case is placed before the appropriate Committee for their decision. Recovery of cost is made from the parents according to a scale approved by the Committee and necessitous cases are provided for free of charge.

(5) After-care Supervision.

In order that the benefit derived from treatment may be maintained, it is necessary that the scheme should include an efficient after-care organisation. Very many cases of crippling defect after treatment may show little improvement in disability or only some amelioration. In these cases and in others it is a very necessary part of the treatment that surgical apparatus be worn to maintain function, improve disability, or to prevent relapse.

It is obvious that to discharge these patients from Hospitals or Clinics without adequate arrangements for their supervision, is to invite the risk of the treatment applied and the correction made by apparatus proving valueless. Thus from even the most material standpoint after-care is an essential.

Much of the work in the County is undertaken by the County Council staff of Medical Officers and Health Visitors, but the assistance of voluntary workers would be invaluable in securing the constant supervision which alone can secure that retrogression is not taking place. In addition, the element of social welfare of these crippled children which must of necessity, enter largely into their future can only be provided for through voluntary agencies. The provision of useful and remunerative occupations in many cases will only be possible with the assistance and co-operation of organised voluntary bodies.

In certain parts of the County, voluntary organisations are doing valuable work, but there is need for greater development of Voluntary Care Committees with the definite objects in view which have been outlined. In the further development of the scheme due attention must be paid to this aspect. However efficient the organisation for prevention and treatment, the orthopædic scheme cannot be said to be complete without efficient arrangements for maintaining the benefits of treatment by adequate after-care supervision.

VENEREAL DISEASES.

The County Council makes provision for the treatment of Venereal Diseases by co-operation with the Authorities of Leicester Royal Infirmary and of Loughborough General Hospital. The Out-patient Clinic at Loughborough is conducted by Dr. J. B. Dalton, of the County Medical Staff, and is wholly under the administration of the County Medical Officer of Health. The Clinics at Leicester Royal Infirmary are administered by the Governing Body of that Institution, County cases being received and treated under financial arrangements approved by the Ministry of Health. At the Leicester Clinic, the treatment of males is carried out by Dr. C. Hamilton Wilkie, and Dr. Bessie Symington, is in charge of the female section.

Pathological Work.

Pathological examinations are performed through the agency of the County Laboratory. Blood for Wassermann reactions, however, is transmitted to the Pathological Laboratory of the Leicester Royal Infirmary, as it is not economical to do these except when specimens are received in large numbers.

The following are extracts from the Annual Reports of the Medical Officers who conduct the Clinics for Venereal Diseases :—

Loughborough V.D. Clinic, 1931.

This clinic, which has now been in existence twelve years, is held at the Loughborough General Hospital, on Mondays, at the following times :

for Females, from 3-30 to 4-15 p.m.
for Males, from 5 to 6 p.m.

The following figures relate to the work during the year :

New Cases.	M.	F.	Totals.
Syphilis	7	3	10
Gonorrhœa	7	3	10
Other conditions	4	1	5
	18	7	25

Renewed Attendances.	M.	F.	Totals.
Syphilis	151	169	320
Gonorrhœa	115	95	210
Other conditions	3	2	5
	269	266	535

(The number of new cases during 1930 was 28, and the total attendances numbered 568).

Treatment.

During the year, 85 injections of arsenobenzine compounds were given 49 to males, and 36 to females, which is 49 less than those given during 1930. The preparations in use are Novarsenobillon and Metarsenobillon, and of the 95 given, 79 were of the former and 16 of the latter. Other forms of treatment, irrigations, Bismuth Compounds, etc., were also given, to the number of 176.

Pathological Examinations.

In connection with diagnosis and progress of disease, 49 pathological examinations were made, as against 48 last year.

Arsenobenzol Compounds supplied to General Practitioners.

Free supplies of these were supplied to five general practitioners in the county who are qualified to adminster them, and they accounted for 236 doses.

General Remarks.

This Clinic still continues to meet the requirements of the district which it serves, and is, in my opinion, much appreciated by the general practitioners, as they have been responsible for the sending of practically all the new cases.

During the twelve years the clinic has been in existence, there have been 401 new cases, and they have made 5,988 attendances.

J. B. DALTON,
V.D. Medical Officer.

Report on the Male Venereal Diseases Department, Leicester Royal Infirmary, for the year 1931.

The total number of patients seen for the first time during the year was 598 (City 404 ; County 194). Of these 261 suffered from gonorrhœa and 121 from syphilis. The remaining 216, after examination and observation, were found to be free from any venereal disease.

Of the City patients 175 had gonorrhœa, 78 syphilis, and 151 no signs of venereal disease. Of the County cases 86 were suffering from gonorrhœa, 43 from syphilis and the remaining 65 were non-venereal.

The total number of attendances of all patients was 17,847 (City 14,228 ; County 3,619).

The total number of intramuscular and intravenous injections given was 3,668 (City 2,465 ; County 1,203).

To patients suffering from gonorrhœa, 11,477 intra urethral irrigations were given. A large number of these cases required in addition, prostatic and urethral massage, instrumentation and vaccine treatment.

The total number of patients admitted to the wards was 57 (City 30 ; County 27).

Those patients who defaulted before completion of treatment number as follows :—

Syphilis	 55
Gonorrhœa	 56

Defaulters after completion of treatment but before final tests numbered :—

Syphilis	 28
Gonorrhœa	78

The number of cases transferred to other clinics was :—

Syphilis	 20
Gonorrhœa	 25

The number transferred from other clinics :—

Syphilis	 13
Gonorrhœa	 17

The number of cases dismissed as cured during the year was :—

Syphilis	 26
Gonorrhœa	 140

Since taking up my new duties as senior V.D. Medical Officer on 1st October last, new facilities for treating patients suffering from gonorrhœa have been begun in the form of a new irrigating room. When completed it will enable patients to receive their treatment much more quickly and, it is hoped, it will encourage patients to attend more regularly until they are cured.

I am pleased to state that the number of cases appearing with no evidence of venereal disease is increasing.

There is still much to be done concerning the numbers of cases who default before they are proclaimed cured.

Our lack of control over defaulters, chiefly on account of the policy of secrecy, results in many spreading venereal disease.

In the treatment of cases of syphilis of the nervous system, intravenous injections of Tryparsamide have been instituted. This drug is undoubtedly one of the best for such cases.

C. HAMILTON WILKIE,
M.B., Ch.B., B.Sc.
Medical Officer in Charge of Male V.D. Dept.,
Leicester Royal Infirmary.

Report on the Female Clinic for Venereal Diseases for the year 1931, for Leicestershire.

The total number of patients seen for the first time was 359.

113 suffering from syphilis ; 123 suffering from gonorrhœa ; 123 showing no sign of venereal disease.

This year, there has been a greater number of women than in former years who have availed themselves of the Clinic for diagnosis—those who have been afraid that they have caught the disease but in whom no signs have been found.

The number of County patients examined for the first time was 110 ; 53 suffering from syphilis ; 57 suffering from gonorrhœa.

Out-patients.

The total number of female attendances was 9,251. Those seen by the Medical Officer at the Clinics were 6,900.

Those seen at other times for prescribed treatment were 2,351.

Attendances of County patients numbered 2,386. 1,467 attendances were made for syphilis ; 919 attendances were made for gonorrhœa.

Syphilis.

Treatment has been by : (*a*) Injection ; (*b*) Drugs given by the mouth ; (*c*) Inunction. The chief drugs given by injection have this year been (*a*) Neokharsivan and (*b*) Stabilarsan by the intravenous method ; (*c*) Bismuth in various preparations given intramuscularly.

Drugs containing arsenic have been given in slightly smaller strength but doses have been more numerous. By this method, the aim has been the cause less arsenical poisoning.

12 intravenous doses is the routine number but this number is not always reached.

Only 4 cases of arsenical irritation have been admitted to the ward.

Sulfarsenol is used intramuscularly with babies and children when the intravenous method cannot be used.

Metarsenobenzene has been tried, but with not much success.

Mercury, potassium iodide, and bismuth are given when considered necessary.

The number of early cases of Syphilis has decreased by more than half.

The total number diagnosed this year has been 13. Of these 4 were from the County. The aggregate number of injections given at all Clinics—male and female—City and County is 6,133. 184 County cases have been treated intravenously and 875 injections have been given to these patients.

Gonorrhoea.

The number of cases of Gonorrhœa has been 57. It is exceedingly difficult to diagnose the length of time since infection. About 7 to 10 cases have existed for more than a year, the remainder have not been infected for longer. Treatment is still General and Local.

General.

Treatment for the anæmia caused by the disease is always given and alkalies are always given.

Local.

Disinfection of vagina, cervix and urethra. (1) Dressings, by tampons or pessaries. Douches are used but only in special cases. (2) Irrigation of the bladder is carried out in all cases where the urethra is infected. (3) Instillation of Glycerine into the body of the womb is used frequently.

In Gonorrhœal rheumatism, vaccines, serums, with or without contramine have been used with varying success.

In-patients.

This year, the beds have been used chiefly for complications of Venereal Disease. The number of in-patient days of treatment being 2,777. Those for the County patients have numbered 1,414. 141 cases were admitted during the year. 43 cases suffering from Syphilis ; 90 cases suffering from Gonorrhœa. 8 babies were born in the maternity ward. One of these showed signs of infection when born. 3 cases of premature labour all suffering from Gonorrhœa were admitted.

This year, the ward has been used more for patients requiring ante-natal treatment and the mothers have been confined in their own homes.

Among the cases admitted were :—1 case of abdominal operation performed for serious complications of Gonorrhœa; 3 cases of dilatation and curettage for chronic endometritis after long local treatment for Gonorrhœa ; 2 cases of abscess of Bartholini's gland opened under anæsthesia. Others were done in the out-patient department ; 13 cases of Salpingitis for rest and treatment without operation ; 5 cases of acute Gonorrhœal rheumatism ; 12 children under the age of 9 with acute Gonorrhœal vulvo-vaginitis ; 5 cases of Keratitis ; 2 cases of Ophthalmia Neonatorum treated by advice of the Ophthalmic Surgeon ; 2 cases of anal fistula, following chronic gonorrhœa ; 2 cases of jaundice ; 4 cases of arsenical dermatitis ; 1 case of serious nephritis ; 1 case of intrathecal injection.

The number of cases discharged after completion of treatment has been 208. 29 cases were transferred for continuation of treatment to other clinics.

This year, the Medical Officer of Health for the County has paid three visits of inspection.

(Signed) BESSIE W. SYMINGTON,
M.D., B.S. (Lond.).
Medical Officer of Venereal Clinics for Leicester and Leicestershire.

Report on Work for Venereal Diseases at St. Mary's Home, 1 Ashleigh Road, for Treatment of County Patients, 1931.

The cases dealt with in this Department are young unmarried girls. The work is carried out in three parts :—(1) Work in the Hostel containing 9 beds, 4 being kept specially for Maternity cases, with cots for the babies ; (2) Work in the Clinic held weekly ; (3) Daily work carried out by the Sister-in-Charge as prescribed.

The total number of new cases admitted to the Hostel was 36, and 5 babies. Girls suffering from primary Syphilis numbered 8. From the County, 14 new cases were admitted, and 4 babies.

Out-patients.

The total number of attendances made was 1,847. 1,521 for individual attention by Medical Officers ; 326 for treatment as prescribed ; of these about 250 were made by County cases. This year a larger number of cases of Syphilis have been treated, the total number of injections given being 329.

(Signed) BESSIE W. SYMINGTON,
M.D., B.S. (Lond.).
Medical Officer of Venereal Clinics for Leicester and Leicestershire.

SANITARY CIRCUMSTANCES OF THE COUNTY.

(a) RAINFALL IN 1931.

The following Table prepared by Mr. G. F. Stacey, the Surveyor of Wigston Magna Urban District, shows the rainfall month by month during the year :—

Month.	Total Depth.	Greatest Fall in 24 hours.		No. of days with .01-in. or more.
	Inches.	Inches.	Date.	
January	1.25	.20	24th	20
February	2.45	.50	28th	23
March	.36	.22	1st	6
April	3.54	.72	26th	22
May	2.41	.48	25th	14
June	2.49	.77	6th	14
July	2.86	1.12	15th	19
August	3.83	1.06	15th	13
September	2.65	.82	4th	13
October	.64	.21	30th	11
November	2.01	.38	4th	20
December	.67	.23	6th	12
Total	25.16	—	—	187

I am indebted to Mr. Stacey for this information with reference to the rainfall in his district.

