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STAFFORDSHIRE COUNTY COUNCIL

Annual Report

OF THE

MEDICAL OFFICER *of* HEALTH

W. D. CARRUTHERS, M.B., D.P.H.,

For the Year **1933**

STAFFORD:
Printed by J. & C. MORT, LTD., 39 Greengate Street
1934

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Annual Report of the Medical Officer of Health

PRELIMINARY NOTE.

In preparing the Annual Report for 1933 the suggestions of the Ministry of Health have been closely followed. The Report is called an ordinary Report, that is, it does not contain such information as is required for a Survey Report which has now to be drawn up every five years, and for this reason it should be read in conjunction with the last Survey Report which was made in 1930.

During the year 1933 steady progress has taken place in all sections of the Public Health Department. The vital statistics are favourable and it will be noted that again this year the birth-rate is higher and the death-rate lower than that of England and Wales as a whole. No serious outbreak of infectious disease has been noted except influenza, which caused twice as many deaths compared with last year. The numbers recorded under the chief causes of death, except for influenza, are very similar to the previous year.

Owing to the Wolverhampton Extension Act, which came into operation in April, the Administrative County loses 2,008 acres with an estimated population of 5,410.

The Report gives a most interesting account of the work of the County Bacteriological and County Chemical Laboratories, and in both an increase of work is recorded. The County Bacteriological Laboratory now takes its full share in the prevention of disease, and recently it has become responsible for both the bacteriological and pathological work of the Staffordshire General Infirmary. It will be noted how important a part it plays in safeguarding the purity of the milk supply and during the year it has been active in assisting District Councils in examining their water supplies. Another branch of work which at times taxes the resources of the Department is medico-legal work, which is chiefly sent by coroners. Full use continues to be made of the Laboratory by the medical practitioners of the County, and, from the various sections of work I have referred to, it is evident how a modern Bacteriological Laboratory is becoming of ever increasing value to the community.

The Chemical Laboratory, too, has well maintained its usefulness as a safeguarder of the public health. The Report shows, in addition to the large number of specimens examined under the Foods and Drugs Acts, how much it is used in connection with water supplies and for checking the efficiency of sewage disposal plants. This Laboratory, also, has taken an equal share with the Bacteriological Laboratory in the medico-legal investigations, which often entail detailed and extensive chemical analysis.

In the appropriate sections of the Report a full account will be found of the maternity and child welfare work of the County Council; the steps that have been taken to improve the rivers and streams; and, lastly, the measures undertaken by District Councils to secure better water supplies and provide more efficient arrangements for sewerage and sewage disposal in their areas. It will be observed that a large section of the Report deals with both water supplies and sewage disposal, and I draw special attention to this for it indicates how active many of the Sanitary Authorities have been, and, at the same time, the amount of work which is still necessary.

Public Health Officers.

(*a*) *Medical.*

County Medical Officer of Health	1
Deputy County Medical Officer of Health	1
School, Maternity and Child Welfare and Ante-natal Work :	
Senior Assistant Medical Officer (Whole-time) ..	1
Assistant Medical Officers (Whole-time)	15
,, ,, Officer (Part-time)	1
County Ophthalmic Surgeon (Whole-time) ..	1
County Dental Officer (Whole-time)	1
Assistant Dental Surgeons (Whole-time)	12
General Practitioners (Maternity and Child Welfare only—one Centre per week)	2
Consultants under the Puerperal Fever and Puerperal Pyrexia Regulations and Consulting Obstetricians ..	5
Venereal Disease Medical Officer (North Staffs.) ..	1
District Medical Officers under Poor Law Acts ..	81
Public Vaccinators	77
County Bacteriological and Pathological Laboratory :	
Medical Staff	2
Assistants and Staff	8
Standon Hall Orthopaedic Hospital :	
Medical Staff (House Surgeon)	1
,, ,, (Visiting Surgeons)	2
Nursing Staff	39
Teaching Staff	3

(*b*) *Others.*

Veterinary Surgeons (Part-time)	19
County Chemical Laboratory :	
Analyst	1
Assistants and Staff	6
Sanitary Inspector and Assistant	2

Food and Drugs Inspectors	7
Vaccination Officers	33
School, Maternity and Child Welfare and Ante-natal Work and Tuberculosis Health Visiting :	
Inspectors of Health Visitors (also act as Inspectors of Midwives)	3
Health Visitor Lecturers on Mothercraft ..	2
Health Visitors (Whole-time)	36
,, ,, (Part-time)	45
School Nurses (Whole-time)	8
Dental Nurses	13

CHANGES DURING 1933.

(See list of Officers in 1930 Annual Report, and List of Alterations, 1931–32, in 1932 Annual Report.)

Appointment of Deputy County Medical Officer of Health :—J. S. Bradshaw, M.B., Ch.B., D.P.H. (1.4.33).

General Practitioners :—

E. W. Strange, M.D. Engagement as Medical Officer of an Infant Welfare Centre terminated 22.3.33 consequent upon the extension of the County Borough of Wolverhampton.

Inspectors of Midwives and Health Visitors :—

Miss G. M. Hardy (deceased). Successor, Miss M. E. Sanderson (Trained Nurse ; Certificate of Central Midwives' Board ; Certificate of General Nursing Council), commencing 1.2.34.

Health Visitors :—

Miss A. E. Cooper—appointment terminated 31.3.33 consequent upon the extension of the County Borough of Wolverhampton.

Public Vaccinators :—

District No. 6 : J. Chalmers, M.B., Ch.B., D.P.H., *vice* F. A. Simpson (16.6.33).

District No. 14 : T. H. Duncan, M.B., Ch.B., *vice* A. B. Gittens (1.3.33).

District No. 30 : R. J. McClosky, L.R.C.P.I. and L.M., L.R.C.S.I. and L.M., *vice* N. M. Miller (1.4.33).

District No. 33: G. E. Elkington, M.B., Ch.B., F.R.C.S., L.R.C.P., *vice* E. A. Elkington (1.1.33).

District No. 36: J. R. O'Donnell, M.B., Ch.B., B.A.O., *vice* J. F. Fernie (1.10.33).

District No. 43: F. J. Good, M.R.C.S., L.R.C.P., *vice* R. C. Davison (30.11.33).

The above-named also took over the offices of District Medical Officer.

STAFFORDSHIRE COUNTY COUNCIL

Annual Report of the Medical Officer of Health

Summary of Statistics.

1.—GENERAL STATISTICS.

Area of Administrative County	(acres)	685,509
Population of Area (as constituted after changes in boundary)	(1933)	713,540
Population (for Birth and Death Rates) ..	(1933)	715,130
Rateable Value at 1st April, 1933.. ..		£2,574,362
Estimated net product of a penny rate 1933-34		£9,882

2.—EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

	Total	M.	F.	
Live Births (Legitimate) ..	11,075	5,664	5,411	Birth-rate 16.0
Live Births (Illegitimate) ..	349	163	186	
Stillbirths	536	291	245	Rate per 1,000 total births 44.8
Deaths	8,113	4,213	3,900	Death-rate 11.3

Deaths from Puerperal Causes :—

	Deaths.	Rate per 1,000 total births.
Puerperal sepsis ..	19	1.6
Other puerperal causes	18	1.5
Total	37	3.1

Death Rate of Infants under one year of age :—

All infants per 1,000 live births	69
Legitimate infants per 1,000 legitimate live births	68
Illegitimate infants per 1,000 illegitimate live births..	106

Deaths from Measles (all ages)	58
„ „ Whooping Cough (all ages)	31
„ „ Diarrhoea (under two years of age) ..	86

AREA AND POPULATION.

I have again to record an alteration both in area and population of the Administrative County. By a further extension of the County Borough of Wolverhampton, which took effect on the 1st April, 1933, the area of the County was reduced by 2,008 acres, and by an estimated population, based on the 1931 Census figures, of 5,410.

The following are the details of the aggregate figures :—

	Area in Acres.	Estimated Population.
WEDNESFIELD U.D. (Part) ..	24 ..	224
CANNOCK R.D. :—		
Bushbury Parish (Part) ..	1,041 ..	816
SEISDON R.D. :—		
Upper Penn Parish (Part) ..	943 ..	4,370
	2,008	5,410

As all deaths of persons serving with H.M. Forces are now allocated to their area of residence in the same manner as civilian deaths, the estimates of resident populations as supplied by the Registrar General have been used for the calculation of birth and death rates.

The Registrar General supplies a "standardising factor" for correcting death rates in districts with a population of over 10,000. The rates produced by this method are strictly comparable, the factor being based on the age and sex of the population as indicated at the last census. The standardised death rates in those areas in which this method can be applied are shown in the Tables at the end of the Report.

In the following table the census population of the administrative county for 1931, and the estimated population to the middle of 1933, are set forth :—

	Census, 1931	Estimated Population as at middle of 1933 of area as constituted at 31.12.33.
Urban	490,632	495,450
Rural	212,622	218,090
Total	*703,254	713,540

* The census population of the Administrative County as constituted at the 31st December, 1933, is less than this figure by about 2,893. The estimated population in the portion of the County area transferred to the County Borough of Wolverhampton on the 1st April, 1933, was 5,410, but this decrease was partly neutralized by the fact that on the 1st April, 1932, a portion of the County of Warwick, with an estimated population of 2,517, was added to the Administrative County.

Births.

The live births registered in the Administrative County numbered 11,424, compared with 12,335 the previous year, the number in the Urban Districts being 8,081 and in the Rural Districts 3,343, compared with 8,740 and 3,595 respectively.

Stillbirths. There were 536 stillbirths registered during the year, of which 381 were in urban and 155 in rural districts. The stillbirth rate per thousand of the population for the combined urban and rural districts is 0·75. During the same period the rate for England and Wales was 0·62 and for the large towns in England 0·67.

The mean birth-rates in the whole Administrative County and in the urban and rural districts respectively for nine quinquennial periods and for the past year are shown in the following table, in which corresponding rates in England and Wales are included. It will be noted from a perusal of this table that the birth-rate has been steadily declining both in the County and throughout England and Wales as a whole, for the last ten years.

DISTRICTS	Live Birth-Rate per 1,000 of Population									
	5 yrs 1889–1893	5 yrs 1894–1898	5 yrs 1899–1903	5 yrs 1904–1908	5 yrs 1909–1913	5 yrs 1914–1918	5 yrs 1919–1923	5 yrs 1924–1928	5 yrs 1929–1933	1933
Staffordshire — Combined Urban and Rural ..	33.6	33.2	32.5	30.3	27.8	24.0	24.1	20.2	17.6	16.0
Staffordshire — Urban	35.5	34.7	33.6	31.5	29.2	25.0	25.0	20.7	18.1	16.3
Staffordshire — Rural	30.2	30.5	30.2	27.0	24.4	21.6	22.0	19.0	16.6	15.2
England and Wales ..	30.8	29.7	28.7	26.9	24.5	20.4	21.3	17.8	15.6	14.4
Large Towns in England	31.5	30.7	29.7	27.8	25.2	*20.9	22.0	18.2	15.8	14.4

* 4 years.

Deaths.

The number of deaths in the Administrative County amounted to 8,113, the number in the urban districts being 5,697 and in the rural districts 2,416.

In the following table comparative rates for nine quinquennial periods and for the past year are given, together with corresponding figures for the country as a whole, and for large and small towns throughout England.