(B) GENERAL SURVEY.

(1) WATER.

During the year, several districts have benefited from extension of existing water mains or connection to a new service of supply. In other districts water mains have been laid in preparation for development of housing estates.

The following are the most important improvements carried out in Urban Districts :—

Ashby-de-la-Zouch.

The water mains have been considerably extended, a large new storage reservoir being completed in the previous year.

Coalville.

The auxiliary supply from Ellistown Colliery is now in use ; the reinforced concrete water tower has been completed.

The water main has been extended a further 100 yards on the Ellistown housing estate.

Hinckley.

Water mains have been laid for development purposes on the Middlefield Lane Estate.

Loughborough.

Extensions of water mains have been made in Woodthorpe, Beaumont and Colgrave Roads.

Melton Mowbray.

The mains have been extended in Thorpe Road and Sandy Lane. In the recently absorbed parish of Sysonby, mains have been laid in Asfordby Road and Welby Lane, in the latter a booster pump has been fitted.

In Rural Districts the action taken with reference to improvements was :—

Ashby-de-la-Zouch.

The water mains from the Measham, Oakthorpe, and Donisthorpe water works have been extended to the hamlet of Acresford. Well water has been displaced by a piped public supply in 147 cases.

Barrow-on-Soar.

A proposal to extend the Leicester City mains to Rearsby and Thrussington was rejected by the Parish Council on grounds of excessive cost.

In Barrow-on-Soar No. 1 District, practically the whole area has a public supply from Leicester City and in 48 cases a public supply has been substituted for well water during the year.

Billesdon.

The Leicester City mains have been extended to Scraptoft.

Blaby.

Extensions of water mains have been made in the parishes of Enderby and Leicester Forest East.

Market Bosworth.

495 houses have been connected to a public supply in place of wells, due to the completion of three schemes. A supply has been provided for Ibstock from Coalville, Markfield from Leicester City, and Desford from Thornton Reservoir.

Melton Mowbray.

The water (from wells) in Harby was found to be polluted, and steps are being taken to prevent pollution of these wells by substituting pail closets for privies.

(2) RIVERS AND STREAMS.

Frequent inspections of the rivers and streams of the County have been carried out and a laboratory analysis performed on the samples obtained.

About two-thirds of the County form the catchment area of the River Soar which has its source near Ullesthorpe and flows from South-west to N.N.W., passing through the City of Leicester, which is the centre of the County. Finally the river leaves the County just at its confluence with the River Trent, which is a few miles to the east of Sawley.

The main tributary of the River Soar is the River Wreake, which receives its tributary, the River Eye at Melton Mowbray and joins the River Soar near Rothley House.

On the western side, the streams enter the River Trent through the Rivers Mease and Anker, while in the north-east or Belvoir District, the small streams enter the River Trent by the River Devon and its tributary, the River Smite.

The south-eastern (Market Harborough) portion is drained by the River Welland and its tributaries, and the extreme southern portion by the River Avon.

In all, about 690 square miles of the total 824 square miles of the County, drain finally into the River Trent.

As all these streams receive sewage effluents at some points, frequent examinations are made to detect pollution.

Under the auspices of the Ministry of Agriculture and Fisheries, investigations of the River Soar were carried out as part of the annual hydrographical survey of the Trent watershed. Samples were collected at various points on the river, submitted to laboratory analysis and an estimation made of the dissolved oxygen content.

(3) DRAINAGE AND SEWERAGE.

During the year 67 inspections of Sewage Farms in the County were carried out by the County Medical Staff. Each sewage farm was investigated and a sample of the effluent taken and submitted to laboratory analysis.

Where inspection showed that the general condition of the farm was unsatisfactory, or the result of the analysis of the effluent was below standard, a re-inspection was made at a short interval.

If the effluent discharging into a neighbouring stream is likely to prove a source of danger to the community a special report is made to the Public Health Committee, and a copy of the Medical Officer's report is transmitted to the Local Authority concerned. These measures usually suffice to ensure that the conditions causing the pollution will be remedied.

The more important facts regarding sewage farms inspected during the year and particulars of improvements and extensions taken from the reports of the local sanitary officers, are noted below.

Urban Districts.

ASHBY-DE-LA-ZOUCH.

Three settling tanks and three 70-feet filter beds and the necessary sludge lagoons have been erected during 1931 at Packington. In addition, a small sewage works at Willesley, to treat the sewage from Shellbrook is nearing completion.

The sewers have been extended on the Nottingham, Burton, Smisby, and Moira Roads.

COALVILLE.

Three-quarters of the new middle level outfall sewer have been completed. Extensions of sewage works at Kelham Bridge are in course of construction but owing to running sand the Dortmund tank has had to be abandoned and shallow retangular tanks are to be commenced in the early spring of this year.

Apart from these works 280 yards of new sewer have been laid.

The Snarrows farm continues to be satisfactory.

HINCKLEY.

80 acres of land on the Middlefields Lane Estate have been sewered for development as a housing site.

There are still 144 cesspools in this district and it is proposed to sewer the Leicester Road (where most of these are situated) early in 1932.

LOUGHBOROUGH.

Sewers have been extended along Woodthorpe and Park Roads.

MARKET HARBOROUGH.

A special report was made to the Public Health Committee and referred to the Urban District Council on account of the bad condition of the farm. The following improvements are reported: A 165,000 gallon storm water tank has been constructed and the distribution of the sewage over and the under drainage of the land improved, while periodic samples are to be taken for analysis. 1,448 yards of sewer have been laid in the district.

MELTON MOWBRAY.

Sewers have been extended in Thorpe Road and Sandy Lane, and in Welby Lane and Asfordby Road, in the recently absorbed parish of Sysonby. The sewer in Burton Street has been reconstructed.

THURMASTON.

The new sewage scheme was completed during 1931. Practically the whole of Thurmaston is now on the water carriage system, the greater part draining to the new works, the lower part to the Leicester City sewers. The works consist of two sedimentation tanks, two storm water tanks, and two humus tanks. There is room for some expansion on the site.

WIGSTON.

775 lineal yards of new 9-inch storm and foul water sewer has been laid for the proposed new housing site on Burgess Hill, Wigston Fields.

Rural Districts.

ASHBY-DE-LA-ZOUCH.

Work was commenced in August 1930, on a combined scheme for Measham and Oakthorpe, also on another scheme for Donisthorpe which latter will replace the present very unsatisfactory works. Both these schemes are now nearing completion.

BARROW-UPON-SOAR.

Queniborough—a scheme was investigated at a Ministry of Health Inquiry but later abandoned owing to the reduction of the grant from the Unemployment Grants Committee.

There has been a large extension of the sewerage at Anstey and the sewer has been extended to the Council houses at Woodhouse.

BILLESDON.

A pumping station has been erected at Evington to provide an outfall for the Evington Hall Estate.

BLABY.

There have been sewerage extensions at Enderby and Narborough. The farm at Narborough has continued in the slightly improved state noted last year but the land is still overtaxed and the effluent unsatisfactory.

Braunstone and Leicester Forest East—sewers and a combined disposal works have been provided for these parishes.

The combined scheme for Blaby and Whetstone still gives unsatisfactory results and the extensions sanctioned by the Ministry of Health have not been proceeded with owing to the reduction of the unemployment grant.

CASTLE DONINGTON.

528 yards of sewer were laid and connected to the sewage farm at Kegworth.

HALLATON.

Hallaton—though sanction was obtained after a Ministry of Health Inquiry for new works of sewerage and sewage disposal no steps have been taken to commence any new works. The condition of the farm has been somewhat improved.

Great Easton—a new sewer and a small sewage farm have been constructed, this latter serves the whole of the village.

HINCKLEY.

The extension of sewerage at Earl Shilton has been completed, while extensions have been commenced at Burbage and Higham.

LUTTERWORTH.

At Broughton Astley, Dunton Bassett, Gilmorton, and Swinford, the sewers have been extended to the housing schemes.

MARKET BOSWORTH.

Groby—a new scheme has been completed. It consists of a detritus tank, a settling tank, two 50-foot filter beds and humus tanks.

Desford—a comprehensive new sewage scheme has been completed here during the year.

A scheme is under construction at Market Bosworth and should be completed at an early date.

Schemes have been designed for Stanton-under-Bardon and Markfield, but are not yet in course of construction.

MARKET HARBOROUGH.

Tur Langton—a new sewage disposal works has been constructed consisting of a settling tank, storm water tank, rotary filter and a humus ank. In addition 930 yards of new sewers were laid.

MELTON MOWBRAY.

Schemes have been under consideration for Long Clawson, Stathern, Asfordby and Burrough. At the end of 1931 the scheme for Burrough had been definitely postponed.

Harby—the sewage from this village is unsatisfactorily treated and pollutes the Stroom Dyke. The attention of the local authority has been called to this pollution, and a request made that steps be taken to remedy this.

(4) CLOSET ACCOMMODATION.

The reports of the District Sanitary Inspectors show that during the year, 1,380 privies and pail and earth closets, were converted to the water carriage system and 112 privies were converted to pail or earth closets.

In the Thurmaston Urban District the very large number of 634 conversions was made to the water carriage system, and there are now no privies and only 72 pail closets in the district compared with 656 pail closets at the end of 1930. This was due to the completion of the new sewerage scheme.

In the Urban Districts there is a steady diminution in the number of privies and an increase in the number of water closets. This follows the improvement in the water supplies and the sewage disposal systems.

In the Rural districts there has been an improvement in the number of water closets, but this improvement is distributed irregularly over the County, according to the type of water supply and sewage farm of the various parishes. Those parishes which have been improved in this way also show the increase in number of water closets.

(5) SCAVENGING.

The chief improvements in this branch of sanitary work during the year are noted below.

The provision of an incinerator at Oadby and a scavenging scheme at Tilton are under consideration.

Scavenging schemes have been commenced during the year in the following parishes :—Husbands Bosworth, Ashby Magna, and Asfordby, also a combined scheme for the parishes of Mountsorrel, Rothley, Woodhouse, Thurcaston and Cropston.

A scavenging order was obtained for East Langton but no scheme of collection was established as no land was available for tipping.

Harby—It has been decided to commence a scavenging system for Harby as the water supply is being polluted.

In Loughborough a special cesspool emptying tank has been provided in place of the old tumbler cart.

The land available for tipping at Lutterworth has been increased by the purchase of 4 acres.

In the Ashby-de-la-Zouch Urban Districts, 54 ashpits have been abolished during the year and 175 dustbins supplied.

The present provisions may be summarised as follows :—Destructors are in operation at Loughborough, Market Harborough, Blaby, Melton Mowbray, and Quorn.

Controlled tipping is carried out in several districts, on land acquired for this purpose by the District Authority. In most rural areas (where there is scavenging) the refuse is removed by contractors but in a few as in all Urban districts, direct labour is employed. In Hallaton and Great Easton a rubbish tip is provided for the use of private depositors. In other districts disused quarries and pits are utilised for tipping.

In Hinckley, the refuse is still disposed of on the sewage farm by shallow burying.

In some of the parishes adjoining Leicester, the City Cleansing Department carry out the scavenging under contract.

(6) SANITARY INSPECTION.

The following information has been extracted from the reports of the District Sanitary Inspectors :—

Premises visited	33,354
Defects or nuisances discovered	6,025
Complaints received	1,367
Inspections for all purposes	54,341
Notices served :—	
Informal	4,890
Formal	470
Summonses issued	12
Convictions obtained	8

(7) PREMISES AND OCCUPATIONS WHICH CAN BE CONTROLLED BY BYE-LAWS OR REGULATIONS.

(a) Common Lodging Houses.

There are 15 common lodging houses in the County and 100 visits of inspection were made during the year. In Melton Mowbray and Coalville

Urban Districts (10 houses) the condition is noted as satisfactory, but in the other districts they are unsatisfactory.

Two houses were closed during the year, one at Loughborough voluntarily, and one at Hinckley as part of a street widening scheme.

In Market Harborough, the house is kept fairly well but the buildings are old and lack modern facilities.

(b) Tents, Vans and Sheds.

It is not possible to give exact figures owing to the temporary nature of such structures.

Ashby Woulds Urban District.

4 visits were paid to one van which has now moved out of the district.

Barrow-upon-Soar Rural District.

Overcrowding in one van at Syston was abated by the serving of an informal notice on the occupants.

Market Harborough Urban District.

11 visits were paid to 7 vans in this district. In one case the water supply was defective but this was rectified.

Coalville Urban District.

25 visits were paid to 8 sheds and vans. One shed was unfit for habitation, and did not comply with the bye-laws as to sanitary requirements. Proceedings were taken and a conviction, with an order to quit in 7 days, obtained.

Loughborough Municipal Borough.

Six visits were paid to one shed, the condition of which was very bad. A Closing Order was made and it is intended to follow this up by a Demolition Order.

Melton Mowbray Rural District.

25 visits were paid to 9 sheds and vans, and they were found to be satisfactory. Trouble, however, has been experienced with travelling vans and the Council are adopting the Public Health Act, 1925, so as to obtain wider powers.

Market Bosworth.

14 visits were paid in respect of 37 such dwellings, and verbal notices given. There is overcrowding but action has been postponed until the Council's Housing programme is further advanced.

In **Thurmaston Urban District,** 32 visits were paid to 17 vans and in **Hinckley Rural District** 45 visits to 15 vans. No defects were found.

Billesdon Rural District.

4 visits were paid to two permanent dwellings ; one family moved out to the Market Harborough Union, and one tin shed was demolished by notice.

(c) Canal Boats.

46 visits were paid to these during the year but no action was necessary except under Ashby Woulds Urban District where notices were issued for cleansing. There are 33 boats registered by Leicestershire Authorities.

(d) Premises in which offensive trades are carried on.

There are 54 such premises in the County and 213 visits of inspection were made. As a result one drainage nuisance was abated, and 3 contraventions of bye-laws remedied. One knacker's yard in Melton Mowbray Rural District which was working at the beginning of the year was closed owing to the expiry of the lease.

(8) SMOKE ABATEMENT.

Action is noted to have been taken in the following districts :—

Hinckley Urban District.

66 observations were made on 15 chimneys and 13 were found to be a nuisance. In 11 cases the installation of smoke consuming plant, the repair of defective plant or other improvement has resulted in considerable lessening of the amount of smoke. In the two remaining cases there has been a slight lessening but the chimneys still emit too much smoke.

Wigston Urban District.

29 observations on 13 factories resulted in 8 informal notices and no further action was necessary.

Market Harborough.

57 observations and 5 complaints resulted in the abatement of 8 nuisances. Action was also taken in Barrow-upon-Soar Rural District, Ashby-de-la-Zouch Urban District, Melton Mowbray Urban District, Hinckley Rural District, and Loughborough Municipal Borough.

(9) RAG FLOCK ACTS, 1911.

During the year 36 visits were paid to 19 premises under this Act. No contraventions of the regulations were found.

HOUSING.

The measures adopted last year to meet the responsibilities of the County Council with regard to housing conditions in the Administrative County have been successful in securing a general outline of the needs of each rural district, and the action proposed to be undertaken by the Rural District Councils to meet these requirements.

As a preliminary measure all Rural District Councils were circularised with regard to the housing conditions existing in their areas. Special forms were transmitted for their use in making a return of their requirements.

After consideration of the information received in these returns it was decided to communicate with those Rural District Councils in whose areas a deficiency of six or more houses existed to meet the requirements for :—

(1) Overcrowded houses.

(2) Temporary dwellings.

(3) Houses requiring demolition, or in part to be closed.

It was requested that each Rural District Council should transmit to the County Council particulars of any action taken to meet the needs of the population of the area. It was hoped by this means to secure complete information as to the deficiencies existing and the steps proposed to be taken to remedy these deficiencies, not only in each Rural District but in the whole County.

The response from most of the District Councils has been most encouraging. Surveys have been undertaken in practically every parish and an assessment has been made of the housing conditions of the inhabitants. The requirements of each Rural District for re-housing of the population concerned under each of the headings outlined has been enquired into carefully by the local officials and in practically all areas preliminary steps have been taken to institute the necessary reforms.

The information received from the Districts shows that in practically all areas of the County the need for better housing conditions is an urgent necessity ; that the District Councils are alive to their responsibilities in the matter is demonstrated by the proposals for immediate action in most areas.

The following tables show the conditions existing in each Rural District under the various headings outlined and in addition the number of houses required for the normal increase of population and the amount of work carried out or contemplated.

HOUSES REQUIRING REPAIR.

Table 1.

RURAL DISTRICT.	No. of houses on 31.12.31 requiring repair.	No. of Houses in preceding Col. in respect of which notices to carry out repairs have been served.	No. of houses in which repairs were being undertaken but which had not been completed by 31.12.31.	No. of houses to which repairs have been completed during 1931.	
				By R.D.	By owners
Ashby-de-la-Zouch	23	23	18	—	33
Barrow-upon-Soar....	264	19	80	—	103
Belvoir	—	—	—	—	—
Billesdon	32	11	—	2	35
Blaby	317	124	260	—	354
Castle Donington	10	10	8	—	45
Hallaton	—	—	—	17	19
Hinckley	35	29	12	—	40
Loughborough	2	—	4	—	20
Lutterworth	247	13	4	—	70
Market Bosworth	189	47	21	—	160
Market Harborough	51	43	1	—	72
Melton Mowbray	184	13	—	—	91
TOTALS	1354	332	408	19	1042

Table 2. HOUSES FOR REPLACEMENT OF TEMPORARY DWELLINGS, OVERCROWDED HOUSES, AND HOUSES TO BE DEMOLISHED.

RURAL DISTRICT.	No. of new houses on 31.12.31 required to replace :—						Houses approved by M. of H. but not ready for occupation by 31.12.31.				Houses contemplated by R.D.C.		Houses completed during 1931.			
	Temporary dwellings.		Overcrowded houses.		Houses to be demolished.		Commenced.		Not commenced.				Occupied.		Not occ. on 31.12.31.	
	Agric.	Other	A.	O.	A.	O.	A.	O.	A.	O.	A.	O.	A.	O.	A.	O.
Ashby-de-la-Zouch	–	3	6	98	—	75	—	—	—	—	2(*a*)	91(*a*)	—	101	—	—
Barrow-upon-Soar....	–	1	15	43	—	26	—	39	4	12(*b*)	—	5(*c*)	—	109	—	—
Belvoir	–	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Billesdon	1	56	4	12	1	6	—	—	—	—	5(*c*)	—	—	—	—	—
Blaby	–	19	—	45	—	19	—	14(*d*)	—	6(*d*)	—	—	—	10	—	2(*e*)
Castle Donington	–	—	—	8	—	—	—	—	—	—	—	—	—	22	—	—
Hallaton	–	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Hinckley	5	8	11	53	4	29	—	106(*f*)	—	30(*f*)	—	52(*f*)	—	110	—	—
Loughborough	–	—	—	13	—	67	—	—	—	45(*a*)	—	—	—	—	—	—
Lutterworth	–	—	—	7	—	33	—	8(*g*)	—	—	—	12	4	42	—	—
Market Bosworth	–	42	14	191	22	132	—	62	—	—	—	124	4	74	—	—
Market Harborough	–	—	2	—	12	—	—	—	—	—	—	—	20	10	—	—
Melton Mowbray	–	9	8	—	7	7	—	—	—	—	—	—	—	—	—	—
TOTALS	6	138	60	470	46	394	—	229	4	93	7	284	28	479	—	2

(*a*) Probable date of completion—December, 1932.
(*b*) Land purchased and approved by M. of H.
(*c*) Land purchased.
(*d*) Now completed and occupied. (May, 1932).
(*e*) Now occupied. (May, 1932).
(*f*) The houses in these cols. will be apportioned between the requirements given in this table and the houses required for the normal increase of the population—(Table 3).
(*g*) Now completed. (May, 1932).

Table 3. **HOUSES REQUIRED FOR NORMAL INCREASE OF POPULATION.**

RURAL DISTRICT.	No. of houses required.		No. of houses approved by M. of H. but not ready for occupation by 31.12.31.				Houses contemplated by R.D.C.		No. of houses completed during 1931.			
			Commenced.		Not commenced.				Occupied on 31.12.31.		Not occupied on 31.12.31.	
	Agric.	Other.	A.	O.	A.	O.	Agric.	Other.	A.	O.	A.	O.
Ashby-de-la-Zouch	2	76	—	—	—	—	—	19(*a*)	—	—	—	—
Barrow-upon-Soar	—	41	—	31(*b*)	—	—	—	7	—	—	—	—
Belvoir	—	—	—	—	—	—	—	—	—	—	—	—
Billesdon	—	—	—	—	—	—	—	—	—	—	—	—
Blaby	—	93	—	8(*c*)	—	—	—	—	—	44	—	2(*d*)
Castle Donington	—	—	—	—	—	—	—	—	—	8	—	—
Hallaton (*e*)	—	—	—	—	—	—	—	—	—	—	—	—
Hinckley (*f*)	?	?	—	—	—	—	—	—	—	84	—	—
Loughborough	—	—	—	—	—	—	—	—	—	—	—	—
Lutterworth	—	—	—	10(*g*)	—	—	—	—	—	44	—	—
Market Bosworth (*h*)....	—	64	—	—	—	—	—	—	—	—	—	—
Market Harborough	—	—	—	—	—	—	—	—	—	—	—	—
Melton Mowbray	35	30	—	—	—	—	—	6	—	—	—	—
TOTALS	37	304	—	49	—	—	—	32	—	180	—	2

(*a*) Probable date of completion—December, 1932.
(*b*) Four of these completed. (May, 1932).
(*c*) Completed and occupied. (May, 1932).
(*d*) Occupied January, 1932.
(*e*) Population in this district is decreasing.
(*f*) Requirements not known. A number of houses commenced and contemplated to be built given in Table 2 will supply to some extent the needs of normal increase of population.
(*g*) Now completed. (May, 1932).
(*h*) When new houses are erected for needs given in Table 2 for overcrowding the vacated houses will provide for the normal increase of population.

The interpretation of the responsibilities placed upon the County Council by the Housing Act, 1930, resolves itself into a direct and intimate concern with the housing conditions of the working classes in each and every Rural District of the Administrative County. The active agent in the initiation and execution of the actual measures to remedy existing evils is the Rural District Council and how far the County Authority should exercise the privilege of interference conferred by the Act is a point which is bound to give rise to some difficulty.

When the County Council are called upon to undertake a direct financial responsibility as in the case of claims under Section 34 (2) of the 1930 Housing Act, they will require to be satisfied that the need exists and that the conditions are, in effect, as stated. To meet the general requirements of the Act, viz., having constant regard to the housing conditions of the working classes, it would appear that two alternative methods of procedure are possible :—

(1) The appointment of a whole-time County Housing Inspector to carry out surveys of housing conditions in various Rural Districts where further provision is necessary for replacements of temporary dwellings and alternative accommodation for overcrowding and houses requiring demolition and in addition to supervise generally the housing conditions in the Administrative County.

(2) To leave the provision to the Rural District Councils, the County Council to be informed as to the needs of each area and the measures proposed to remedy existing deficiencies. The ascertainment of the requirements of each district, the initiation of housing schemes and the carrying of them into effect to be a matter for the Public Health and Sanitary Officials of the Rural District Councils.

A great deal of the success of the latter alternative will depend upon the attitude adopted by the Rural District Councils. If they are prepared to undertake the necessary measures in their areas in reasonable time and in accordance with the terms of the Act then no further action on the part of the County Council should be necessary. The great disadvantage of this method of procedure lies in the fact that the County Authority has no direct knowledge of conditions as they exist in each district apart from that supplied by the officers of the District Authority. This disadvantage will be of little consequence in areas where District Councils are anxious to fulfil their obligations and keen to remedy defects, but even if this procedure is adopted the necessity for local surveys under the ægis of the County Council will almost inevitably arise from one cause or another.

It would appear, therefore, that if the County Authority is to meet in full the requirements of the 1930 Act it will be necessary to take a very direct interest in all matters pertaining to Rural Housing and for this purpose the County Authority should be in a position to undertake surveys under the supervision of a properly qualified official and issue an unbiassed opinion not only on the needs of a particular area but upon the position in the County as a whole.