DISTRICTS		Death-Rate per 1,000 of Population									
		5 yrs 1889–1893	5 yrs 1894–1898	5 yrs 1899–1903	5 yrs 1904–1908	5 yrs 1909–1913	5 yrs 1914–1918	5 yrs 1919–1923	5 yrs 1924–1928	5 yrs 1929–1933	1933
Staffordshire	Combined Urban and Rural ..	18.1	16.9	16.1	14.6	14.1	15.0	12.3	11.4	11.6	11.3
	Urban	18.9	17.5	16.6	15.1	14.7	15.5	12.6	11.5	11.8	11.5
	Rural	16.8	15.7	15.1	13.4	12.7	13.8	11.6	11.2	11.2	11.0
England and Wales ..		19.1	17.4	16.9	15.3	13.9	15.2	12.5	12.0	12.3	12.3
Large Towns		21.0	19.0	18.2	15.8	14.3	15.5	12.6	12.0	12.3	12.2
Smaller Towns ..		17.6	15.9	15.7	14.9	13.6	14.1	11.5	11.0	11.2	11.0

The death-rate per thousand of the population for this year is 11·3, whilst for England and Wales it is 12·3. On referring to this table, which shows the death-rates of 45 years, it will be observed that the death-rate is practically the same as that for last year and is favourable as compared with England and Wales as a whole.

In the following table I have shown the chief causes of death for the last ten years, the numbers given for 1933 being approximately 68·7 per cent. of the total deaths :—

Table Showing Chief Causes of Death.

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
*Zymotic Diseases ..	540	271	604	337	386	242	376	301	281	311	231
Influenza	166	427	325	185	532	116	570	131	311	221	424
Tuberculosis of Respiratory System ..	497	497	530	497	465	423	492	476	497	412	469
Tuberculosis, other forms	172	154	143	139	156	99	100	104	112	113	87
Cancer, Malignant Disease	716	639	790	785	803	851	899	912	897	915	896
Cerebral Hæmorrhage	485	487	542	464	465	430	462	431	477	510	460
Heart Disease ..	900	968	1053	1054	1047	1239	1448	1366	1500	1561	1579
Bronchitis	644	687	648	544	650	395	622	352	485	369	409
Pneumonia	706	788	809	660	865	563	933	588	630	570	607
Congenital Debility, &c.	482	551	521	496	453	428	420	409	459	443	413

*Typhoid and Paratyphoid Fevers, Measles, Small-pox, Scarlet Fever, Whooping Cough, Diphtheria and Diarrhæa.

The chief cause of death in 1933, as in previous years, recorded in the table, is heart disease. On reference to this it will be observed that during the last eleven years there has been a progressive increase in the number of deaths from heart disease, and whilst in 1923 there were 900, in 1933, 1,579 deaths were certified from this cause.

It will be noted that there is a big jump in the figures for influenzal deaths and some increase in the deaths from bronchitis and pneumonia.

The following table, which is introduced for the first time this year, shows the number of deaths in different age groups from various causes during 1933. It is interesting to compare this with the previous table showing the principal causes of death; for instance, the majority of persons who died from influenza were over the age of 35, whereas pneumonia caused 126 deaths in children under one year of age.

Heart disease was the chief cause of death from 45 upwards, but most of the deaths occurred over 65 years of age.

The total number of deaths from cancer was slightly less in 1933 than in 1932, but throughout the last ten years no continuous decrease has been noted in deaths from this disease. In the age group table it will be seen that from the age of 55 to 75 the greatest proportion of cancer deaths occur, but that from 75 upwards the number drops considerably.

The incidence and death-rate of tuberculosis of the respiratory system is given under the appropriate heading at the end of this Report.

Mortality at Different Ages from various Causes.

The following table gives the mortality from various causes in different age groups in the Administrative County during 1933 :—

Causes of Death	Age at Death											
	Under 1	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 55	55 and under 65	65 and under 75	75 and over	Total
1. Typhoid and Para-typhoid Fevers	..	..	..	..	..	1	..	..	..	1	..	2
2. Measles	11	13	27	7	..	..	..	..	..	..	..	58
3. Scarlet Fever ..	..	1	..	6	..	..	..	..	..	..	..	7
4. Whooping Cough ..	13	7	11	..	..	..	..	..	..	..	..	31
5. Diphtheria	3	1	6	7	2	..	..	1	..	..	..	20
6. Influenza	13	13	5	3	12	30	54	65	72	82	75	424
7. Encephalitis Lethargica	..	..	..	..	3	2	..	4	1	..	..	10
8. Cerebro-spinal Fever	4	2	..	3	2	..	..	..	..	..	..	11
9. Tuberculosis of Respiratory System	1	2	4	10	129	114	84	75	35	14	1	469
10. Other Tuberculous Diseases	6	15	8	20	14	9	6	2	1	5	1	87
11. Syphilis	3	..	..	..	1	1	..	2	6	3	1	17
12. General Paralysis of the Insane, Tabes Dorsalis	..	..	..	..	..	2	2	4	6	2	2	18
13. Cancer, Malignant Disease	1	..	1	10	4	20	49	137	264	283	127	896
14. Diabetes	..	..	..	..	1	3	2	6	17	49	13	91
15. Cerebral Hæmorrhage, &c.	..	..	..	..	..	5	7	42	74	186	146	460
16. Heart Disease ..	..	..	1	12	28	39	42	125	278	531	523	1579
17. Aneurysm	..	..	..	..	1	1	1	4	7	2	..	16
18. Other Circulatory Diseases	..	1	..	..	..	..	1	7	44	115	167	335
19. Bronchitis	50	9	4	2	5	7	4	27	55	77	169	409
20. Pneumonia (all forms)	126	67	44	31	22	33	47	64	69	59	45	607
21. Other Respiratory Diseases	6	3	2	3	7	2	5	13	6	14	9	70
22. Peptic Ulcer ..	..	..	..	..	..	7	11	20	9	10	4	61
23. Diarrhœa, &c. ..	75	11	7	4	1	..	2	1	3	5	4	113
24. Appendicitis ..	..	..	4	10	7	3	2	10	7	6	..	49
25. Cirrhosis of Liver ..	..	..	..	..	..	3	..	4	10	4	2	23
26. Other Diseases of Liver, &c.	..	..	..	1	1	..	3	2	7	11	7	32
27. Other Digestive Diseases	14	2	5	9	5	11	8	17	25	27	24	147
28. Acute and Chronic Nephritis	1	..	1	6	8	13	12	26	49	54	41	211
29. Puerperal Sepsis ..	..	..	..	..	8	4	7	..	..	..	..	19
30. Other Puerperal Causes	..	..	..	..	3	8	6	1	..	..	..	18
31. Congenital Debility, Premature Birth, Malformations,&c.	403	2	3	3	2	..	..	..	..	..	..	413
32. Senility	..	..	..	..	..	..	..	..	..	45	315	360
33. Suicide	..	..	..	..	8	19	18	12	20	15	2	94
34. Other Violence ..	17	6	19	45	42	54	27	31	23	24	38	326
35. Other Defined Diseases	49	12	12	52	47	49	48	68	86	123	70	616
36. Causes ill-defined or unknown	..	..	..	..	..	..	..	2	2	7	3	14
Totals	796	167	164	244	363	440	448	772	1176	1754	1789	8113

Special causes included in No. 35 above.

Poliomyelitis ..	..	..	..	..	3	1	..	..	..	..	..	4
Polioencephalitis ..	..	1	..	..	1	..	..	..	..	..	..	2

The following table has been prepared covering the last 14 years in which the percentage of deaths under 45 years of age is worked out in relation to the total deaths at all ages, and in the table the sexes are divided. It will be observed that though the percentage of deaths under 45 in females is slightly more than the figure for 1932, it is still further reduced in males.

The figures shown in this table for this county confirm the statement often made that the expectation of life is being gradually extended.

DEATHS UNDER 45 YEARS OF AGE—MALE AND FEMALE—SHEWING PERCENTAGE OF TOTAL DEATHS (ALL AGES).

YEAR	MALE			FEMALE		
	Deaths all ages	Deaths under 45	% of Total	Deaths all ages	Deaths under 45	% of Total
1920	4626	2295	49.61	4084	1935	47.38
1921	4545	2120	46.64	3985	1759	44.14
1922	4534	1943	42.85	4191	1793	42.78
1923	4197	1816	43.27	3788	1556	41.08
1924	4332	1795	41.43	3906	1520	38.91
1925	4556	1919	42.12	4161	1724	41.43
1926	4148	1658	39.97	3808	1441	37.84
1927	4458	1766	39.61	4082	1564	38.31
1928	3965	1449	36.54	3563	1180	33.12
1929	4813	1827	37.96	4293	1453	33.84
1930	4100	1473	35.92	3672	1211	32.98
1931	4376	1472	33.64	3933	1272	32.34
1932	4190	1425	34.01	3824	1174	30.70
1933	4213	1415	33·59	3900	1207	30·95

After the age of 45, heart disease becomes increasingly, year by year, the most important cause of death, and next to it is cancer. Bronchitis and pneumonia, as the statistics show, are also more fatal, but on the other hand tuberculosis has declined in recent years as a cause of death. With this in mind, and the information disclosed in the table, which shows that there is a tendency for the percentage of deaths under 45 to be smaller each year, it is obvious how important all measures are which will tend to reduce mortality from these diseases.

GENERAL PROVISION OF HEALTH SERVICES IN THE AREA.

Local Government Act, 1929.

In my Report for 1931 I gave a full account of the proposals for dealing with the sick in the Administrative County. No alterations in this scheme have taken place, and plans are now being prepared for the conversion of the Newcastle and Wordsley Institutions into Hospitals of 400 beds each.

Poor Law Medical Out-Relief.

Since the transfer of this service, under the Local Government Act, 1929, to the County Council, its functions have been co-ordinated with the general Health Services of the County. Persons in need of treatment whose cases are referred in the first place to the Public Assistance Department, and who would formerly have been dealt with under the Poor Law Acts, are now referred, wherever possible, to the appropriate Committee of the County Council. Children form the majority of these cases, of course, and many of them have been dealt with during last year under the Council's Orthopaedic Scheme, and by the Education Committee.

Institutional Provision for the Care of Mental Defectives.

There has been no alteration in the accommodation for Mental Defectives during the year, and 387 cases are in Institutions.

NURSING IN THE HOME.

(*a*) *General Nursing.*

During the year the County Nursing Association have formed two new local Nursing Associations, one for Coseley and the other for Stretton, near Burton-on-Trent, and have affiliated the Wolstanton Nursing Association, which was already in existence independently. The only other changes in the arrangements detailed in last year's report have been the amalgamation of the Haughton and Seighford Nursing Associations, which was mainly due to geographical advantages and the fact that the combined districts could support a Queen's Nurse, and, consequent upon the extension of the County Borough of Wolverhampton, the Bushbury Nursing Association ceased to serve any portion of the Administrative County. There are now 82 local Nursing Associations affiliated to the County Nursing Association, and 10 who work independently. Seventy-one of these Associations undertake midwifery in addition to general nursing.

(*b*) *Infectious Diseases.*

In the County Health Visiting Area, arrangements were made several years ago whereby local Medical Officers of Health, in the event of epidemics of measles or diarrhoea, could obtain the services of trained nurses to look after the cases in their own homes. Little advantage, however, has been taken of this arrangement, and during 1933 no application was received from any of the District Medical Officers of Health.

MIDWIVES.

The work undertaken under the Midwives Acts, 1902, 1918 and 1926, relates to the whole of the administrative county, with an estimated population at the middle of the year of 713,540, whilst the health visiting work is limited to the special health

visiting area of the County which now has a population of 306,444, as estimated by the Registrar General.

287 midwives notified their intention to practise during the year. Of these 282 were trained and 5 were *bona-fide* midwives. There is an increase since last year of 20 trained midwives. In addition to these, 92 midwives residing in County Boroughs and adjoining counties have also notified their intention to practise within the Administrative County, compared with 91 last year, but only 61 of these actually practised.