No applications for grants under Section 34 (2) of the Housing Act, 1930, have been received by the County Council during 1931. This fact in conjunction with the excellent response to the lead given by the County Council has contributed towards preventing the question of direct intervention by the County Authority arising in an acute form. It has not been considered necessary, therefore, during the year to undertake anything in the nature of a survey of housing conditions in any particular Rural District.

I feel, nevertheless, that in the near future it will be necessary to take a more active part in housing matters from the County standpoint and am of the opinion that a closer interest than a mere statistical supervision is an essential if the obligations incurred by the County Council under the Housing Act, 1930, are to be fulfilled in both the spirit and the letter.

Housing (Rural Workers) Act, 1926, and Housing (Rural Workers) Amendment Act, 1931.

The object of these Acts was to enable the reconditioning of Rural houses and the conversion into houses of buildings not previously used as such. Assistance under the Act may be given by the Local Authority by means of grants and loans or in either of these ways.

Grants (of which the Government pay half) may not exceed either (1) two-thirds of the estimated cost of the works; (2) the sum of £100 in respect of each dwelling.

Assistance may not be given :—

(1) Where the value of the completed building will exceed £400.
(2) Where the estimated expenditure is less than £50.
(3) Unless, when completed, the house will be fit, in all respects for human habitation.

The application of this Act to areas where houses can be reconditioned so as to be of value in the relief of existing conditions and where there are buildings suitable for conversion into houses should be of considerable assistance in the provision of further housing accommodation on an economic basis.

It would appear that in a time of financial stringency like the present where the high cost of providing new houses on a large scale may weigh adversely against the betterment of existing conditions the use of the powers conferred by this Act could be used to their best advantage.

During the year three applications for assistance under the Act were received by the County Council. In one case a grant of £100 was made; in the remaining two cases grants were refused as they did not come within the provisions of the Act.

INSPECTION AND SUPERVISION OF FOOD.

(a) Milk Supply.

Milk and Dairies (Consolidation) Act, 1915.

Section 4.

During 1931 infection of milk by tubercle bacilli was reported in 23 instances, seven from London County Council, eleven from Leicester City Council, and five from Birmingham City Council.

Following these reports 505 animals from 23 herds were examined by the County Council Veterinary Inspectors and in the case of two of these herds it was found necessary to make a re-inspection. Arising from these examinations 80 samples of milk were taken from suspected cows and despatched to Cambridge University for biological examination.

The following shows the results of herds examined :—

Tuberculosis found on	(*a*) first inspection	7
	(*b*) re-inspection	2

Herds out of which a suspicious cow had been disposed of between date of initial sample and visit of Veterinary Inspector :—

(*a*) Sold for slaughter	7
(*b*) Sold and found tuberculous	2
No trace of tuberculosis	5

Section 8.

During the year there were no samples submitted to bacteriological examinations.

Milk and Dairies Order, 1926.

Tuberculosis Order, 1925.

Both these orders are administered by the Diseases of Animals Sub-Committee of the County Agricultural Committee.

During the year a re-arrangement of duties of Veterinary Surgeons employed by the County Council has been made. Previous to the death of Mr. Parr the administration of Section 4 of the Milk and Dairies (Consolidation) Act was carried out in the whole County with his assistance.

The Milk and Diaries Order 1926, and the Tuberculosis Order, 1925, were administered by the Diseases of Animals Sub-Committee. Ten Veterinary Surgeons including the late Mr. Parr each with a district of the County in the neighbourhood of their practices carried out the provisions of Part IV. of the Milk and Dairies Order. In addition, Mr. Parr himself, carried out the duties concerned with the Tuberculosis Order, 1925.

It was decided after consultation at a conference of County Council Veterinary Inspectors to re-arrange the duties and districts for the purposes of administration of these Orders and from 1st October, 1931, each Veterinary Surgeon was made responsible in his own district for the duties necessary under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, the Milk and Dairies Order, 1926, and the Tuberculosis Order, 1925. The respective Committees still continue with their former responsibility for administration.

Under Section 5 of the Milk and Dairies (Consolidation) Act, 1915, and Part IV. of the Milk and Dairies Order, 1926, first inspections will be carried out by the Diseases of Animals Sub-Committee but in the event of a cow being found to be suffering from any of the diseases specified in the Act and Order, such subsequent inspections to any farms as may be necessary, *e.g.*, for prohibition of sale of milk from diseased cows will be undertaken by the Public Health and Housing Committee.

(b) Graded Milk Production in Leicestershire.

At the commencement of the year 1931, there were twenty-two producers of Grade "A" milk registered under the County Council scheme.

During the year one licence was transferred on the retirement of the original producer and five additional licences were granted.

In addition, the Ministry of Health has licensed one producer for certified milk and two for Grade "A" (T.T.).

Inspections of the premises of these holders of Grade "A" licences are undertaken at frequent intervals by the County Medical Officer and his Senior Assistants. Samples of milk are collected at the time of these inspections for bacteriological examination. Arrangements are also in force for collection of samples from Grade "A" milk producers as sold to the public. These examinations constitute an adequate method of ensuring that the condition of the milk is maintained at a high level of cleanliness.

During the year, 150 samples of Grade "A" milk were submitted to bacteriological examination in the County Laboratory. Of these only six were outside the standard allowed.

In those cases in which a sample is found which shows an adverse bacteriological result, the farm is visited by a Senior Medical Officer and in co-operation with the producer an investigation is made into the source of the trouble.

Notwithstanding the many difficulties encountered in securing an extension of the numbers of producers of milk under licence it is gratifying to note the steady if gradual increase each year.

Two main factors militate against any great expansion in the production of Grade "A" milk. Lack of knowledge or apathy towards clean milk on the part of the general public with a consequent small demand and

a disinclination on the part of the milk producer to undertake the financial hazard involved even where a nucleus of trade is awaiting development.

The increased cost of production involved in capital outlay on premises and equipment and the greater current financial expenditure result in an increased cost of the milk to the public. The attitude of the public in general is the natural one adopted towards all commodities of buying the cheap article with little consideration as to whether or not it is of an inferior variety. It is essential in the case of a vital foodstuff such as milk that a realisation of the importance of obtaining not only the best quality but also milk of a high standard of cleanliness should be brought home to the community. This can only be accomplished through constant educational effort by all health workers. The creation of a market for Grade "A" milk is fundamental in securing increased production.

It is an unfortunate circumstance that those enlightened farmers who are assisting towards the ideal of a high standard of cleanliness in milk by producing under licence should, of necessity, be subject to such a mass of inspection, regulations, etc., whilst vast quantities of loose milk of questionable cleanliness may be sold without restriction. While this condition of affairs continues a great deal of the difficulty encountered in fostering clean milk production will come from the producers of loose milk of doubtful origin. If an open and profitable market for unclean milk exists there is little incentive for a producer to undertake the burden of graded production with all its added expenses and extra work. Here again the creation of a public demand is the only means of making clean milk production a sound commercial undertaking and thus to make it worth while for all milk producers to exercise greater care.

Education of the public, both direct and indirect, in these matters is carried out constantly in Leicestershire. At Infant Welfare Centres, frequent lectures are given on this subject and in addition pamphlets on Graded Milks and on the care of milk in the home have been distributed. There is very little advantage in supplying graded milk to the consumer if the milk is carelessly treated in the home and lectures on clean milk are always amplified with instructions on the necessary care to be exercised in the household if full advantage is to obtained from the precautions taken in production and delivery.

The scheme for the supply of milk to school children which is dealt with in the following section has also had a great influence on the increased production of Graded milk in the County. One of the conditions of supply states that "the milk to be supplied shall be clean, fresh, and where possible of Grade "A" standard." The acceptance of this high degree of cleanliness by milk producers has entailed the necessity of considerable care in production and has been instrumental in influencing many producers to take the further steps necessary for obtaining a licence to produce Grade "A" milk. The practical experience of the benefits derived by the children in schools from the drinking of pure milk have had an undoubted effect in awaking the interest of the parents in milk as a food and in creating a greater demand for the graded variety.

Sustained effort on the part of those interested in attaining the ideal of a pure milk supply is bearing fruit in a gradual but constantly increasing demand on the part of the general public and will eventually lead to the control of cleanliness by regulation of all milk produced in the country.

The attitude of the Department towards the producers of Grade "A" milk in the County has always been one of friendly co-operation.

All matters concerned with an improvement of method are carried out on a basis of mutual help and I am pleased to place on record my appreciation of the unfailing courtesy with which all inspections and suggestions are received by the licensed producers. I am convinced that it is only by continued effort to overcome the difficulties encountered that the mutual aim of the Department and producers alike to obtain a clean milk supply for the whole County can be realised.

(c) Provision of Milk to Elementary School Children.

The details of the scheme for the supply of milk to children attending the Public Elementary Schools of the County were published in my Annual Report of last year.

I am indebted to the County Agricultural Organiser for the following returns with reference to milk supplied to the schools during the past three years :—

	Oct. 1929	Dec. 1929	Dec. 1930	Dec. 1931
No. of schools receiving milk	1	33	111	133
No. of children receiving milk	102	3,067	8,681	7,943
No. of bottles supplied weekly	510	15,335	43,405	39,718
No. of gallons of milk weekly	21	639	1,808	1,655

In the period between the opening of the schools in January, 1931, and the closure in December of the same year the total number of bottles supplied was 1,831,728 representing 76,322 gallons.

It will be observed that the number of children actually taking milk has decreased somewhat during 1931. This is accounted for mainly by the present trade depression and the consequent economies being effected by parents.

Samples of the milk supplied are collected frequently by the staff of the Medical Department and submitted to bacteriological examination in the County Laboratory. In all cases where the result of such examination is unsatisfactory the Agricultural Department is notified with a view to action being taken to remedy the fault. Continued unsatisfactory samples from a producer result in his supply being discontinued and during the year it was found necessary to cease arrangements with three producers for this reason.

The number of surprise samples collected during the year was 292. Of these 14.4 per cent. showed a bacteriological count of less than 10,000, 20.9 per cent. between 10,000 and 30,000, 41.4 per cent. between 30,000 and 200,000 and only 23.3 per cent. were over 200.000. On bacteriological count 76.7 per cent. and on B. Coli Content 73 per cent. of samples were within the standard allowed for Grade "A" milk. These figures are an indication of the high standard of purity of the milk being supplied to the schools.

The consumption of milk in the schools of the County, amounting to over 76,000 gallons per year, in conjunction with the fact that a high standard of cleanliness is required is exercising a beneficial influence on clean milk production. In addition the schools in the Borough of Loughborough, and the City of Leicester are supplied with milk coming mainly from Leicestershire producers. It will be obvious that apart from the individual and collective benefit to the school children these schemes are a decidedly useful adjunct to the milk-producing industry in the County. A conservative estimate of the amount of extra income accruing to these milk producers during the past year places the figure at over £12,000.

The scheme in Leicestershire is now a well established and successful undertaking. Observations made from weighing and measuring show that the children taking the extra milk ration are benefited physically as compared with those in the control group who did not partake of the extra milk.

From every standpoint the scheme has much to commend it and I hope to see further extensions in the schools of the County as time passes and economic conditions improve.

(d) Sale of Food and Drugs Act, etc.

This and kindred Acts are administered by the County Police. I am indebted to the County Chief Constable for the following information regarding the working of this Act :—

During the year 1931, 397 samples of Food and Drugs were submitted to analysis, *viz.*, 333 Foods and 64 Drugs. Of these 20 were certified to be unsatisfactory, *i.e.*, 7 ice cream, 5 whisky, 3 milk, 2 cream, 1 baking powder 1 purified borax, and 1 Non-alcholic wine.

Proceedings were taken against one milk vendor, in respect of two samples certified to contain at least 15 per cent. of added water. A conviction was obtained and a fine and costs amounting in all to £11 . 14 . 6 imposed. The other sample also deficient to the extent of 15 per cent. of added water, was duplicated by an "appeal to the cow" and no action was taken.

The cream was found to contain 0.3 per cent. of boric acid in an informal sample and 0.2 per cent. in a formal sample, proceedings resulted in a conviction and a fine amounting in all to £2 . 11 . 0.

The non-alcoholic wine contained preservative, no proceedings were taken as it was the last bottle of old stock.

The vendors of the baking powder which contained no more than 2½ per cent. of carbon dioxide, and the purified borax, which was adulterated with bicarbonate of soda, were cautioned by the Chief Constable.

In two cases informal samples of whisky which were not genuine were followed by formal samples found to be 2½ and 5½ degrees below legal standard. Convictions and a fine totalling £3 . 0 . 6 were obtained in each case. In a third case a formal sample, taken after the adulterated informal sample was found to be genuine.

No action was taken as regards the ice cream which was found in all cases to consist of milk sweetened and thickened without the addition of cream.

In all, proceedings were taken in four cases and four convictions obtained, while two vendors were cautioned. The total fines and costs amounted to £20 . 6 . 6.

BACTERIOLOGICAL AND CHEMICAL WORK.

The following is a summary of the work carried out in the County Laboratory during the year 1931.

	Pos.	Neg.	Total
Sputa for T.B.	476	946	1,422
Milk Examinations (Bacteriological)	—	—	1,283
Throat swabs for diphtheria	126	990	1,116
*Blood for Wassermann test	52	184	236
Sewage and water analysis	—	—	181
Hair for ringworm	109	63	172
Urine (general and Bacteriological)	—	—	157
Films for gonococci	19	52	71
Widal tests for typhoid fever	5	55	60
Urine for T.B.	3	56	59
Blood counts	—	—	17
Milk for fat content	—	—	14
Pus for organisms	—	—	13
Miscellaneous	—	—	19
			4,820

* As in previous years the specimens of blood for Wassermann reaction are forwarded after collection to the Leicester Royal Infirmary.

The total of 4,820 examinations is less than the number carried out during the year 1930, when it was 5,310. This decrease is largely due to the fact that last year there were 1,615 throat swabs examined for diphtheria. There has, however, been an increase in the number of milk examinations, 1283, as compared with 1023.

Diphtheria.

The 1,116 throat swabs were received from the following sources :—

General Practitioners	583
Isolation Hospitals	403
Children's Convalescent Home	130

There were no epidemics of diphtheria in any of the County schools which necessitated large numbers of throat swabs being taken. It was, however, found advisable to visit the Children's Convalescent Home, Woodhouse Eaves, and 130 swabs were taken from the inmates and staff. This was in consequence of cases of diphtheria which occurred in the home. Of these 130 swabs, six were found to be positive and the infected children removed to an Isolation Hospital until they ceased to be "carriers."

Tuberculosis.

The 1,422 specimens of sputa were received from the following sources :—

T.B. Medical Officers	810
General Practitioners	612

Many of the specimens sent by the T.B. Medical Officers were from their patients in the Sanatoria. In addition to the specimens of sputa, 59 samples of urine were examined.

Milk Examinations.

The number of samples of milk examined bacteriologically was 1,283, an increase of 260 on the number in 1930. These were received :—

From Rural Districts	377
From Urban Districts	373
From County School Supplies	292
From Grade "A" Producers	150
For T.B. (Biological)	51
Pasteurised Milk	16
Miscellaneous samples	24

The samples from Urban and Rural Districts were examined, and as in previous years, according to the results, classified as "Good," "Fair," "Moderate," or "Bad," depending on the bacterial count and the Bacillus Coli content. Previous reports have given particulars of these standards which are, briefly, a bacterial count of less than 500,000 organisms per cubic centimetre and the absence of B. Coli from 1/100th of a c.c. constitutes a "Good" sample, and milk containing more than 1,000,000 organisms per c.c. and/or B. Coli in 1/1,000th c.c., is classified as "Bad." Those in between are "Fair" or "Moderate."

The results of the examinations of samples from the Urban and Rural Districts are as follows :—

URBAN DISTRICTS :

Total.	Good.	Fair.	Mod.	Bad.
373	239 (64.1%)	76 (20.4%)	4 (1.1%)	54 (14.4%)

RURAL DISTRICTS :

377	227 (60.2%)	67 (17.8%)	7 (1.9%)	76 (20.1%)

TOTAL URBAN AND RURAL DISTRICTS :

750	466 (62.1%)	143 (19.1%)	11 (1.5%)	130 (17.3%)

All District Councils have been forwarded a report on their own district, together with a full table giving the total examinations in the County. They are thus able to compare their own figures with those of other authorities, but as each district is denoted by a letter, and not by name, invidious distinctions are obviated.

A further analysis of these examinations is of great interest, and shows that :—

65 or 8.7%	contained	less than 10,000 organisms per c.c.
109 or 14.5%	,,	between 10 and 30,000 ,, ,,
379 or 50.5%	,,	between 30 and 200,000 ,, ,,
158 or 21.1%	,,	between 200 and 1,000,000 ,,
39 or 5.2%	,,	over 1,000,000 organisms per c.c.

Also that :—

In 300 or 40%	B. Coli	were absent	from 1/10th c.c.
,, 195 or 26%	,,	,,	present in 1/10th but not in 1/000th c.c.
,, 143 or 19.1%	,,	,,	,, 1/100th ,, ,, 1/1,000th c.c.
,, 112 or 14.9%	,,	,,	,, 1/1,000th c.c.

This means that 421 or 56.1% were within the standard for Grade "A" milk, that is containing less than 200,000 organisms per c.c., and no B. Coli in 1/100th c.c. (The corresponding figure last year was 54.7%). In so far as the bacterial count alone is concerned, 73.3% were within this Grade "A" standard.

Of the 16 samples of Pasteurised milk examined, three exceeded the standard laid down, that is, more than 100,000 organisms per c.c. The regulations make no mention of any standard for B. Coli in Pasteurised milk as it is assumed that this process destroys these organisms. However, seven of the 16 samples (43%), contained B. Coli, one in 1/10th, two in 1/100th, and four in 1/1,000 of a c.c.

Fifty-one samples of milk were collected and forwarded to Cambridge for biological examinations for T.B. and four of them were positive. In two of these four samples T.B. were able to be demonstrated in the County Laboratory on the day of collection, thus enabling the affected beasts to be destroyed immediately, obviating the four or five weeks delay which must necessarily occur awaiting the result of a biological examination.

Samples of milk are collected from Grade "A" producers regularly to ascertain whether they are up to the standard, that is, containing less than 200,000 organisms per c.c. and no B. Coli in 1/100th c.c. In all, 150 samples were collected and examined, and in only six cases was the bacterial standard exceeded.

Sewage and Water Analysis.

One hundred-and-eighty-one samples of water and sewage effluents were analysed during the year as against 224 in 1930. Of these, 28 were samples of water from the River Soar at various points along its course, extending from Belgrave to Kegworth. These were taken in conjunction with the Ministry of Agriculture and Fisheries in connection with their Annual Hydrographical Survey of the Trent Watershed.

Hair for Ringworm.

The 172 specimens of hair for ringworm were nearly all sent by the School Medical Officers and Nurses, and 109 of them were positive. Many of the children now attend the laboratory on Saturday mornings for examination by the School Medical Officers, and in these cases the hair can be microscopically examined at the same time. Last year 160 specimens were examined.

Typhoid and Para-typhoid Fevers.

During the year, 60 specimens of blood were examined by the Widal test for typhoid fever and 5 specimens of fæces were also examined. Five of the blood specimens were positive; all the fæcal specimens were negative. The number of these specimens examined last year was 64.

Venereal Diseases.

In connection with venereal disease 307 pathological examinations were made, compared with 216 in 1930. Of these, 236 were samples of blood for Wassermann reaction, and all of them after collection were forwarded to the Leicester Royal Infirmary for examination. The remaining 71 were films for gonococci. Of the blood specimens for Wassermann reaction, 204 were received from General Practitioners, as were 34 of the films for gonococci. The remaining specimens were from the Venereal Diseases Clinic at Loughborough.

General Remarks.

The laboratory, which has now been in existence 12 years, has made 45,320 examinations, and continues to be a most valuable adjunct to the public health services, as is evidenced by the large number of specimens received from General Practitioners in the County. It is also now well established as a revenue producing department, in that the Isolation Hospitals Committee pays 2/- per throat swab examined for them, the various Urban and Rural Districts 2/6 per sample of milk examined and 10/6 per sample of water, and the Tuberculosis Committee contributes 2/6 per specimen of sputum. The approximate amount contributed from these sources during the year under review was £370.

The laboratory staff is the same, consisting of myself as bacteriologist, and one senior and one junior assistant, both of whom continue to perform their work to my entire satisfaction.

J. A. FAIRER,

County Medical Officer and Bacteriologist.

TUBERCULOSIS.

The following is the report of the Chief Tuberculosis Medical Officer :

Prevalence of Tuberculosis.

The number of notifications of Pulmonary Tuberculosis has increased by 17, and there is an increase in the number of deaths by 27. The figures for 1931 are :—Notifications 325, deaths 210, Death Rate .69. The average numbers of the last five years are :—Notifications 353, Deaths 205, Death Rate .71.

There were 99 Notifications of Non-Pulmonary Tuberculosis as against 83 in 1930. The number of deaths was 46 compared with 39, and the Death Rate .15 as against .13 in 1930.

The total number of Notifications for 1931 is, therefore, 424 as against 391 last year, and the Deaths 256 as against 222 in 1930, showing a slight increase in both notifications and deaths.

The increases noted above are largely due to added population as the death rate .69 is very little in excess of the .62 figure of 1930. The Saffron Lane and Braunstone Estates still continue to receive many cases of Tuberculosis from the City, and contain far more than their due proportion of patients. There is moreover an increasing tendency for people suffering from this disease to move into the County, and so obtain the benefit of purer air and better surroundings. The somewhat abnormal housing facilities afforded by the increased building of Council houses during recent years has made this policy of removal easier for the patients concerned. The County statistics as a consequence have to suffer, especially as many of these people are in an advanced stage of the disease when the change of residence takes place.

DETAILS OF THE SCHEME OF TREATMENT.

A. Hospital and Sanatorium Accommodation.

The number of beds provided at the different Institutions will be seen on Table T.B. 2.

The beds in all the Institutions were fully occupied during the year, except in the case of Mowsley Sanatorium, where there were empty beds during the latter part of the year. It is impossible to account for this transitory drop in the number of female patients.

B. New Sanatorium, Markfield.

Great progress has been made during the year in the building of this new Sanatorium, and it is hoped that it will be completed, equipped and ready for opening by September, 1932.

The Male, Female, Children and Hospital Blocks are far advanced in construction, and the Administration Block is progressing in a satisfactory manner. The heating apparatus has been installed, and most of the electric light and other fittings. The sewage arrangements and drainage are practically complete, while the covered ways have been erected and only require paving and painting.

Now that the buildings have advanced to this further stage, the layout appears to be admirable ; while proper provision to protect the somewhat exposed site, has been made by means of belts of fast growing trees.

The Boiler House is almost finished, and the boilers have been placed in position.

The Infectious Diseases Blocks are also nearing completion, and very little other than the painting requires to be done.

There still remains much to do, however in the Administration Block, and there will naturally be a great deal of cleaning up in all directions before the whole Institution is completed.

C. Convalescent Home.

Ten beds were again retained at the Charnwood Forest Convalescent Home. During the year 67 children, between the ages of five and ten years were admitted, and their average length of stay was 45.5 days. Classification of these cases was :—

Pre-Tubercular	57
Convalescent Surgical	8
Early Closed Tuberculosis	2

As before, the majority were contacts of Tubercular families. These beds were fully occupied and at times the waiting list became long, and considerable time had to elapse before the children could be admitted.

An extension of this valuable work is most desirable, and accommodation for children up to 14 years would be an immense boon to the health of the weakly children in the County. At present, it is very difficult to get a child between 10 and 14 years of age into a Convalescent Home, and there are many debilitated children between these ages. Much important preventive work could be done if more beds were provided.

D. Hospital Beds for Advanced Cases.

The six-bedded block at Melton Isolation Hospital has been full all the year. The County Infirmaries have been most useful in accommodating this type of patient, and as the prejudice, which exists at the present time, disappears, more and more cases will be sent there.

The increased number of "advanced beds" at Markfield Sanatorium will also greatly aid this most important branch of the work, namely, prevention by isolation. The presence of an advanced consumptive in the

home, especially where the means for preventing infection are ignored or only partially carried out, is obviously a danger to the rest of the family, and the children in particular.

E. Out-Patient Dispensary Work.

For details see Table 1.

The number of attendances at the Dispensaries has again increased, being 4,586 and the contacts examined remain about the same. The X-rays have been employed more, 93 photographs being taken as against 66 last year. The sputum examinations again show an increase.