The ages of midwives who were practising in the Administrative County in the thirteen years, 1921–1933, are indicated in groups in the following table, from which it will be observed that the majority are under 45 years of age :—

Year	21 to 44			45 to 64			65 & upwards			Totals.		
	North	Central	South	North	Central	South	North	Central	South	North	Central	South
1921..	58	52	60	28	22	23	21	21	16	107	95	99
1922..	51	64	68	21	21	21	14	16	14	86	101	103
1923..	55	59	66	21	27	18	14	16	11	90	102	95
1924..	50	56	62	22	26	19	14	11	12	86	93	93
1925..	54	64	63	27	24	23	13	8	10	94	96	96
1926..	50	63	74	26	26	15	13	9	9	89	98	98
1927..	55	57	72	26	30	15	6	5	8	87	92	95
1928..	58	60	79	24	29	13	3	5	5	85	94	97
1929..	50	59	79	28	27	17	4	6	5	82	92	101
1930..	54	63	65	26	23	20	4	5	5	84	91	90
1931..	56	59	78	27	26	20	4	4	3	87	89	101
1932..	53	57	59	27	28	34	4	2	3	84	87	96
1933..	57	63	70	30	31	31	2	1	2	89	95	103

The number of cases attended by midwives during 1933 in the three areas of the County are as follows :—

	No. of Midwives	Births attended	Total Births. (Live and Stillborn)	Percentage attended by Midwives	Mean number of cases attended per Midwife
North ..	89	1949	2774	70.3	21.9
Central ..	95	2498	3388	73.7	26.3
South ..	103	4392	5798	75.8	42.6

These do not include cases taken by midwives in their capacity as maternity nurses.

The total number of cases attended by midwives, doctors not having been engaged for the confinements, in the Administrative County during 1933, was 8,839, the number of live births registered being 11,424 and stillbirths 536. The percentage taken by midwives in the County is, therefore, 73·9 compared with 74·5 in the previous year. The midwives also attended 1,656 cases as maternity nurses, of which 583 were in the northern area, 468 in the central, and 605 in the south of the County. The proportion of the maternity cases to the total cases taken by midwives in their capacity either as midwives or maternity nurses in the three areas of the County is 23·0 per cent. in the northern, 15·8 per cent. in the central, and 12·1 per cent. in the southern area. The number of births that were not attended by midwives in their capacity as midwives or maternity nurses in the Administrative County is 1,465, of which 242 are in the northern area, 422 in the central, and 801 in the south of the County.

In compliance with the rules of the Central Midwives Board, 4,157 notifications have been received from certified midwives in 1933 under the four headings set forth in the following table, which includes figures for comparison with the past 13 years, together with the number of births attended by midwives :—

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Number of Births attended by Midwives	12800	13033	11637	11382	11780	12201	10282	10523	10154	10115	9787	9621	8839
Sending for medical help	1948	1992	1894	2083	2219	2523	2564	2764	3154	3505	3741	3755	3789
Still Births	244	245	230	211	190	208	212	208	233	225	221	229	203
Death of Mother ..	4	1	5	4	11	20	6	13	17	10	17	11	11
Death of Child ..	39	29	20	61	60	70	115	117	127	142	140	150	154

The following table shows to what extent midwives have had occasion to call in medical assistance at confinements over a period of 19 years. From this it will be observed that there has been a large increase in this period of the requests for medical help, which

can be ascribed to the better trained type of midwife that is now practising. This is also reflected in the increase in the fees paid by the County Council to medical practitioners, as shown in a subsequent table.

NUMBER OF PRACTISING MIDWIVES, CONFINEMENTS TAKEN BY MIDWIVES AND DOCTOR'S CALLS BEFORE, AT AND AFTER CONFINEMENT, 1915—1933 :—

YEAR	No. of Practising Midwives at end of Year	Trained	Not Trained	No. of Confinements taken by Midwives as Midwives	Doctors Calls (Mother or Child)	% of Medical Calls
1915	320	129	191	11,325	1,209	10.7
1916	307	137	170	10,632	1,291	12.1
1917	301	145	156	10,377	1,202	11.6
1918	288	152	136	10,174	1,165	11.4
1919	284	179	105	10,616	1,809	17.0
1920	286	181	105	13,770	1,769	12.8
1921	301	207	94	12,800	1,948	15.2
1922	290	224	66	13,033	1,992	15.3
1923	287	230	57	11,637	1,894	16.2
1924	272	225	47	11,382	2,083	18.3
1925	286	247	39	11,780	2,219	18.8
1926	285	250	35	12,201	2,523	20.7
1927	274	252	22	10,282	2,564	24.9
1928	276	263	13	10,523	2,764	26.2
1929	275	262	13	10,154	3,154	31.0
1930	265	255	10	10,115	3,505	34.6
1931	277	268	9	9,787	3,741	38.2
1932	267	262	5	9,621	3,755	39.0
1933	287	282	5	8,839	3,789	42.9

The following figures show the causes which occasioned the sending for medical help :—

Causes of sending for Medical Aid	Northern District	Central District	Southern District	Total
PREGNANCY :				
Threatened Abortion ..	28	30	32	90
Puffiness of face and hands ..	4	3	8	15
Fainting	5	—	8	13
Varicose Veins	9	17	24	50
Fits	1	7	4	12
Vaginal Discharge	2	6	13	21
Unsatisfactory condition and general health	24	91	140	255
Excessive Sickness	8	24	36	68
Loss of Blood	6	10	18	34
History of previous Still-births and Abortions ..	4	3	20	27
Œdema of Legs	9	14	21	44
Albuminuria	26	49	72	147
Sore of Genitals	1	—	5	6
Contracted Pelvis	5	15	39	59
	132	269	440	841
LABOUR :				
Premature Birth	—	—	2	2
Abnormal Presentation ..	42	30	87	159
Delayed or Difficult.. ..	133	307	325	765
Placenta Prævia ..	11	—	11	22
Hæmorrhage ante	11	31	22	64
Ditto post	15	27	24	66
Eclampsia	1	—	2	3
Prolapse of Cord	4	7	13	24
Lacerated Perinæum ..	128	141	295	564
Retained Placenta and Membranes	14	17	37	68
Unsatisfactory Condition ..	18	7	20	45
Inertia..	20	33	63	116
Abortion	46	47	34	127
Purulent Discharge	2	1	—	3
Cough	7	1	4	12
Albuminuria	2	3	—	5
Contracted Pelvis	—	1	—	1
	454	653	939	2046

Causes of sending for Medical Aid	Northern District	Central District	Southern District	Total
LYING-IN :				
High Temperature ..	25	17	58	100
Inflamed and painful leg ..	9	11	14	34
Convulsions	2	3	4	9
Unsatisfactory Condition ..	23	16	62	101
Offensive Lochia	5	—	4	9
Unusual Swelling of Breasts...	6	5	11	22
Abdominal Swelling and tenderness	7	5	9	21
	77	57	162	296
CHILD :				
Deformities	15	14	17	46
Convulsions	3	4	4	11
Inflamed and discharging eyes	35	40	110	185
Feebleness and prematurity..	48	56	123	227
Unsatisfactory Condition ..	13	16	35	64
Rash	7	—	8	15
Pemphigus	3	—	3	6
Spina Bifida	3	5	6	14
Hare Lip and Cleft Palate ..	4	2	4	10
Club Foot	2	6	2	10
Serious Skin Eruption ..	1	2	3	6
Jaundice	4	2	6	12
	138	147	321	606
Grand Total	801	1126	1862	3789

Midwives.

In the following Table, in which the County is divided into three districts, the numbers of Midwives practising, with the notifications received from them, together with the visits, interviews and inquiries of the Inspectors of Midwives, are shown :—

VISITS OF INSPECTORS, NOTIFICATIONS, INQUIRIES, ETC., DURING THE YEAR 1933.

District	No. of Midwives on List at 31/12/33	Trained	Untrained	Equipment		Visits	Interviews	Notifications														Inquiries															
								Medical Assistance							Deaths							Medical Assistance							Deaths									
										Lying In		Child												Lying In		Child													
				Full	Partial			Ante-natal	Labour	High Temp'ture	Other Conditions	Inflamed Eyes	Other Conditions	Still Births	Mother	Child	Puerperal Fever	Puerperal Pyrexia	Contact with infection	Laying out the dead	Artificial Feeding	Ante-natal	Labour	High Temp'ture	Other Conditions	Inflamed Eyes	Other Conditions	Still Births	Mother	Child	Puerperal Fever	Puerperal Pyrexia	Contact with infection	Laying out the dead	Artificial Feeding			
North	89	87	2	87	2	287	235	132	454	25	52	35	103	75	3	57	9	14	36	7	29	...	...	21	22	47	34	...	2	...	8	12	36	2	...			
Central	95	94	1	94	1	382	328	269	653	17	40	40	107	45	2	43	7	22	34	8	25	4	1	17	1	42	5	...	2	1	6	18	35	1	...			
South	103	101	2	101	2	326	271	440	939	58	104	110	211	83	6	54	14	42	37	9	38	...	1	56	17	116	75	...	6	5	12	32	37	...	...			
Totals	287	282	5	282	5	995	834	841	2046	100	196	185	421	203	11	154	30	78	107	24	92	4	2	94	40	205	114	...	10	6	26	62	108	3	...			

On comparing these tables with similar ones in previous reports it is found that medical aid is called in during pregnancy to a much greater extent than formerly, and this would be expected owing to the attention now paid to ante-natal care both by the midwives under the rules of the Central Midwives Board and by the ante-natal work of the Maternity and Child Welfare Scheme.

In addition to the routine inquiries conducted by the Midwives' Inspectors, four irregularities were specially investigated. As a result, one midwife received a letter of caution, one was interviewed and cautioned by the County Medical Officer, and two were interviewed by the County Council acting as the Local Supervising Authority, and were severely censured.

Since the Act came into operation in 1902, the names of 115 midwives have been removed from the Roll in consequence of action taken by the Local Supervising Authority.

During the year only one death of a practising midwife was reported.

In 1933, 12 District Nursing Associations who undertake Midwifery were subsidised to the extent of £409. At the end of the year there were 4 midwives in private practice receiving subsidies, and another midwife is provided with a telephone by the Local Supervising Authority in order that the area of her practice can be enlarged to include two somewhat isolated villages. On 31st December, 1933, there were 66 local Nursing Associations affiliated to the County Nursing Association, and 5 non-affiliated local Nursing Associations undertaking midwifery. The latter are Essington, Penn, Stafford, Stone and Tutbury Nursing Associations.

Under Section 2 (1) of the Midwives and Maternity Homes Act, 1926, a total of £1 10s. 0d. was allowed by the County Council to a midwife as compensation for loss of practice on suspension after being in contact with a septic case, the midwife not being in default.

The scheme for post-certificate training for practising midwives has been little used of recent years, but one midwife attended such a course at the Tipton Training Home during 1933.

Under the Rules of the Central Midwives' Board, a midwife has to send for medical help if any abnormality occurs, and in the Midwives' Act, 1918, provision is made for the payment of the doctor called in in this way, the fees allowed being according to a scale issued by the Ministry of Health.

During the financial year ended March, 1934, 3,604 notifications of sending for medical help were received, and out of this number medical practitioners claimed their fees from the County Council in 2,208 cases, that is 61·3 per cent. of the possible claims.

The fees paid by the County Council are as follows :—

FEES PAID TO MEDICAL PRACTITIONERS UNDER MIDWIVES ACT, 1918.

Financial Year	No. of Notifications of sending for Medical Aid	No. of Claims received	Percentage of claims received to Notifications	Total amount paid to Doctors during year	Amounts recovered from Patients during year
			%	£ s. d.	£ s. d.
1925–26	2228	780	35	1100 15 0	366 9 9
1926–27	2641	1147	43	1702 19 3	408 4 6
1927–28	2556	1136	44	1598 5 9	503 1 0
1928–29	2874	1419	49	2053 0 6	599 12 3
1929–30	3319	1810	55	2352 17 6	723 6 9
1930–31	3506	1950	56	2631 2 0	616 15 3
1931–32	3775	2176	57	3223 12 6	602 3 9
1932–33	3794	2255	59	2574 17 9	627 3 9
1933–34	3604	2208	61	3034 4 0	645 5 6

The cost of collection is £200 per year. It will be observed that each year there has been an increase in the percentage of claims of fees from doctors in proportion to the number of requests for medical assistance.