F. Domiciliary Work.

(i) *Shelters.*—Seventy-two shelters are available for loan to patients, and of this number 10 were still in temporary use at Mowsley Sanatorium and two at the Melton Isolation Hospital (Tuberculosis Block). The routine inspection has been carried out by the County Nursing Association. Much invaluable work is done by means of these huts, and especially in the Summer time the demand is continuous and increasing.

(ii) *Nursing of Advanced Cases.*—This part of the scheme has been carried out by the County Nursing Association.

(iii) *Extra Nourishment.*—Approximately £407 has been expended on 68 patients as against £412 on 60 patients in 1930. The grant is 5/- worth of milk and eggs per week. The number of cases applying continues to be large, and very careful consideration has to be made to relieve the most necessitous, and those likely to derive the most benefit.

(iv). *Additional Help.*—Cost of Splints, Crutches, Surgical Boots, etc. These have entailed an expenditure of £84 for 33 patients, as against £26 for 11 patients—a very considerable increase.

Dental treatment with the provision of dentures has been granted to four patients at a cost of £8. This sum is less than last year. We find that many patients' teeth have been attended to before coming under our supervision. This is doubtless due to the fact that Dental benefit is obtainable from many of the Approved Societies under the National Health Insurance.

Cod Liver Oil and Malt has been given to a large number of suitable cases at all the Out-Patient Dispensaries, and I believe is a valuable adjunct in aiding nutrition.

Paper handkerchiefs, sputum flasks and inhalers have also been distributed.

(v). *Domiciliary Visits.*—The Tuberculosis Medical Officers have paid 1,121 (Dr. Coward 634, Dr. Lane 487) visits to patients' homes. The Health Visitors paid 5,466 visits + 5,753 nursing visits by the District nurses ; this is a considerable increase on last year.

G. Surgical Tuberculosis.

It is hoped during the coming year to make use of the City General Hospital, where Surgical Wards are available under the care of Mr. Morris.

Cases attending Richmond House will be transferred to this Hospital, and thus continuity of treatment can be obtained. We have no cases now at the Manfield Orthopædic Hospital, Northants.

As is natural in a new scheme, which has only been started for a very few years, the work is increasing ; but it is hoped that as the old chronic cases are eliminated, fewer cases will have to be treated.

The treatment of Surgical Tubercular lesions such as Tubercular spines, hips, knees, etc., is a very costly one, entailing as it does very long periods of detention in an Orthopædic Hospital, often two and even three years ; in addition the nursing must be highly skilled, and the making of the various splints and apparatus is technical and in consequence costly.

Whereas conservative treatment was the fashion for many years, the tendency nowadays is to operate on many of these patients, and it may be that by so doing the treatment will be shortened, and satisfactory results obtained.

It is obvious that the end to be aimed at, is the restoration of these unfortunate people to a working capacity, both for their own self-respect and usefulness in life, and also to enable them to support themselves without relief from the State. The incurables in the main become a charge on the Rates.

H. After-Care Work.

This work is done largely by the Tuberculosis Medical Officers, Health Visitors, District Nursing Associations, through their nurses, the Public Assistance Committees and Private Agency, and is, I believe, satisfactorily performed, in as far as the present financial conditions will allow.

As in the past, many new houses have been obtained, employment of a suitable nature procured, clothing distributed, and help in many other directions given, in an endeavour to consolidate the treatment given in an Institution, and to help not only the patients but his relatives at the same time.

I. Public Health Act, 1925, Section 62.

No action has been taken under this Section, which deals with the compulsory removal to Hospital of advanced cases of Tuberculosis.

The year has shewn an expansion of existing services, and results are very similar in the main to those of last year. Next year with the opening of Markfield Sanatorium, and the consequent bringing together of all patients into one Institution, under splendid conditions, and with every modern form of treatment available, it is hoped that better results will be obtained, and that a Tuberculosis Scheme in its entirety may be evolved that will bear comparison with any in the Country.

N. A. COWARD,
Chief Tuberculosis Officer.

APPENDIX.

Summary of Institutions provided by the County Council.

(1). Poor Law Institutions :

Name of Institution.	No. of beds.	Description of Nursing Staff.
ASHBY-DE-LA-ZOUCH	57	Matron, 1 Head Nurse, 4 Assistant Nurses.
BILLESDON	—*	Matron, 1 Assistant Nurse.
BLABY	36	1 Head Nurse, 3 Assistant Nurses.
HINCKLEY	38	Matron, 4 Assistant Nurses.
LOUGHBOROUGH	100	1 Head Nurse, 10 Assistant Nurses.
LUTTERWORTH	15	Matron, 2 Assistant Nurses.
MARKET BOSWORTH	33	Matron, 1 Head Nurse, 1 Assistant Nurse.
MARKET HARBOROUGH	32	1 Head Nurse, 7 Assistant Nurses.
MELTON MOWBRAY	45	1 Head Nurse, 4 Assistant Nurses.
MOUNTSORREL....	50	1 Head Nurse, 2 Assistant Nurses.

* Used only for special service.

(2). Tuberculosis Institutions.

Name of Institution.	No. of beds.	Description of Nursing Staff.
MOWSLEY SANATORIUM .... (Females and Children)	62	Matron, 1 Sister and 2 Staff Nurses, 4 Probationer Nurses.
HINCKLEY RESIDENTIAL .... DISPENSARY (Males)	22	Matron, 1 Sister, 3 Probationer Nurses.
COALVILLE RESIDENTIAL .... DISPENSARY (Females)	8	Matron, 1 Staff Nurse.

(3). Infectious Diseases Hospitals (other than Small Pox).

Name of Institution.	No. of beds.	Description of Nursing Staff.
BLABY HOSPITAL	17	Matron, 2 Staff Nurses, 1 Assistant Nurse, 2 Probationer Nurses.
HINCKLEY HOSPITAL	23	Matron, 3 Nurses, 2 Assistant Nurses, 1 Probationer Nurse.
MELTON HOSPITAL	23	Matron, 2 Nurses, 2 Probationer Nurses.
LOUGHBOROUGH HOSPITAL	9	*1 Staff Nurse.
IBSTOCK HOSPITAL	12	*1 Staff Nurse.
SWANNINGTON HOSPITAL	4	*1 Staff Nurse.
MOIRA RESERVE HOSPITAL	6	*Caretakers.

* Additional Nursing Staff engaged as required.

(4). Small Pox Hospitals.

Name of Institution.	No. of beds.	Description of Nursing Staff.
SNARESTONE HOSPITAL	23	*Matron, 1 Staff Nurse.
SYSTON HOSPITAL	15	*1 Staff Sister.

* Additional Staff engaged as required.

T.B.1.—Return shewing the work of the Tuberculosis Dispensaries during the year 1931.

Diagnosis.	Pulmonary.				Non-Pulmonary.				Total.			
	Adults		Children		Adults		Children		Adults.		Children	
	M	F	M	F	M	F	M	F	M	F	M	F
A.—New Cases examined during the year (excluding contacts) :—												
(*a*) Definitely tuberculous	140	118	6	17	13	13	26	7	153	131	32	24
†(*b*) Diagnosis not completed	28	26	5	1	....	....	....	....	28	26	5	1
(*c*) Non-tuberculous	91	92	64	40	....	....	....	....	91	92	64	40
B.—Contacts examined during the year :—												
(*a*) Definitely tuberculous	12	6	6	4	....	1	2	2	12	7	8	6
†(*b*) Diagnosis not completed	5	9	7	6	....	....	....	....	5	9	7	6
(*c*) Non-tuberculous	30	36	60	38	....	....	....	....	30	36	60	38
C.—Cases written off the Dispensary Register as												
(*a*) Recovered	19	25	8	7	3	3	7	7	22	28	15	14
(*b*) Non-tuberculous	133	136	126	81	....	....	....	2	133	136	126	83
D.—Number of Persons on Dispensary Register on December 31st :—												
(*a*) Definitely tuberculous	613	599	138	129	68	59	107	59	685	658	245	188
(*b*) Diagnosis not completed	37	38	12	9	....	....	....	....	37	38	12	9

1. Number of cases on Dispensary Register on January 1st, 1931	1747	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years	42
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of"	107 * (5 N.F.T.)	4. Cases written off during the year as Dead (all causes)	164
5. Number of attendances at the Dispensary (including Contacts)	4586	6. Number of Insured Persons under Domiciliary Treatment on the 31st December....	234
7. Number of consultations with medical practitioners :— (*a*) Personal .... (*b*) Other	248 650	8. Number of visits by Tuberculosis Officers to homes (including personal consultations)	1121
9. Number of visits by Nurses or Health Visitors to homes for Dispensary purposes	5466 +5753 Nursing Visits	10. Number of :— (*a*) Specimens of sputum, etc., examined (*b*) X-ray examinations made .... in connexion with Dispensary work	1250 93
11. Number of "Recovered" cases restored to Dispensary Register, and included in A(*a*) and A(*b*) above	3	12. Number of "T.B. plus" cases on Dispensary Register on December 31st	462

* N.F.T. = "No further treatment necessary." The patients in this category have been quite well for a number of years, and will not visit the Tuberculosis Officer to be pronounced "Recovered."

† Remaining undiagnosed on 31/12/31.

T. B. 2.—SANATORIA, HOSPITALS AND OTHER RESIDENTIAL INSTITUTIONS FOR THE TREATMENT OF TUBERCULOSIS.

(including Observation Beds at Dispensaries).

Name and Situation of Institution. (1)	Class of Cases Treated.	Number of Beds available for patients sent by the Council. (2)	Number of patients sent by the Council who were under treatment on the 31st Dec., 1930 (3)	Number of patients sent by the Council during the year ended December 31st, 1931. (4)	Number of patients sent by the Council who were discharged or died in the Institution during the year ended 31st December, 1931. (5)	Total number of days during which the patients referred to in column 5 were resident in the Institution. (6)	Average number of days which the patients referred to in column 5 were resident in the Institution. (7)	Number of patients sent by the Council who were under treatment on the 31st December, 1931. (8)
Mowsley Sanatorium, Husbands Bosworth, Rugby	Female Adults P	50	21	88	86	10532	122*	23
	Children P		11	22	22	5008	227	11
	Female Adults S	12	6	9	11	2928	264**	4
	Children S		5	13	10	1442	144†	8
Coalville Residential Dispensary, Bakewell Street, Coalville.	Female Adults P	8	6	73	75	2105	28	4
	Girls P		—	8	7	202	29	1
Hinckley Residential Dispensary, Manor House, Bond St., Hinckley.	Male Adults P	15	13	64	63	4917	78	14
	Boys P		....	3	3	288	96	....
	Boys S	7	1	7	4	459	115	4
	Male Adults S		5	4	7	1144	163	2
Creaton Sanatorium, Northampton.	Male Adults P	25—30	14	78	66	9836	149***	26
	Male Adults S		1	....	....	....	....	1
T.B. Block, Isolation Hospital, Melton.	Male Adults AP	3	3	20	17	1305	77	6
	F'm'le Ad'ts AP	3	3	8	10	1253	125	1
Hospital of St. Cross, Rugby.	Female Adults S		....	2	....	....	....	2
	Male Adults S	?	7	2	5	1483	296	4
	Children S		....	2	2	552	276	....
National Children's Home Sanatorium, Harpenden.	Male Adults P	?	....	1	....	....	....	1
Papworth Hall Colony, Cambridge.	Male Adults P	?	1	....	1	286	286	....
Harlow Wood Orthopaedic Hospital, Notts.	Male Adults S		....	2	....	....	....	2
	F'male Adults S	?	1	....	1	271	271	....
	Children S		....	3	....	....	....	3
Royal Sea Bathing Hospital, Margate.	Female Adults	?	....	1	....	....	....	1
Heatherwood Hospital, Ascot.	Children S	?	1	....	....	....	....	1
Warwickshire Orthopaedic Hospital, Coleshill.	Children S	?	4	7	3	913	304	8
Holly Lane Hospital Sanatorium, Smethwick.	Male Adults P	?	....	4	4	426	107	....
Leysin, Switzerland.	Male Adults S	?	1	....	1	1156	1156	....
Totals		Average 144	104	421	398	46506	....	127

* 3 patients stayed less than 6 weeks—Average stay of remainder was 126 days.
** 1 „ „ „ „ „ „ „ 291 „
*** 2 „ „ „ „ „ „ „ 153 „
† 2 „ „ „ „ „ „ „ 177 „

P Pulmonary Tuberculosis.
S Surgical Tuberculosis.
AP Advanced Pul. Tuberculosis.

T.B. 3.—Return shewing the immediate results of treatment of patients discharged from Residential Institutions during the year 1931.

Classification on admission to Institution.		Condition at time of discharge.	Duration of Residential Treatment in the Institution.												TOTAL
			Under 3 months			3—6 months			6—12 months			More than 12 months			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS.	Class T.B. minus.	Quiescent	4	3	—	5	21	6	2	2	5	—	—	—	48
		Not quiescent	6	9	1	12	4	6	3	—	2	—	—	1	44
		Died in Institution	2	—	—	—	—	—	—	—	—	—	—	—	2
	Class T.B. plus Group 1.	Quiescent	1	—	—	1	1	—	1	—	—	—	—	—	4
		Not quiescent	2	—	—	3	—	—	3	—	—	—	—	—	8
		Died in Institution	2	—	—	—	—	—	1	—	—	—	—	—	3
	Class T.B. plus Group 2.	Quiescent	—	—	—	3	7	1	—	4	—	—	—	—	15
		Not quiescent	5	14	—	20	27	—	8	—	—	—	—	—	74
		Died in Institution	1	—	—	1	—	—	1	—	—	—	—	—	3
	Class T.B. plus Group 3.	Quiescent	—	—	—	—	—	—	—	—	—	—	—	—	—
		Not quiescent	3	4	—	3	3	—	4	2	1	—	—	—	20
		Died in Institution	1	2	—	1	1	—	—	1	—	—	—	—	6
															227

In addition 13 cases were admitted for observation purposes, and 7 of these were discharged as not Tubercular.

Non-Pulmonary Tuberculosis.

Bones and Joints :—	Quiescent	7
	Not Quiescent	18
	Died	2
Abdominal :—	Quiescent	1
	Not Quiescent	4
Other Organs :—	Quiescent	1
	Not Quiescent	2
Peripheral Glands :—	Quiescent	1
	Not Quiescent	3
		39

Note.—Cases transferred to other Institutions not counted as discharges.

T.B. 4. TUBERCULOSIS (Pulmonary and Other).

Year		Number of Notifications.			Number of Deaths.			Death Rate.		
		Urban	Rural	Whole County	Urban	Rural	Whole County	Urban	Rural	Whole County
1926	Lungs	155	193	348	79	117	196	0.68	0.71	0.70
	Other	42	47	89	21	31	52	0.18	0.19	0.19
1927	Lungs	179	216	395	82	123	205	0.69	0.74	0.72
	Other	49	52	101	30	40	70	0.25	0.24	0.25
1928	Lungs	167	183	350	78	125	203	0.65	0.73	0.70
	Other	57	60	117	26	28	54	0.22	0.16	0.19
1929	Lungs	146	216	362	101	138	239	0.83	0.79	0.81
	Other	40	55	95	17	38	55	0.14	0.22	0.19
1930	Lungs	136	172	308	81	102	183	0.67	0.59	0.62
	Other	39	44	83	14	25	39	0.12	0.14	0.13
Average for above 5 years.	Lungs	157	196	353	84	121	205	0.71	0.71	0.71
	Other	45	52	97	22	32	54	0.17	0.19	0.19
1931	Lungs	135	190	325	75	135	210	0.62	0.74	0.69
	Other	33	66	99	16	30	46	0.13	0.16	0.15

T.B. 5. TUBERCULOSIS :—Notifications and Deaths.
Shewing Age Periods.

AGE PERIODS.	NEW CASES.				DEATHS.*			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	Males	Females	Males	Females	Males	Females	Males	Females
0 to 1	....	....	1	2	....	....	2	3
1 to 5	4 [1]	2 [1]	9 [3]	9 [1]	2	2	11	6
5 to 15	11 [5]	18 [6]	27 [4]	8 [3]	1	1	3	4
15 to 25	47 [10]	55 [13]	8 [3]	9	23	27	5	1
25 to 45	65 [24]	66 [30]	10	10	45	50	3	4
45 to 65	35 [7]	17 [7]	5	1	32	20	3	1
65 and upwards	2 [1]	3	....	.... [1]	4	3	....	....
Total	164 [48]	161 [57]	60 [10]	39 [5]	107	103	27	19

NOTE.—The figures in small type show additional cases which came to the notice of the County M.O.H. other than by notification.

* 31 of the deaths were of non-notified diseases.

	District.	Estimated Population.	NOTIFICATION OF TUBERCULOSIS.				DEATHS FROM TUBERCULOSIS.			
			Pulmonary.	Attack Rate.	Non-Pulmonary.	Attack Rate.	Pulmonary.	Death Rate.	Non-Pulmonary.	Death Rate.
URBAN.	Ashby-de-la-Zouch	5,152	2	.39	2	.39	4	.78	1	.19
	Ashby Woulds	3,391	3	.89	....	....	1	.30	....	....
	Coalville	22,130	30	1.36	11	.50	16	.72	3	.14
	Hinckley	16,210	25	1.54	4	.25	11	.68	2	.12
	Loughborough	27,090	30	1.11	3	.11	9	.32	3	.11
	Market Harborough	9,274	8	.87	3	.32	6	.65	1	.11
	Melton Mowbray	10,390	14	1.35	3	.29	9	.87	....	....
	Oadby	4,714	2	.42	....	....	3	.64	1	.21
	Quorn	2,605	2	.77	1	.38	1	.38	....	....
	Shepshed	5,820	5	.86	3	.52	5	.86	....	....
	Thurmaston	3,794	....	....	3	.80	2	.53	3	.80
	Wigston Magna	11,330	14	1.24	....	....	8	.71	2	.18
	TOTALS	121,900	135	1.11	33	.26	75	.62	16	.13
RURAL.	Ashby-de-la-Zouch	17,530	18	1.03	6	.34	5	.29	6	.34
	Barrow-on-Soar	30,750	40	1.30	15	.49	27	.88	2	.07
	Belvoir	3,003	3	1.0	2	.67	7	2.30	....	....
	Billesdon	10,760	11	1.02	1	.10	3	.28	1	.10
	Blaby	33,240	33	1.00	10	3.01	25	.75	5	.15
	Castle Donington	6,544	9	1.38	1	.15	5	.76	1	.15
	Hallaton	1,613	....	....	....	....	....	....	....	....
	Hinckley	17,170	15	.87	11	.64	11	.64	5	.29
	Loughborough	4,836	4	.83	....	....	6	1.24	....	....
	Lutterworth	10,730	6	.56	4	.37	9	.84	1	.09
	Market Bosworth	23,780	29	1.26	7	.29	15	.63	5	.21
	Market Harborough	7,484	10	1.34	6	.80	8	1.07	3	.40
	Melton Mowbray	14,660	12	.82	3	.20	14	.95	1	.07
	TOTALS	182,100	190	1.04	66	.36	135	.74	30	.16

TABLE 1.—VITAL STATISTICS.

	Leicestershire County, 1931						England and Wales.
	Urban		Rural		Whole County		
Population	121,900		182,100		304,000		—
	No.	Rates	No.	Rates	No.	Rates	Rates
Births	1983	16.2	2977	16.3	4960	16.3	15.8
Deaths (all causes and all ages)	1315	10.79	2019	11.09	3334	10.97	12.3
,, (under one year)....	122	*62	173	*58	295	*60	*66
,, (Zymotic)	36	0.30	42	0.23	78	0.26	....
Deaths from :—							
Small Pox	1	0.01	1	0.01	2	0.01	0.00
Measles	14	0.11	17	0.09	31	0.10	0.08
Whooping Cough	4	0.03	7	0.04	11	0.04	0.06
Diphtheria	6	0.05	6	0.03	12	0.04	0.07
Scarlet Fever	....	....	2	0.01	2	0.01	0.01
Enteric Fever	....	....	....	....	....	....	0.01
**Diarrhœa (under 2 yrs.)	11	*5.55	9	*3.02	20	*4.03	*6.0
							Percentages of Total Deaths.
The seven chief causes of death were :—							Urban / Rural / Wh'le C'n'ty
Heart Disease	256	2.10	393	2.16	649	2.13	19.5 / 19.5 / 19.5
Cancer	180	1.48	237	1.30	417	1.37	13.7 / 11.7 / 12.5
Cerebral Hæmorrhage	112	0.92	119	0.65	231	0.76	8.5 / 5.9 / 6.9
Phthisis	75	0.62	135	0.74	210	0.69	5.7 / 6.7 / 6.3
Congenital Debility	65	0.53	104	0.57	169	0.56	4.9 / 5.2 / 5.1
Senility	62	0.51	91	0.50	153	0.50	4.7 / 4.5 / 4.6
Pneumonia	52	0.43	95	0.52	147	0.48	4.0 / 4.7 / 4.4

NOTES.— **The Rates are calculated per thousand of the population except where marked (*) which are per thousand registered births.*

***The Diarrhoea rates per thousand of the population are :— Urban* 0.09; *Rural* 0.05 ; *Whole County* 0.07.

TABLE 2.—BIRTH-RATE, DEATH-RATE AND ANALYSIS OF MORTALITY DURING THE YEAR 1931.

(Provisional figures).

(The mortality rates for England and Wales refer to the whole population but for London and the towns to civilians only).

	Rate per 1,000 Total Population.		Annual Death-rate per 1,000 Population.								Rate per 1,000 Live Births.			Percentage of Total Deaths.			
	Live Births.	Still-Births.	All Causes.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Influenza.	Violence.	Diarrhoea and Enteritis (under two years).	Total Deaths under One Year.	Certified by Registered Medical Practitioners.	Inquest Cases.	Certified by Coroner after P.M. No Inquest.	Uncertified Causes of Death.
England and Wales	15.8	0.67	12.3	0.01	0.00	0.08	0.01	0.06	0.07	0.36	0.54	6.0	66	91.18	6.17	1.70	0.95
107 County Boroughs and Great Towns, including London	16.0	0.67	12.3	0.00	0.00	0.10	0.01	0.07	0.08	0.33	0.48	8.4	71	91.43	5.84	2.24	0·49
159 Smaller Towns (1921 Adjusted Populations, 20,000—50,000	15.6	0.73	11.3	0.00	0.00	0.07	0.01	0.05	0.05	0.36	0.43	4.0	62	92.17	5.49	1.25	1.09
London	15.0	0.50	12.4	0.01	0.00	0.03	0.02	0.07	0.06	0.26	0.57	9.7	65	89.52	6.23	4.24	0.01

		Puerperal Sepsis	Others	Total
The maternal mortality rate for England and Wales are as follows :	per 1,000 Live Births	1.66	2.45	4.11
,, ,, ,, ,, ,, ,, ,, ,,	Total Births	1.59	2.35	3.95

TABLE 3.—NOTIFIABLE DISEASES.

DISEASE.	Total cases notified.	Cases admitted to Hospital.	Total Deaths
Notifications returned by the Registrar General :—			
Small-pox	754	737	2
Diphtheria	166	136	12
Erysipelas	85	....	....
Scarlet Fever	618	430	2
Enteric Fever	7	6	....
Puerperal Fever	11	9	5
Puerperal Pyrexia	11	2	....
Other diseases generally notifiable :—			
Ophthalmia Neonatorum	24	2	....
Tuberculosis— Lungs	322	....	210
,, — Other Forms	102	....	46
Pneumonia	290	....	147
Encephalitis Lethargica	11	4	9
Poliomyelitis	2	2	....
Malaria	1	....	....
Cerebro Spinal Fever	6	5	5
Diseases notified locally :—			
Chicken Pox	78	....	....
Measles	....	1	31
TOTALS	2487	1334	469

Figures supplied by the Registrar General are for the 52 weeks ending 2nd January, 1932.

TABLE 4.—CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE IN THE ADMINISTRATIVE COUNTY OF LEICESTER, 1931 (Civilians only).