No alteration has taken place in the income scale, but a fresh one has been drawn up, based on different lines, and is to be instituted in October, 1934.

The arrangements made in 1930 for the issue of maternity outfits at the various Clinics were continued, and in rural areas where there was no Clinic, Health Visitors were given charge of these.

Forty-five outfits only were sold during the year and comparatively little advantage appears to be taken of this scheme.

STILLBIRTHS.

It has already been noted that 536 stillbirths were registered during the year. Of these 203 were reported by midwives under their rules and on comparing this figure with those for the past 12 years I find that there is little variation in this number. The

result of the investigations made by the Midwives Inspectors into the cause of these stillbirths is as follows :—

Albuminuria	1
Cord Prolapse	3
Cord round neck	8
Deformities	27
Difficult Labour	13
Fall and Shock	8
Ill-nourished	1
Maceration	88
Malpresentation	8
Premature	32
Unsatisfactory Condition of Mother ..	13
Injury during Birth	1

County Bacteriological Laboratory.

Dr. J. Menton, the County Bacteriologist, reports that during 1933, 45,556 investigations were conducted at the County Bacteriological Laboratory, being an increase of 1,198 on the previous year. Of these, 27,454 were of a general serological, bacteriological, and pathological nature, and 18,102 were for the diagnosis of and tests for cure of venereal diseases.

The general bacteriological and serological work was for the most part from the Administrative County, but of the milk examinations, 740 were undertaken for the City of Stoke-on-Trent, 77 for the County Borough of Dudley, and 9 for the County Borough of Derby. Of the tests for venereal diseases, 6,866 were from patients resident in Staffordshire, 9,428 from patients resident in the City of Stoke-on-Trent, 694 from patients resident in the County Borough of Dudley, and 1,114 from patients resident in other areas outside the Administrative County. Seven bottles of gonococcal vaccine were also made.

The bulk of the bacteriological work was in relation to the direct diagnosis and prevention of infectious diseases, the supervision of the milk supply, and the bacteriological examination of drinking water for various Sanitary Authorities.

The General Medical Practitioners, the Medical Officers of Health, the Isolation Hospitals, the Venereal Diseases Clinics, and the School Medical Service have continued to make extensive use of the laboratory. Veterinary Surgeons have also submitted several specimens from animals, and this ought to be encouraged, especially when such investigations lead to the early diagnosis of those animal diseases communicable to man.

The various biochemical and pathological investigations were conducted for the Staffordshire General Infirmary, Standon Hall Orthopædic Hospital, the North Staffordshire Cripples' Aid Society, the Coroners officiating in the Administrative County, and in connection with medico-legal cases.

Three special research investigations were completed; two dealing with diphtheria and one with tuberculosis.

Experience has shown that in all suspected cases of food poisoning it is of the utmost importance to submit specimens of fæces and vomited material for bacteriological examination as soon as possible after the onset of the symptoms. Samples of blood should also be taken throughout the course of the illness, and in every instance the suspected article of diet, when available, should also be forwarded for investigation.

The details of the year's work were as follows :—

PATHOLOGICAL AND BIOCHEMICAL WORK CONDUCTED ON BEHALF OF THE STAFFORDSHIRE GENERAL INFIRMARY, STAFFORD.

Fractional Test Meals	313
Urea (Estimation of) :	
Urine	37
Blood	60
Cerebrospinal fluid	2
Glucose (Estimation of) :	
Urine	9
Blood	38
Cerebrospinal fluid	1
Lævulose (Estimation of) :	
Urine	7
Blood	8
Blood :	
Grouping	50
Red cell fragility	3
Estimation of hæmoglobin	25
Estimation of calcium	1
Colour Index	1
Icterus Index	2
Differential count of white cells	28
R.B.C. count	27
Leucocyte count	25
Reticulocyte count	3
Coagulation time	1
Platelets	1
Carried forward	642

Brought forward	642
Urine :	
Examination for lead	1
Diastase content	1
Estimation of Chlorides..	1
Examination of renal calculus	1
Fæces :	
Examination for fats	1
Pathological Sections of human organs and tissues	237
Total	884

General Bacteriology and Pathology.

	Water examinations	Milk examinations	Diphtheria	Tuberculosis	Cerebro-spinal fever	Ringworm	Typhoid and Paratyphoid fever	Brucella Infections	Dysentery (all types)	Food poisoning	Pathological work including Medico-legal investigations	Maternity outfits	Other examinations	Total
First Quarter ..	68	1986	1864	1271	7	44	146	32	184	308	26	26	632	6594
Second Quarter ..	78	1952	1815	1469	36	31	204	670	236	405	48	12	474	7430
Third Quarter ..	97	1977	1707	1079	5	33	136	60	147	230	24	—	402	5897
Fourth Quarter ..	116	1955	2000	986	8	25	175	261	225	321	67	—	457	6596
Total ..	359	7870	7386	4805	56	133	661	1023	792	1264	165	38	1965	26517

The 4,805 examinations under "Tuberculosis" included 3,583 sputa; 86 pus; 73 cerebrospinal fluids; 58 other fluids; 535 urines; 12 fæces; 300 biological tests; 101 pathological sections; and 57 others.

The 1,023 investigations under the heading "Brucella infections" included 73 examinations of blood specimens from cattle and 630 from human beings. This organism causes contagious abortion in cattle and a type of undulant fever in man. 30 samples from cattle were positive and 4 specimens from human beings gave agglutination reactions varying from 1 in 125 to 1 in 2,500.

The majority of the serological tests for food poisoning were done for exclusion purposes and fortunately proved negative, but there were four cases of mild Salmonella infection in various parts of the County.

In connection with the dysentery investigations, there were 5 cases of infection due to Flexner's bacillus, 2 of which occurred in an Institution and 3 at home.

During the year the laboratory was called in to investigate 8 inquest cases and 2 police cases.

The 1,965 "Other examinations" included 234 bacteriological and cytological examinations of various body fluids and exudates; 91 blood cultures; 23 examinations for Vincent's Angina; 418 general examinations of urine, and various other miscellaneous investigations.

In connection with the milk examinations, the reasons for these and the sources of the samples are shown in the accompanying tables. It will be noticed that 57 samples of "Grade A" milk gave positive biological reactions for tuberculosis and that 2 "Grade A Tuberculin Tested" and 4 "Pasteurised" samples gave similar results.

		Bacteriological Count and Coliform Content			Biological Tests.			Grand Total.
		Satis-factory	Unsatis-factory	Total	Negative	Positive	Total	
For "Grade A" Standard and "Grade A" Licence	First Quarter	269	27	296	104	8	112	408
	Second ;,	272	32	304	95	5	100	404
	Third ,,	238	63	301	80	18	98	399
	Fourth ,,	275	21	296	103	26	129	425
For "Grade A.T.T." Standard and "Grade A.T.T." Licence.	First ,,	61	4	65	19	—	19	84
	Second ,,	49	10	59	20	—	20	79
	Third ,,	51	16	67	14	—	14	81
	Fourth ,,	56	5	61	17	2	19	80
For "Certified" Standard, and "Certified" Licence.	First ,,	11	1	12	3	—	3	15
	Second ,,	12	2	14	4	—	4	18
	Third ,,	22	2	24	4	—	4	28
	Fourth ,,	12	1	13	3	—	3	16
For "Grade A. Pasteurised" Standard.	First ,,	3	1	4	3	—	3	7
	Second ,,	5	—	5	2	—	2	7
	Third ,,	2	1	3	1	—	1	4
	Fourth ,,	4	—	4	4	—	4	8
For "Pasteurised" Standard.	First ,,	27	4	31	23	3	26	57
	Second ,,	30	6	36	17	—	17	53
	Third ,,	26	7	33	32	—	32	65
	Fourth ,,	31	2	33	31	1	32	65
Submitted by farmers, retailers and others for their own information.	First ,,	19	6	25	9	—	9	34
	Second ,,	11	6	17	5	4	9	26
	Third ,,	26	7	33	1	1	2	35
	Fourth ,,	15	1	16	12	—	12	28
Milk and Dairies (Consolidation) Act, 1915.	First ,,	288	63	351	636	82	718	1069
	Second ,,	330	148	478	545	81	626	1104
	Third ,,	259	218	477	702	117	819	1296
	Fourth ,,	335	91	426	690	107	797	1223
Tuberculosis Order, 1925.	First ,,	—	—	—	3	—	3	3
	Second ,,	—	—	—	2	—	2	2
	Third ,,	—	—	—	—	1	1	1
	Fourth ,,	—	—	—	—	1	1	1
Special Investigations (Rotherham and Birmingham complaints).	First ,,	178	37	215	42	8	50	265
	Second ,,	—	—	—	206	32	238	238
	Third ,,	—	—	—	45	4	49	49
	Fourth ,,	70	13	83	7	2	9	92
		2987	795	3782	3484	503	3987	7769

	Bacteriological Count and Coliform Content	Biological Test	Direct Film for Acid-Fast Bacilli.
From the Official Sampler to the County :			
(*a*) Special Designations Order, 1923	1532	611	—
(*b*) Milk and Dairies (Consolidation) Act, 1915	1558	1451	—
From Veterinary Surgeons :			
(a) Tuberculosis Order, 1925	—	7	—
(*b*) Milk and Dairies (Consolidation) Act, 1915	—	1360	4
From Staffordshire Farm Institute, Producers and Retailers :			
(*a*) For "Grade A." Licence and "Grade A." Standard	17	—	—
(*b*) Experimental for "Grade A."	2	—	—
(*c*) For "Certified" Licence and "Certified" Standard	5	—	—
(*d*) For "Grade A.T.T." Licence	5	—	—
(*e*) For "Pasteurised" Standard	10	7	—
(*f*) For Information	90	31	1
From Local Authorities in the Administrative County (other than those from Official Sampler) :			
(*a*) Special Designations Order, 1923	19	6	—
(*b*) Milk and Dairies (Consolidation) Act, 1915	148	140	—
From Authorities outside the Administrative County :			
(*a*) Special Designations Order, 1923	71	26	—
(*b*) Milk and Dairies (Consolidation) Act, 1915	325	397	10
	3782	4036	15

The details of the Venereal Diseases tests are shown in the following table :—

EXAMINATIONS OF PATHOLOGICAL SPECIMENS CONDUCTED UNDER THE VENEREAL DISEASES SCHEME DURING THE YEAR 1933.

	For Detection of		For Wassermann Reaction	Sigma & Kahn Reactions	Other Examinations	Total
	Spirochætes	Gonococci				
1st Quarter	—	321	2297	2268	372	5258
2nd Quarter	3	278	2165	1831	382	4659
3rd Quarter	—	298	1947	1732	371	4348
4th Quarter	2	240	1724	1643	228	3837
Total ..	5	1137	8133	7474	1353	18102

The 1,353 "Other examinations" included under the Venereal Diseases Scheme were :—142 cerebrospinal fluids for cell count, globulin and colloidal gold test ; 1,202 complement fixation tests for gonorrhœa ; the examination of six urines for gonococci ; and the making of three cultures for gonococci.

Chemical Laboratory

Mr. E. V. Jones, the County Analyst, reports that during 1933 by far the largest number of samples analysed is under the Food and Drugs (Adulteration) Act, 1928. Under this Act he has received the following samples, as tabulated :—

SAMPLES.	Number Examined			No. Adulterated or below Standard.		
	Total	Formal	Informal	Total	Formal	Informal
Almonds, Ground	1	—	1	—	—	—
Baking Powder	9	2	7	2	1	1
Barley, Pearl	7	4	3	—	—	—
Beef	1	1	—	—	—	—
Bicarbonate of Soda	1	—	1	—	—	—
Bourn-Vita	1	—	1	—	—	—
Brawn	3	—	3	—	—	—
Brislings in Olive Oil	1	—	1	—	—	—
Butter	47	26	21	—	—	—
Cascara Sagrada, Extract of	1	—	1	—	—	—
Cheese	2	—	2	—	—	—
,, Cheddar	4	—	4	—	—	—
,, Gorgonzola	1	1	—	—	—	—
Chlorodyne Gums	1	—	1	—	—	—
Chocolate	2	2	—	—	—	—
,, Powder	1	1	—	—	—	—
,, Spread	1	—	1	—	—	—
Cinnamon	1	—	1	—	—	—
Cocoa	3	1	2	—	—	—
,, Malted Milk with Egg	1	—	1	—	—	—
Coconut, Desiccated	3	3	—	—	—	—
Coffee	7	3	4	—	—	—
Confectionery	3	—	3	—	—	—
Cornflour	8	—	8	—	—	—
Crab (tinned)	1	—	1	—	—	—
Cream	19	—	19	—	—	—
Cream of Tartar	1	1	—	—	—	—
Currants	6	1	5	—	—	—
Custard Powder	8	1	7	—	—	—
Dripping	5	4	1	—	—	—
Egg Substitute	2	—	2	—	—	—
Flour	2	1	1	—	—	—
,, Self-raising	15	9	6	—	—	—
Fruit, Mixed (dried)	5	—	5	—	—	—
Ginger	6	4	2	—	—	—
,, Ground	9	7	2	1	1	—

SAMPLES.	Number Examined			No. Adulterated or below Standard.		
	Total	Formal	Informal	Total	Formal	Informal
Glycerin	2	—	2	—	—	—
,, and Rose Water	1	—	1	—	—	—
Gravy Colouring	1	—	1	—	—	—
Honey	1	—	1	—	—	—
Ice Cream	1	—	1	—	—	—
Icing Vanilla	1	—	1	—	—	—
Jam, Black Currant	3	—	3	—	—	—
,, Gooseberry and Strawberry	1	—	1	—	—	—
,, Mixed Fruit	1	—	1	—	—	—
,, Plum, Red	1	—	1	—	—	—
,, Raspberry	6	—	6	—	—	—
,, Raspberry and Gooseberry	1	—	1	—	—	—
,, Strawberry	5	—	5	—	—	—
Lard	21	15	6	—	—	—
Lemon Cheese	3	—	3	—	—	—
Lemonade Powder	1	—	1	—	—	—
Lentils	1	—	1	—	—	—
Liquorice, Compound Powder of	1	—	1	—	—	—
Magnesium Carbonate	1	—	1	—	—	—
Margarine	9	4	5	—	—	—
Marmalade	2	—	2	—	—	—
,, Cherry	1	—	1	—	—	—
Meat, Potted	1	—	1	—	—	—
Milk	1652	1144	508	315	184	131
,, "Appeal to Cow"	95	65	30	28	23	5
,, "Grade A"	92	13	79	8	1	7
,, "Grade A (T.T.)"	15	9	6	2	2	—
,, "Grade A, Pasteurised"	1	—	1	—	—	—
,, Pasteurised	31	20	11	4	4	—
,, Skimmed	1	1	—	—	—	—
,, Sterilized	54	30	24	8	4	4
,, Condensed, Full Cream, Unsweetened	5	2	3	3	2	1
,, Condensed, Machine Skimmed, Sweetened	1	—	1	—	—	—
Mincemeat	5	—	5	—	—	—
Mustard	2	—	2	—	—	—

SAMPLES.	Number Examined			No. Adulterated or below Standard.		
	Total	Formal	Informal	Total	Formal	Informal
Oatmeal	2	—	2	—	—	—
,, Malted	1	1	—	—	—	—
Oil, Castor	3	—	3	—	—	—
,, Olive	6	—	6	—	—	—
Paste, Anchovette Fish	1	—	1	—	—	—
,, Bloater	2	—	2	—	—	—
,, Cheese and Tomato	1	—	1	—	—	—
,, Chicken, Ham, and Tongue ..	1	—	1	—	—	—
,, Crab	1	—	1	—	—	—
,, Lobster	2	—	2	—	—	—
,, Salmon and Shrimp	3	—	3	—	—	—
,, Turkey and Tongue	1	—	1	—	—	—
Peas (dried)	1	—	1	—	—	—
,, (tinned)	1	—	1	—	—	—
Pepper	14	11	3	—	—	—
Peppermints	1	1	—	—	—	—
Pickle, Sweet	1	—	1	—	—	—
Plums, Red (tinned)	1	—	1	—	—	—
Polony	2	—	2	—	—	—
Raisins	1	—	1	—	—	—
Rice	11	7	4	—	—	—
,, Flakes	1	—	1	—	—	—
,, Ground	5	3	2	—	—	—
Sausage	6	—	6	—	—	—
,, Preserved	1	—	1	—	—	—
Semolina	2	—	2	—	—	—
" Shortex "	1	—	1	—	—	—
Spice, Mixed	2	—	2	—	—	—
,, ,, Ground	2	1	1	—	—	—
Spirits, Gin	1	—	1	—	—	—
,, Whisky	7	—	7	—	—	—
Strawberries (tinned)	1	—	1	—	—	—
Suet, Shredded Beef	10	1	9	2	—	2
Sugar	5	—	5	—	—	—
,, Demerara	3	2	1	—	—	—
,, Raw	1	1	—	—	—	—
Sultanas	2	—	2	—	—	—

SAMPLES.	Number Examined.			No. Adulterated or below Standard.		
	Total	Formal	Informal	Total	Formal	Informal
Syrup, Golden	1	—	1	—	—	—
Tapioca	7	3	4	—	—	—
Tea	20	5	15	—	—	—
Treacle	1	—	1	—	—	—
„ Black	1	—	1	—	—	—
" Trex "	1	1	—	—	—	—
Vermicelli (Real Egg)	1	—	1	—	—	—
	2348	1412	936	373	222	151

Fertilizers and Feeding Stuffs Act, 1926.

	Total.	*Satisfactory.*	*Unsatisfactory.*
Ammonium Sulphate	1	1	—
Basic Slag	1	1	—
Feeding Bone Meal	1	1	—
Horticultural Manure	1	1	—
" Iodol "	1	1	—
Rose Fertilizer	1	—	1
White Fish Meal	1	1	—
	7	6	1

The only sample of unsatisfactory quality was the Rose Fertilizer. It was up to its guarantee in Nitrogen and Potash, but the Water Soluble Phosphate was only 1·83% against a guarantee of 2·75%. The Insoluble Phosphoric Acid being correspondingly high.

Coroner Samples.

Case I.—This case consisted of ten samples all of which were examined for Metallic, Alkaloidal, and other Poisons, but none found.

Case II.—Six samples of Blood were examined for Carboxy-hæmoglobin, three giving positive and three negative results.

Case III.—Consisted of two samples to be tested for the presence of Cobalt and Copper. No Cobalt was found, but a small amount of Copper was detected.

Case IV.—Consisted of 11 samples, one of which was a bottle of Medicine. This proved to be a Bismuth preparation, containing the equivalent of 0·87 grain per fluid ounce of Bismuth Oxycarbonate. No Bismuth was found in any of the organs, though the contents of Stomach and large and small Intestines contained 2·72 grains of Bismuth calculated as the Oxycarbonate, which amount is well below the Medicinal Dose (10—30 grains).

All the organs and their contents were tested for Metallic Alkaloidal and other poisons likely to have caused death, but none were found.

In addition to the above I have received from different Authorities :—

239 samples of *Drinking Water*, of which 76 were of satisfactory quality, 78 contained sewage, 41 were organically impure, 29 were of doubtful quality, 3 contained metallic contamination, 4 were excessively hard, one was heavily polluted with both animal and vegetable matter, 2 contained both sewage and metallic contamination, one contained sewage and was also excessively hard, and 3 were organically impure and contained metallic contamination, one contained free chlorine. Four Drinking Waters were submitted for partial analysis, 2 for hardness, one for hardness and metallic contamination, and one for lead.

85 *Sewage Effluents*, of which 45 were for full analysis and 40 for partial.

110 *River Waters*, of which 59 were for full and 51 for partial analysis.

Three *Swimming Bath Waters* for free Chlorine.
24 samples of *Coal.*
Two samples of *Human Milk.*
One sample of *Lung* for Silica.
One sample of *Urine* for Lead.
One sample of *Water* for poison.
One sample of *Magnesium Sulphate* for poison.
One *Dried Milk.*
One *Enamel Dish.*
One sample of *Pig Food.*
Two *Deposits.*
Two samples of *Milk.*

ADDITIONAL WORK.

Besides the work done for the County, 119 samples have been analysed for the City of Stoke-on-Trent, 114 of which were under the Food and Drugs (Adulteration) Act, 1928, 3 under the Rag Flock Regulations, 1912, and 2 under the Public Health Act.

Hospitals

In the Annual Report for 1930 full details were given of the County's hospital services.

It was stated in last year's Report that the County Council had opened Standon Hall, a Hospital of 120 beds for orthopædic cases, in June, 1932, and it was explained that 95 beds were allotted to tubercular conditions, 10 to cases sent by the Education Committee, 10 to Health Visiting Committee cases, and 5 for Public Assistance cases. The Hospital works in close association with eight voluntary After-Care Centres, four of which are staffed by the same visiting surgeons who attend the Standon Hospital, and now all the in-patient orthopædic treatment undertaken by the County Council is centralised at the Standon Hospital. During the first eighteen months of its existence 154 cases were sent by the Joint Tuberculosis Committee, of which 57 were discharged to attend the After-Care Centres, and two patients died. The Education Committee sent 23 cases and 14 have been discharged to the After-Care Centres. The Health Visiting Committee had 20 cases in Hospital during this time and 11 were discharged for After-Care. The Public Assistance Committee sent 10 cases, 5 of which were discharged. These numbers give some indication of the lengthy period of treatment required for orthopædic cases, and in order that the education of the patients shall not suffer, all those of school age who are able to receive instruction are under the control of three teachers, and because of the nature of the disabilities of the patients, clinical teaching has to take the place of the ordinary methods.

Maternity and Nursing Homes

At the end of the year the number of premises registered under the Nursing Homes Registration Act, 1927, was 24 ; three exemptions from registration previously allowed were continued. Four applications for registration were received in 1933, and were granted. As previously stated, on the 1st April, 1933, the boundaries of the County Borough of Wolverhampton were extended, and 3 registered nursing homes were situated in the added area, so that they are now inspected by the Borough Authority. In addition, one home was given up, the keeper having retired. The 24 homes registered, with the exception of 8, are for one or two beds only. The County Council have not delegated any of their

powers under the Nursing Homes Registration Act, 1927, to District Councils, nor have any applications been received for such delegation.

No Maternity Homes have been established by the County Council as yet, but they have arrangements with the Mrs. Legge Memorial Home, Wolverhampton, where prospective unmarried mothers can be sent for their confinement and remain there for six months. The County Council contribute 40/- per patient per week for six weeks, the cost of the remainder of the period being defrayed from philanthropic sources. In 1933 seven cases were dealt with at this Home.

In addition, arrangements have been made for midwifery cases to be sent from the Health Visiting Area to the following Maternity Homes :—

Ashbourne (Derbyshire).
Newport (Salop).
Bath Road Maternity Home, Wolverhampton.
Tipton.
North Staffordshire Royal Infirmary.
Crewe.
Longton Cottage Hospital.
Corbett Hospital, Stourbridge.
Women's Hospital, Wolverhampton.