CAUSES OF DEATH.	Sex.	AGGREGATE OF URBAN DISTRICTS. All Ages.	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—	AGGREGATE OF RURAL DISTRICTS. All Ages.	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—
ALL CAUSES	M	680	71	11	12	11	28	21	37	77	116	148	148	1029	83	18	19	27	55	55	62	98	146	217	249
	F	685	51	7	9	16	21	20	41	56	88	170	156	990	90	14	17	15	34	54	65	77	129	187	308
1. Typhoid and paratyphoid fevers	M	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2. Measles	M	7	2	2	2	1	....	....	....	....	....	....	....	9	2	4	2	1	....	....	....	....	....	....	....
	F	7	....	2	2	2	....	....	....	1	....	....	....	8	2	4	2	....	....	....	....	....	....	....	....
3. Scalet Fever	M	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....
4. Whooping Cough	M	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....
	F	4	4	....	....	....	....	....	....	....	....	....	....	6	5	1	....	....	....	....	....	....	....	....	....
5. Diphtheria	M	2	....	....	1	1	....	....	....	....	....	....	....	5	....	....	1	3	....	....	1	....	....	....	....
	F	4	....	....	1	2	....	....	1	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....
6. Influenza	M	16	2	....	1	....	3	....	1	4	2	2	1	28	2	1	....	....	1	1	4	5	3	5	6
	F	14	1	....	....	....	....	1	....	1	3	8	3	28	3	2	....	1	1	1	2	1	3	8	6
7. Encephalitis lethargica	M	1	....	....	....	....	1	....	....	....	....	....	....	6	....	1	1	....	2	....	1	....	....	1	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	1	....	....	....	1	....	....	....
8. Cerebro-spinal Fever	M	1	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	2	....	1	....	....	....	....	....
9. Tuberculosis of respiratory system	M	39	....	....	1	....	9	7	8	9	3	2	....	68	....	....	1	1	14	15	15	7	13	2	....
	F	36	....	....	....	....	12	5	8	7	2	2	....	67	....	....	2	1	15	18	19	6	5	1	....
10. Other Tuberculous diseases	M	10	1	3	3	....	1	1	....	1	....	....	....	17	1	1	4	3	4	1	1	2	*	....	....
	F	6	1	1	2	1	....	1	....	....	....	....	....	13	2	....	3	3	1	1	2	....	1	....	....
11. Syphilis	M	1	....	....	....	....	....	....	....	1	....	....	....	2	....	....	....	....	....	....	1	....	1	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	4	2	....	....	1	....	....	....	....	1	....	....
12. General paralysis of the insane, tabes dorsalis	M	5	....	....	....	....	....	....	1	1	2	1	....	2	....	....	....	....	....	....	1	....	1	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
13. Cancer, malignant disease	M	83	....	....	....	....	1	....	4	14	23	26	15	118	....	....	....	1	....	....	6	17	27	42	25
	F	97	....	....	....	....	....	1	11	8	29	32	16	119	....	....	....	....	....	2	7	16	21	33	40
14. Diabetes	M	14	....	....	....	....	1	....	1	2	2	5	3	18	....	....	....	....	1	1	2	3	1	5	5
	F	11	....	....	....	....	....	1	1	2	2	5	....	15	....	....	....	....	1	....	....	....	4	6	4
15. Cerebral Hæmorrhage, etc.	M	50	....	....	....	....	....	....	1	3	12	17	17	54	....	....	....	....	....	....	1	6	7	23	17
	F	62	....	....	....	....	....	....	1	4	11	20	26	65	....	....	....	....	....	....	....	7	14	16	28
16. Heart Disease	M	107	....	....	....	2	....	1	3	14	26	30	31	171	....	....	....	3	3	2	6	13	34	50	60
	F	149	....	....	....	2	4	4	8	14	23	54	40	222	....	....	....	1	3	9	8	10	33	61	97
17. Aneurysm	M	4	....	....	....	....	....	....	....	1	1	1	1	3	....	....	....	....	....	....	....	....	....	1	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	2	1
18. Other Circulatory diseases	M	27	....	....	....	....	....	....	1	1	6	9	10	47	....	....	....	....	....	....	....	....	1	3	12
	F	19	....	....	....	....	....	....	....	....	1	11	7	46	1	....	....	....	....	....	1	1	1	4	11	27
19. Bronchitis	M	38	4	....	1	....	....	....	1	3	2	11	16	34	3	....	....	....	....	1	1	1	....	4	7
	F	34	3	1	1	1	....	....	....	....	3	7	18	37	3	....	....	....	1	1	1	1	1	4	18
20. Pneumonia (all forms)	M	26	4	2	....	....	1	1	4	4	2	5	3	66	8	6	3	2	1	5	6	9	7	11	8
	F	26	7	1	1	1	....	2	1	3	1	6	3	29	7	3	3	....	1	....	2	1	4	7	1
21. Other Respiratory diseases	M	2	....	....	....	....	....	....	....	....	....	1	1	12	1	....	....	....	....	2	2	1	2	....	4
	F	1	....	....	....	....	....	....	....	....	....	1	....	6	....	....	....	....	....	....	1	1	2	1	1
22. Peptic Ulcer	M	12	....	....	....	....	....	1	1	4	3	3	....	11	....	....	....	....	....	2	....	3	4	2	....
	F	2	....	....	....	....	....	....	....	....	....	1	1	7	....	....	....	....	....	....	....	4	1	2	....
23. Diarrhœa, etc.	M	10	7	....	....	....	....	1	....	....	1	1	....	11	3	....	1	2	....	1	....	1	2	....	2
	F	4	4	....	....	....	....	....	....	....	....	....	....	9	6	....	....	....	....	....	....	....	1	....	1
24. Appendicitis	M	6	....	....	....	2	1	....	....	2	1	....	....	14	....	....	1	2	4	1	2	2	1	....	....
	F	5	....	....	....	1	....	....	....	3	....	1	....	6	....	1	1	1	1	1	....	....	....	1	....
25. Cirrhosis of liver	M	1	....	....	....	....	....	....	1	....	1	....	1	5	....	....	....	....	....	....	1	....	3	1	....
	F	2	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	1	....	....	1
26. Other diseases of liver, etc.	M	3	....	....	....	1	....	....	1	....	....	1	....	4	....	....	....	....	....	....	1	1	2	....	....
	F	3	....	....	....	....	....	....	....	....	....	2	1	5	....	....	....	....	....	....	....	1	....	3	1
27. Other digestive diseases	M	9	1	1	....	....	....	....	1	....	1	2	4	22	1	1	....	2	....	3	1	1	1	6	6
	F	9	....	....	....	1	....	....	....	2	2	2	2	16	2	1	....	1	....	1	....	1	3	4	3
28. Acute & Chronic Nephritis	M	21	....	....	....	....	1	1	1	2	5	7	4	30	....	....	....	....	2	....	1	7	5	12	3
	F	9	....	....	....	....	....	1	....	2	2	4	....	22	....	....	....	....	....	....	....	5	4	5	8
29. Puerperal sepsis	F	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....
		3	....	....	....	....	2	1	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....
30. Other Puerperal causes	F	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		3	....	....	....	....	....	....	3	....	....	....	....	9	....	....	....	....	....	7	2	....	....	....	....
31. Congenital debility, premature birth, malformations, &c.	M	37	37	....	....	....	....	....	....	....	....	....	....	52	51	1	....	....	....	1	....	....	....	....	....
	F	28	28	....	....	....	....	....	....	....	....	....	....	52	50	1	....	....	1	....	....	....	....	....	....
32. Senility	M	29	....	....	....	....	....	....	....	....	....	4	25	37	....	....	....	....	....	....	....	....	....	2	35
	F	33	....	....	....	....	....	....	....	....	....	7	26	54	....	....	....	....	....	....	....	....	....	5	49
33. Suicide	M	12	....	....	....	....	1	2	2	2	4	1	....	22	....	....	....	....	2	3	1	6	6	3	1
	F	1	....	....	....	....	1	....	....	....	....	....	....	9	....	....	....	....	1	2	3	2	1	....	....
34. Other violence	M	40	3	....	1	2	3	4	4	6	6	4	7	59	2	1	6	3	12	11	4	7	5	3	5
	F	12	....	....	1	1	....	1	....	1	2	3	3	21	2	....	....	....	1	2	4	....	2	3	7
35. Other defined diseases	M	61	10	3	2	1	5	2	1	3	11	14	9	93	8	2	....	3	8	6	4	5	11	24	22
	F	48	3	1	1	4	2	2	7	8	6	7	7	96	5	1	4	2	5	6	12	18	24	13	6
36. Causes ill-defined, or unknown	M	6	....	....	....	....	....	....	....	....	3	2	1	6	....	....	....	....	....	....	....	1	1	3	1
	F	3	....	1	....	....	....	....	....	....	....	....	2	6	....	....	1	....	....	....	1	....	1	2	2
SPECIAL CAUSES INCLUDED IN No. 35 ABOVE:																									
Small-pox	M	1	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	....	....	....	....	....	....	....	....
	F	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

TABLE 5.

CAUSES OF DEATH IN ADMINISTRATIVE AREAS.

Causes of Death.	Loughborough M.B.		Ashby-de-la-Zouch U.D.		Ashby Woulds U.D.		Coalville U.D.		Hinckley U.D.		Market Harborough U.D.		Melton Mowbray U.D.		Quorndon U.D.		Shepshed U.D.		Thurmaston U.D.		Wigston Magna U.D.		Oadby U.D.		Ashby-de-la-Zouch R.D.		Barrow-upon-Soar R.D.		Belvoir R.D.		Billesdon R.D.		Blaby R.D.		Castle Donington R.D.		Hallaton R.D.		Hinckley R.D.		Loughborough R.D.		Lutterworth R.D.		Market Bosworth R.D.		Market Harborough R.D.		Melton Mowbray R.D.		Totals U.D.'s		Totals R.D.'s		Totals Whole County.
Civilians only.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES	135	142	40	27	16	12	141	115	81	90	35	33	90	59	13	18	32	27	24	23	51	48	18	23	94	88	176	182	20	15	64	68	150	149	41	44	9	9	96	69	32	33	70	77	147	133	40	57	90	96	680	635	1029	990	3334
1 Typhoid and paratyphoid fevers	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2 Measles	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31
3 Scarlet fever	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2
4 Whooping cough	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11
5 Diphtheria	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12
6 Influenza	4	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	86
7 Encephalitis lethargica	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9
8 Cerebro-spinal fever	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3
9 Tuberculosis of respiratory system	8	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	230
10 Other tuberculous diseases	2	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	46
11 Syphilis	1	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
12 General paralysis of the insane, tabes dorsalis	3	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
13 Cancer, malignant disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	617
14 Diabetes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	58
15 Cerebral haemorrhage, &c.	12	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	231
16 Heart disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	649
17 Aneurysm	1	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9
18 Other circulatory diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	139
19 Bronchitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	143
20 Pneumonia (all forms)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	147
21 Other respiratory diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21
22 Peptic ulcer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32
23 Diarrhoea, &c. (under 2 years)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20
24 Appendicitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31
25 Cirrhosis of liver	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10
26 Other diseases of liver, etc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15
27 Other digestive diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	70
28 Acute and chronic nephritis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	82
29 Puerperal sepsis	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5
30 Other puerperal causes	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
31 Congenital debility, premature birth, malformations, etc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	189
32 Senility	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	153
33 Suicide	[illegible]	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	44
34 Other violence	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	132
35 Other defined diseases	16	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	298
36 Causes ill-defined or unknown	2	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23
Special Causes (included in No. 35 above):																																																								
Small-pox	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	...	1	...	2
Poliomyelitis	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	...	...	...	...	...
Polioencephalitis	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	...	...	...	...	...
Deaths of Infants under 1 year — Total	11	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71	51	83	90	295
Legitimate	9	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	65	49	81	84	279
Illegitimate	2	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	2	2	6	16
Live Births: — Total	231	213	36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1047	936	1520	1457	4960
Legitimate	222	207	35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1013	898	1463	1392	4766
Illegitimate	9	6	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34	38	57	65	194
Still Births: — Total	11	8	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	57	45	57	60	219
Legitimate	11	8	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	57	45	55	57	214
Illegitimate	...	...	...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	...	...	2	3	5
Population	27090		5152		3391		22130		16210		9274		10360		2605		5820		3794		11150		4718		17530		30750		3003		10760		33240		6344		1613		17170		4836		10730		23780		7484		14060		121900		182100		304000

Population for Birth Rate.—Wigston Magna U.D. 11,840. Total Urban 122,110. Total County 304,210.