The cases so sent are limited to those who live in unsatisfactory home conditions or have some complication in connection with their pregnancy which makes it unsafe for them to remain at home. During the year, nine patients who complied with these conditions were sent by the County Council.

In addition, one patient was sent to the Rosemary Ednam Maternity Home, Sedgley. Sixteen women were admitted to the Ashbourne Maternity Home, Derbyshire, but paid their own fees, the County Council merely guaranteeing any loss which the Derbyshire authority might sustain if a patient was subsequently unable to pay the accepted fee.

Besides the Maternity Homes already mentioned, cases are received at the Wordsley Public Assistance Institution, in a private ward of 12 beds, for patients who can pay either the whole cost or a portion of the cost of treatment. At the Sedgley Institution there is a special block known as the Rosemary Ednam Maternity Home, built by the late Board of Guardians, in which there are 9 beds for paying patients under similar conditions to those that exist at the Wordsley Institution.

Maternal Mortality

In the accompanying table the maternal mortality rate for the Administrative County showing the deaths per thousand live births in the last 10 years is given.

Year.	Live Births.	Deaths from		Maternal Mortality per 1,000 live births.
		Puerperal Sepsis.	Other Diseases and Accidents of Parturition.	
1924	15,546	15	28	2·7
1925	15,241	15	32	3·1
1926	14,535	19	45	4·4
1927	13,856	25	27	3·7
1928	13,742	21	29	3·6
1929	13,125	17	42	4·5
1930	13,243	22	23	3·4
1931	12,752	11	29	3·1
1932	12,335	21	29	4·0
1933	11,424	19	18	3·2
Mean for 10 years	13,580	18.5	30	3·6

It will be observed that the maternal mortality rate for 1933 is less than that for the previous year. This is gratifying to note, but it has been found by experience that this rate fluctuates from year to year and we can only feel satisfied with our efforts to combat maternal mortality when the rate has shown a continuous and sustained decrease for at least five years. I give below a table showing maternal mortality rates for the last 20 years in five-year periods. It will be noted that little change has taken place in this rate during these periods :—

1914—1918	3·73
1919—1923	4·04
1924—1928	3·51
1929—1933	3·67

It is the duty of a midwife to notify all deaths that occur in her practice whether as a midwife or as a maternity nurse. This rule only relates to the period in which she is actually in attendance and consequently if the patient is removed to Hospital, or not being attended at the time of death by the midwife, the death is not reported by her. During the year 11 deaths were so reported out of a total of 37 maternal deaths registered.

The causes of death were as follows :—

Ante-Partum and Post-Partum Hæmorrhages (Acute)	1
Bronchitis (Acute)	1
Illegal Operation..	1
Pneumonia	1
Post-Partum Hæmorrhage	3
Pulmonary Embolism	2
Sepsis (General)	1
Septic Abortion	1

In previous reports full details were given of the scheme approved by the County Council for providing the services of obstetric consultants in such cases where the family doctor desires his assistance at any time during pregnancy, during labour, or during the puerperium. Under the same scheme ante-natal clinics have been established in connection with various Infant Welfare Centres and midwives are encouraged to take their patients there for examination by the Medical Officer. At these Centres no treatment is given but if such is found necessary the midwives are advised to send the patients to their own doctors.

An extension of the ante-natal scheme has been formulated whereby in those scattered Rural Districts where no Ante-natal Centre is available, the patient can be sent to the local practitioner for ante-natal supervision, the County Council being responsible for his fee. Also, in cases where midwives attend women who are not able to afford their fees these will be remitted by the County Council.

Little advantage seems to be taken of that part of the scheme which allows the family doctor to call in a Consultant when necessary, this provision being made use of on 18 occasions as against 25 in 1932.

(*a*) Investigation of Maternal Deaths.

The same arrangements as for 1931 still hold good for investigating maternal deaths. This work is carried out by the Medical Officer of Health of the district concerned or by one of the Assistant Medical Officers of the County Council.

Reports on each maternal death are forwarded to the Ministry of Health when completed, for the information of the special committee set up by that department to deal with this matter.

(*b*) Work under the Puerperal Fever and Puerperal Pyrexia Regulations.

In previous Annual Reports the scheme adopted by the County Council for carrying out the duties imposed by these Regulations was set forth. The following is the number of notifications during 1933 :—

Puerperal Pyrexia Notifications, 1933.

	In Health Visiting Area.	*Not in Health Visiting Area.*	*Total.*
Urban Districts ..	17	39	56
Rural Districts ..	19	3	22
			78

Puerperal Pyrexia is defined as any febrile condition occurring in women within 21 days after childbirth or miscarriage, in which a temperature of 100·4 or more has been sustained during a period of 24 hours or has recurred during that period. Cases of puerperal fever are included in this definition, and as the latter condition can still be notified the following are the notifications :—

Puerperal Fever Notifications, 1933.

	In Health Visiting Area.	*Not in Health Visiting Area.*	*Total.*
Urban Districts ..	5	14	19
Rural Districts ..	9	2	11
			30

During 1933 the case rate per thousand of the population for the County was :—

(*a*) For puerperal pyrexia	0·11
For England and Wales	0·14

When calculated on the basis per thousand total births (live and stillbirths) the rate for Staffordshire is 6·5 and for England and Wales 9·6.

(*b*) For puerperal fever	0·04
For England and Wales	0·05

When calculated on the basis per thousand total births (live and stillbirths) the rate for Staffordshire is 2·5 and for England and Wales 3·5.

The midwives under their rules have also to notify to the Local Supervising Authority any rises of temperature in their practice and these, which number 100, were specially investigated by the Midwives' Inspectors, who reported that the conditions to which they were due were as follows :—

Albuminuria	1
Cystitis	1
Mastitis	12
Offensive Lochia	1
Perineal Abscess	1
Phlegmasia alba dolens	7
Post-partum Hæmorrhage	1
Puerperal Insanity	2
Purulent Discharge	1
Pyelitis	5
Retained Placenta and Membranes	4
Sapræmia	11
Septicæmia	1
Shock	2
Thrombosis	1
Abscess of Arm	1
Appendicitis	1
Bronchitis	3
Constipation	1
Debility	1
Ill-nourished	1
Influenza	22
Muscular Rheumatism	1
Pneumonia	9
Scarlet Fever	1
Septic Burns	1
Tonsillitis	2
Tuberculosis	3
Undiagnosed	2

It will be observed that in many instances the rise of temperature could not be definitely associated with the puerperal state, but although these special investigations have taken up much time of the Midwives' Inspectors there is little doubt that they were worth while and have resulted in no case of septic condition of the genital tract being overlooked. In each case the midwife, according to her rules, had to call in a medical practitioner, so that appropriate treatment could be given. Such cases as comply with the definition given would then be notified by the medical practitioner under the Puerperal Pyrexia Regulations, and during the year under the Health Visiting Committee's Scheme a second

opinion was obtained in 8 cases, and 20 cases sent to hospitals. In 9 instances the patients remained at home and special nursing was provided.

In addition to the cases referred to above, it was ascertained that 13 patients from the Health Visiting area were sent to hospital and one was seen by a Consultant through other agencies.

Infantile Mortality.

The infant mortality rate for 1933 was 69 per 1,000 live births, the same rate as last year. The rate in urban districts was 72 compared with 76, and in the rural districts 63 as against 54 in the previous year. In England and Wales in 1933 the infant mortality rate was 64 compared with 65 last year. It has been often noted in examining the causes of death of children under one year that in recent years there has been no reduction in the deaths from prematurity, malnutrition, and such like causes in the country generally, and the following table, giving the death-rates per 1,000 live births in the County during the last decade, shows little variation from year to year :—

Year.	Live Births.	Deaths from Congenital Debility, Malformations, and Premature Birth, &c.	Death-rate per 1,000 Live Births.
1924	15,546	551	35·4
1925	15,241	521	34·2
1926	14,535	496	34·1
1927	13,856	453	32·7
1928	13,742	428	31·1
1929	13,125	420	32·0
1930	13,243	409	30·9
1931	12,752	459	36·0
1932	12,335	443	35·9
1933	11,424	413	36·1

Under the rules of the Central Midwives' Board, deaths of infants within the first 10 days of life are notified by midwives

and 154 deaths were so reported, the causes of death being as follows :—

Asphyxiated	5
Atelectasis	1
Cerebral Hæmorrhage	3
Congenital Heart	19
Convulsions	20
Deformities	7
Feebleness and Prematurity	87
Inattention at birth	2
Injury at birth	1
Pneumonia	1
Over-laying	2
Septic jaundice	5
Spina bifida	1

Clinics and Treatment Centres.

The number of Clinics and Treatment Centres was set out in detail in the 1930 Report. Since 1932 the only changes have been the transfer of the Penn Infant Welfare Centre to the County Borough of Wolverhampton, consequent upon the alterations in boundary which took effect on the 1st April, 1933, and the closing of the Gnosall Combined School Clinic and Infant Welfare Centre, which was due to the fact that the attendances there did not justify its continued existence.

The County Council have now 32 Combined School Clinics and Infant Welfare Centres and 8 Infant Welfare Centres. These Centres serve the more populous portions of the County Health Visiting Area and, with the exception of the very smallest Centres, special arrangements have been made for ante-natal work. In addition to these Centres, a voluntary Centre at Tutbury has been in operation, apart from the County Council scheme.

Work of the Centres and of the Health Visiting Scheme.

As already mentioned, the County Health Visiting Area serves a population of 306,444, which at the end of the year included 12 urban and 13 rural districts as well as two parishes forming part of one of the rural districts in Shropshire.

In the table at the end of the report will be found details of the work at the Centres.

In 1933, 800 attendances were made by expectant mothers compared with 744 in the previous year.

26,276 attendances of children under one year as against 26,152 in 1932 and 31,123 as against 28,716 of children between one and five years.

I am glad to report that the attendances of expectant mothers show an increase over 1932—800 as against 744—and this in spite of the fact that the number of births is less than in the previous year. Also many cases must have been referred by the midwife direct to the practitioner for ante-natal supervision.

There has also been an increase in attendances of children under one year and between one and five years of age at the Centres. The increase in the latter is especially gratifying because during recent years great efforts have been made to induce the mothers to bring children during the toddler age for examination and it has been found that here, as in other parts of the country, mothers, while fully appreciating the necessity of bringing their children to the Centres during the first year of life, often find it difficult to understand why they should attend during the next few years before they start attending school, especially those who are apparently in good health.

The work of the Centres is chiefly educational ; cases requiring treatment being sent to their family doctor, except crippling conditions and those who must be seen by an ophthalmic surgeon. 97 new cases as against 123 last year were sent to orthopædic clinics for out-patient treatment in the first instance, 3 being admitted as in-patients. In addition 17 more patients were recommended for in-patient treatment, making a total of 20 patients admitted to hospital.

The following is a list of orthopædic cases referred for treatment :—

Arthritis	2
Birth Fracture of Left Clavicle	1
Bow Legs	22
Cerebral Diplegia	1
Congenital Deformities	3
Coxa Vara	1
Club Foot	8
Deformities due to Infantile Paralysis	6
Flat Feet	4
Flat Feet and Valgoid Ankles	1
Fracture of Humerus	1
Hammer Toes	1
Knock Knees	12
Knock Knees and Flat Feet	18
Metatarsus Varus	5
Rickets	6
Supernumerary Thumb (left hand)	1
Upper Dorsal Kyphos	1
Webbed Fingers	2

In one further case no treatment was advised.

It will be noted that only six cases of rickets are given in this list, but of course there are many more conditions, classified under other headings, of which rickets has probably been the primary cause.

The eye cases in children under 5 seen by the County Ophthalmic Surgeon included 79 new cases, for whom glasses were necessary in 46 instances. In five cases other forms of treatment were advised. 235 other cases seen previously were re-examined. In 10 cases the Committee provided the glasses prescribed.

At the end of the year there were 38 whole-time Health Visitors compared with 39 the previous year, the appointment of one Health Visitor being terminated consequent upon the extension of the County Borough of Wolverhampton. These Health Visitors serve a population of approximately 231,082, two of them being Lecturers on Mothercraft. There are 45 part-time Health Visitors serving a population of approximately 75,362, mainly in the Rural Districts. These are District Nurses appointed by District Nursing Associations who, before they took up their duties, received special instruction at Sedgley under the direction of the whole-time Health Visitors there. On reference to the table at the end of the Report the districts and populations served by both whole-time and part-time Health Visitors are set forth.

The visits paid by the Health Visitors during the year were as follows :—

To expectant mothers.

(1) First visits	1,463
(2) Total visits	4,485

To infants under 1 year.

(1) First visits	4,661
(2) Total visits	44,889

To children, 1—5 years.

Total visits	86,401

Lectures on mothercraft, which were instituted three years ago, have been continued at the Infant Welfare Centres. During the year 395 lectures were given at 30 Centres in various parts of the Health Visiting Area, at which there were 7,773 attendances of mothers. The syllabus of these lectures is comprehensive and covers ante-natal care, the feeding and care of infants, clothing of infants (including demonstrations in cutting out clothing, &c.), the care of the toddler, and hygiene of the home. From the interest displayed and the questions asked at the end of these lectures it

is obvious that they fulfil the purpose for which they were started, viz., to educate the mother to a better understanding of herself and her child.

The County Council have not established any Orthopædic Clinics, but have arrangements with voluntary bodies who have established Orthopædic Clinics at Leek, Stourbridge, Hartshill, Birmingham, Stafford, Lichfield, Tamworth, Walsall and Dudley, where cases are received on payment.

The Tuberculosis Dispensaries in the County are under the control of the Joint Committee for Tuberculosis. There are twelve dispensaries of which four are main dispensaries and have been built specially for the purpose.

Children Act, 1908

In the Health Visiting Area the Health Visiting Inspectors, the whole-time Health Visitors, and the part-time Nurses have been appointed as Infant Life Protection Visitors. The work of supervision and visitation of the children who are boarded out under Part I. of the above Act, is carried out by these Visitors. A preliminary examination is carried out by the Health Visitor when an application is received for registration of the foster-home, and monthly visits are subsequently paid by her. Regard is had to the general health and well-being of the children, and the suitability of the premises for their reception. The County Council also have power to limit the number of children under nine years in such a home.

The work carried out under this scheme during the year is shown in the following tabie :—

Number of children on Register at the end of December, 1933	57
Number of reports on visits to children received during the year 1933	581
Number of new cases during 1933, for which preliminary reports were sent in by Health Visitors	24
Number of foster parents on Register at end of 1933	54

In addition, a home was registered where children are received from a large hospital for convalescence, the maximum number being fixed at four, two of which must not be under five years of age. The usual period of stay is approximately two weeks, and during 1933 twenty-three children were received. At the end of the year there were two children in the home.

Venereal Diseases

Under the County Council scheme for the treatment of Venereal Diseases agreements have been made with the North Staffordshire Royal Infirmary, Stoke-on-Trent; the Staffordshire General Infirmary, Stafford; the Royal Hospital, Wolverhampton; the General Hospital, Walsall; the Guest Hospital, Dudley; and the Corbett Hospital, Amblecote, for the establishment of special clinics, and specimens from these treatment centres (excluding Wolverhampton and Walsall), from Stoke-on-Trent Municipal treatment centre, and also from medical practitioners in the Administrative County and the City of Stoke-on-Trent are dealt with at the County Bacteriological Laboratory.

The following table shows the number of Staffordshire cases treated during the year, including cases from the County who attended clinics outside the area:—

STAFFORDSHIRE CASES TREATED FOR VENEREAL DISEASES DURING THE YEAR 1933.

CLINIC.	Syphilis	Soft chancre.	Gonorrhoea.	Non-Venereal.	Total.	Attendances.
Birmingham General Hospital ..	11	3	23	21	58	1402
Burton-on-Trent General Infirmary ..	—	—	4	2	6	65
Derby Royal Infirmary	4	—	8	4	16	350
Dudley Guest Hospital	26	—	51	43	120	6031
Salford	—	—	—	—	—	1
Stafford (Staffs. General Infirmary) ..	25	—	22	39	86	3099
Stoke-on-Trent (North Staffs. Infirmary)	74	1	48	80	203	14159
Stoke-on-Trent (Municipal Clinic) ..	16	—	45	36	97	3690
Stourbridge (Corbett Hospital)	1	—	20	2	23	2623
Stockport	—	—	2	—	2	5
Walsall	10	—	8	12	30	1467
Wolverhampton Royal Hospital ..	40	—	92	92	224	5411
TOTALS	207	4	323	331	865	38303

In comparing the total number of cases treated at the clinics with those for last year it has been found that 865 patients were treated as against 848. It is gratifying that the attendances in proportion to the new cases still maintain a high ratio. These figures show that the patients are anxious to get the best out of the treatment.

At the end of 1933 there were 38 medical practitioners authorised to receive free supplies of Salvarsan or its substitutes for the treatment of Staffordshire cases in their practices; 11 doctors on the list availed themselves of this provision during the year.

Water Supplies

Owing to the continued drought in 1933 the problem of rural water supplies has exercised the minds of all those concerned with Public Health. In May the Ministry of Health issued a Circular on the subject suggesting steps which might be taken to improve existing supplies in rural districts and to investigate the possibilities of new supplies where they did not already exist. It was suggested in this Circular that a thorough survey of rural areas should be made by the authorities concerned in order that reliable information might be obtained as to the condition of existing supplies and availability of new supplies, and consideration given to the improvement of conditions. This Circular was considered by a Sub-Committee of the County Council and in view of the fact that there were certain rural areas in which the water supply was known to be inadequate or unsuitable it was decided to arrange for a survey of such areas by a Consulting Engineer, and that his reports and recommendations should be referred to the District Councils concerned, with a view to the necessary action being taken by them. All Rural District Councils were communicated with and asked to state in what parts of their district the water supply was known to be deficient. Information was also gained from Women's Institutes, from the Annual Reports of the Medical Officers of Health, and from investigations by County Council officers. It was anticipated that after the preparation of water schemes the District Councils would no doubt make application to the County Council for grants under Section 57 of the Local Government Act, 1929.

A Consulting Engineer was accordingly appointed and his reports and recommendations on most of the areas concerned have already been considered.

The problem of water supplies in Rural Districts is often a difficult one, as the populations are frequently sparse and scattered, and the houses are of such low rateable value that little financial return can be expected from the extension of existing schemes or the establishment of new ones. In some districts co-operation between adjoining Rural District Councils might very well take place, whereby a number of villages could be linked together by a common water supply.

In my Annual Report each year I have given details of improvements in the water supplies of urban and rural districts and of unsatisfactory conditions for which remedial measures were being undertaken or which were to be considered in the near future. This information has been extracted from the Annual Reports of district Medical Officers of Health and below are given details for 1933.

BIDDULPH U.D.—It was noted last year that the Council had decided to put a new reservoir at Biddulph Park, to carry out certain extensions to mains, and to provide an additional engine to the plant of the Elmhurst Pumping Station. This scheme has received the approval of the Council and the sanction of the Ministry of Health is now awaited.

The Medical Officer of Health remarks that the drought has severely taxed the springs and wells supplying outlying farms and isolated dwellings not situated within the area of supply of the Council's mains.

KIDSGROVE U.D.—*Newchapel Ward.*—"An additional supply of water, under agreement with Congleton Rural District Council, has been available since January, 1934. The supply of water to this ward is now entirely satisfactory, and there has been no shortage."

LEEK U.D.—An additional supply has been sought at Pool End in the parish of Rudyard. A bore hole has been sunk to a depth of 500 feet and a satisfactory supply of water is reported to have been found. It is proposed to pump water from there into the existing reservoir. An Inquiry by the Ministry of Health was held early in 1934, sanction has been obtained, and the work is now in progress.

UTTOXETER U.D.—The water scheme for Quixhill provides the town with an abundant supply of water. 25,000 gallons a day is being purchased by the Uttoxeter Rural District Council for supplying the village of Rocester.

CANNOCK R.D.—"Eighty-four samples of water were submitted to the County Analyst and the County Bacteriologist for examination: 67 of these samples showed evidence of pollution and 17 were satisfactory in quality. The bulk of these samples were taken at Lapley and Stretton. Most of these were polluted, and as there is a piped supply now available, action is being taken to compel the owners to connect." A piped supply as supplied by various public water undertakings in the district was satisfactory.

CHEADLE R.D.—The Medical Officer of Health reports:—"The water supply of the district as a whole is remarkably good. It has only recently been considered desirable to put any restrictions on the use of the available supplies and this notwithstanding the very dry weather experienced during the last year or more."

Freehay and Hollington.—A scheme has been prepared for the villages of Hollington and Freehay, towards which the County

Council has promised a grant, and it is hoped that this will be extended to supply the village of Boundary and other more sparsely populated parts of the district.

The village of Draycott has suffered badly from a shortage of water during the drought. The water supply of this village is from a public well and numerous private wells, practically all of which are dried up.

GNOSALL R.D.—The Medical Officer of Health in his Annual Report gives details of several villages in which the supply of water is deficient. As this whole district, most of which was transferred to the Stafford Rural District on the 1st April, 1934, has been the subject of a survey by the County Council's Consulting Engineer, it is hoped that schemes will be formulated by the Rural Council for improvement of its supply in the near future.

LICHFIELD R.D.—All the more populous areas in this district, with the exception of Yoxall, have a public source of supply.

Parish of Yoxall.—The supplies from the wells in the village are practically all unfit for drinking purposes, as is shown by the result of sampling by the Medical Officer of Health during the year—out of 73 samples of water from 37 wells, 32 were condemned by the Bacteriologist.

MAYFIELD R.D.—In April 1934 this Rural District ceased to exist as such under the Local Government Act, 1929, and from reports received from the District Council it would appear that there are many villages and parishes in which the supply of water is known to be deficient. In these areas the County Council's Consulting Engineer is making a survey.

NEWCASTLE R.D.—" The improvement of the water supply in a number of villages has been the subject of much attention and it is satisfactory to be able to record that the question of the provision of a main supply where it is most needed has been considerably advanced. A supply from the Bearstone Waterworks in Nantwich Rural District will shortly be made available to houses over a wide area in this district. A favourable report was given by a geological expert with regard to increasing the output of the Audley Waterworks and it is intended to start work on a new bore hole at an early date. As a result of an exceptionally dry summer, a shortage of water was experienced in some of the more rural parts of the district and water had to be carried a distance in some of the villages."

Under the County Council scheme for a survey of water-deficient areas, the Rural District Council reported several villages

and districts in the latter part of 1933, and a full investigation has been carried out by the County Council's Consulting Engineer. As a result of his report, the Rural District Council will no doubt formulate further schemes for the improvement of water supplies in these areas.

SEISDON R.D.—Attention was drawn in my 1932 report to the fact that Pattingham was without a public water supply, and this is one of the parishes where the County Council's Consulting Engineer has been investigating the possibilities.

STAFFORD R.D.—The Medical Officer of Health reported that " the drought had resulted in the drying up of many wells and a diminished supply in others, rendering such well water unfit for drinking, with the consequence that many farmers have been unable to procure sufficient water to cool the milk—a very serious defect in a milk producing district."

Dr. Marson also observes that now that samples are submitted for bacteriological examination as well as for chemical analysis, the water supplies of new houses have been found to be deficient in a greater proportion than heretofore—out of 31 samples submitted 29 were found to be unfit for drinking as a result of bacteriological examination.

Aston.—At long last arrangements have been completed whereby water will be supplied by the Stafford Corporation undertaking, by an extension of the mains from Doxey.

STONE R.D.—The Medical Officer of Health reports that the water supply of Eccleshall still remains unsatisfactory. This matter has formed the subject of communication for some years past between the Stone Rural District Council and the County Council, but as a survey of the whole parish has been made by the Consulting Engineer it is hoped that the complete scheme will soon be formulated and presented to the Ministry for sanction.

TAMWORTH R.D.—The village of Drayton is supplied by springs and conveyed to a tank in the locality of the houses, but this has not proved altogether satisfactory. The Medical Officer of Health reports that it is surface water and during heavy rains the water becomes turbid.

In Croxall, water has had to be carted for cattle and cooling milk.

TUTBURY R.D.—An extension of the South Staffordshire Waterworks mains has taken place in the parishes of Outwoods and Branstone, about 2½ miles.

UTTOXETER R.D.—*Abbots Bromley.*—"The village of Abbots Bromley obtains its water from shallow wells covered in. The supply is good but liable to surface pollution."

Rivers Pollution Prevention

A Hydrographical Survey of the River Trent was instituted by the Standing Committee on River Pollution of the Ministry of Agriculture and Fisheries in 1923, and has been continued yearly since that date.

In the accompanying Table the percentage of oxygen saturation in the streams at certain fixed points is shown. The extent of the pollution can be judged when it is remembered that a percentage saturation of oxygen below 65 means that the stream is too polluted to support fish life. On reference to the Table it will be noticed that the heavy pollution of the streams that is now taking place in the industrial areas is observed for a considerable distance down stream. Unfortunately, as the streams in the industrial areas are so small, the degree of purification of effluents before discharge into them has to be much greater than if they found their way into a large river and, consequently, the expense is correspondingly greater. In last year's Report a summary of the work undertaken by the various Sanitary Authorities during the year was given, and this year similar details are included in the succeeding paragraphs. The greater part of this information was culled from the Annual Reports of the District Medical Officers of Health.

RIVER TRENT.

Location.	Percentage of Oxygen Saturation.																							
	1923	1924				1925		1926		1927		1928		1929		1930		1931		1932		1933	
	July	May	June	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.
River Trent at Strongford Bridge	38	28	33	29	47	25	35	41	45	53·5	40·5	6·5	30·0	16·5	6·0	19·0	26·0	50·0	20·0	21·6	37·2	46	28
River Trent at Darlaston above Stone	48	52	50	29	49	29	30	21	29	41	34·5	17·0	14·0	26·0	19·0	28·5	37·0	39·5	56·5	1·3	36·4	27	20
River Trent at Aston, below Stone	31	47	50	34	43	37	30	24	29	44·5	43	29·5	50·5	16·5	25·0	13·5	34·0	36·5	59·0	6·6	28·2	21	15
River Trent at Great Haywood Mill, before receiving River Sow	43	52	42	37	47	38	12	21	40	33·5	50	14·0	41·5	13·5	31·5	33·5	39·0	50·5	56·5	36·5	37·8	32	10
River Trent at Great Haywood Mill, below Weir ..	..	65	57	60	61	48	33	40	43	48	60	46·5	51·0	49·5	56·5	60·0	62·0	57·5	60·5	43·2	45·4	48	18
River Sow at G.N. Railway Bridge	44	80	73	58	71	66	71	40	57	52	68·5	63·0	59·5	79	62	69·5	53·5	64·0	67·5	71·1	67·0	75	107
River Sow at Brick Bridge	63	107	93	59	73	102	89	33	75	36	67·5	88·5	67·5	66	52	54·5	59·5	58·0	58·0	87·9	63·5	66	66
River Penk at Radford	49	78	65	60	66	115	86	56	82	26·5	34·5	66·5	64·0	91	73	81·0	59·5	74·0	72·5	77·9	71·0	65	76
River Sow at St. Thomas	44	88	74	53	69	69	56	22	65	40	52·5	57·5	32·5	44	42	49·5	42·5	66·5	62·5	68·1	60·0	33	61
River Trent at Weetman's Bridge, near Little Haywood	49	68	53	43	50	38	44	27	34	27·5	51	35·0	48·0	38·5	29·5	51·5	49·0	51·0	57·5	39·0	44·5	36	36
River Trent at High Bridge, below Rugeley Sewage Works	64	74	69	61	52	53	46	31	48	35·5	51	45·5	42·0	36·5	29·0	57·5	53·0	57·5	67·5	47·1	54·5	43	45
River Trent at Wychnor Bridge, above confluence with River Tame	60	89	71	81	85	99	81	70	76	62	78·5	80·5	80·5	62	59·0	79·0	75·5	67·0	81·0	52·2	58·6	58	54
River Tame at Walsall Road Bridge, Perry Barr, before entering Birmingham	28	44	48	32	37	13	11	21	39	37	31·5	19·0	26·0	25·5	42·5	50·5	30·0	5·0	28·5	32·6	23·1	19	23
River Tame at Chetwynd Bridge, above confluence with River Trent	50	64	70	60	45	44	46	37	46	45	53	39·0	47·5	39	36·5	50·0	51·5	61·0	61·5	28·0	52·0	37	50
River Trent at Walton Bridge, below junction with River Tame	..	65	72	74	56	42	39	45	53	56·5	67	56·5	57·5	47	45·5	61·0	53·5	57·0	71·5	29·7	57·0	49	59
River Trent at Burton Bridge (North Boundary of Burton-on-Trent)	58	70	67	73	65	77	57	54	62	46·5	71·5	66·5	56·5	48	52·5	63·5	54·0	58·0	69·5	50·6	57·7	52	59
River Dove at Monks' Bridge, above confluence with River Trent	69	106	99	103	84	100	103	83	100	87·5	88·5	104	105	84	78·5	104·0	77·5	87·0	96·0	89·7	97·4	102	100
River Trent at Willington Bridge, below confluence with River Dove	..	93	74	82	77	82	72	58	63	62	78·5	88·5	73·5	76	62	84·0	65·0	67·5	78·5	57·0	71·7	73	68

RIVER MERSEY WATERSHED.

BIDDULPH U.D.—" The time has arrived when it is necessary that steps be taken to provide substantial additions to the drainage system. Rapid development of the district during the last 12 months will necessitate new main sewers and additions to the existing works at Marsh Green. The work of renewing the media in the existing beds is in progress and when this is completed all the bacteria beds will be in a highly satisfactory condition."

KIDSGROVE U.D.—*Newchapel Ward.*—A scheme has been prepared and approved by the Council for carrying out the necessary alterations and extensions to the Rookery Sewage Works and to make provision for the conversion of existing privies to the water carriage system. This scheme has been submitted to the Ministry for approval and it is hoped that the work may be in hand at an early date. The sewage from Harrisehead, Newchapel and Whitehill will then be diverted into the sewage works and the treatment of the whole of the sewage of Newchapel Ward will be concentrated at the Rookery Works.

Talke Ward.—There is no proper system of sewage treatment in this Ward, which has a population of approx. 5000. This matter was referred to in my Annual Report for 1932 and it is obvious that proper provision should be made for dealing with the sewage in this Ward. A scheme for the treatment of sewage is in course of preparation.

NEWCASTLE R.D.—The question of the drainage and sewerage schemes for Halmerend and Alsagers Bank is still under consideration. The County Council have offered to contribute £1000 a year towards the cost of this scheme, but as the parish is in a distressed area with a very high rate of unemployment, the question of a considerable grant being made towards its relief from the general expenses of the Rural District under Section 56 of the Local Government Act, 1929, is being considered and it is hoped that a decision to proceed will be reached at an early date.

RIVER TRENT WATERSHED.

LEEK U.D.—" The comprehensive scheme of laying down new outfall sewers and constructing new sewage disposal works at Leekbrook, designed by the Surveyor to the Council, has been completed, and the town has now one sewage disposal works for dealing with the whole of the domestic sewage and trade wastes. The broad irrigation method previously carried out for dealing with the West and North ends of the town will now be abandoned, and the old disposal works at Barnfields which dealt with the sewage and trade waste from the South District will be discontinued, as well as the trade waste sewer in the North District, which

formerly discharged the trade waste direct to the river, and the proposed added areas of Ladderedge and Cheddleton Heath can be dealt with."

CHEADLE R.D.—*Cheddleton.*—" The sewage from this district flows at present into a temporary settling tank before being treated on the land." A scheme is being considered for the construction of a new works where provision may also be made for dealing with the sewage from the Cheddleton Mental Hospital.

NEWCASTLE M.B.—At present there are 6 points of outfall to disposal works of various types, some of which are inadequate or unsuitable for the purpose. Agreement has been reached with the City of Stoke-on-Trent and certain of these works will be discontinued. the sewage being conveyed by new outfall sewers to the recently constructed works at Strongford Bridge to the South of the Borough.

Effluents from the Holditch Sewage Farm, from Silverdale Sewage Farm and from Cross Heath irrigation area are discharged into the Lyme Brook, which also receives waste water from bye-product works, etc., whilst the effluents from Tunstall Sewage Works discharge into the Fowlea Brook. Both these streams are of small size and receive considerable quantities of sewage and trade effluents. The period of drought during the year considerably taxed the cleansing capacity of these streams and although no unusual pollution gave rise to complaint, a great improvement in conditions is anticipated when the new sewage disposal scheme, now well advanced, is operating.

LEEK R.D.—I noted in my report for 1932 the necessity for a sewage scheme for Baddeley Green in the parish of Norton-in-the-Moors, but no further action appears to have been taken in the matter.

CITY OF STOKE-ON-TRENT.—It was hoped that the new works at Strongford, where the sewage of the Stoke and Fenton Districts and of Newcastle will be treated, would be in operation by the early part of 1934.

Meir sewage works have been extended to provide for the growing population of the area. There are already indications that the population will exceed the provision sanctioned by the Ministry in connection with these works.

Improvements made to the Hanley works are not yet complete. This will enable them to deal with sewage from the eastern area of the City, which is being diverted into the new main valley sewer as early as possible.

STONE R.D.—*Barlaston.*—For several years in the Annual Report I have noted the urgent necessity for a sewage scheme for this village. I understand that a scheme has been prepared by a firm of sewage engineers which is now under consideration by the Council.

STONE U.D.—The question of sewage disposal in this district has been the subject of communication between the County Council and the Urban District Council. The latter have been urged to extend their existing works and to call in a Consulting Engineer to advise them. This they have done and a scheme has been prepared and is under consideration by the Council.

UTTOXETER U.D.—Owing to the growth of the town by the erection of new houses, the present system of sewage disposal is being used to its utmost capacity. A scheme has been prepared by Consulting Engineers for the enlargement of the present works. This matter has been the subject of communication between the Urban District Council and the County Council for some considerable time and it is hoped that a decision about the matter will soon be reached.

UTTOXETER R.D.—*Rocester.*—The Medical Officer of Health again reports that the sewage works are inadequate.

WOLVERHAMPTON C.B.—The large sewage disposal works at Barnhurst were officially opened in November, 1933.

Moseley Village sewerage scheme is now completed and the sewage from this part of the Borough is conveyed by the new sewers to the main sewerage system of the town, and, together with a pumping station and a rising main, form a new scheme for the Marsh Lane district.

SEISDON R.D.—*Codsall and Wrottesley.*—Sewage conditions have been unsatisfactory in these areas for many years and new works have now been completed at Bilbrook and were formally opened in March, 1933.

BROWNHILLS U.D.—*Norton Canes.*--A scheme has been prepared for sewerage and sewage disposal works for Norton Canes district for submission to the Ministry.

CANNOCK U.D.—In October new main sewage disposal works at Longford Lane were opened. Except for the sewage from some 5000 persons, for which provision is made at the Disposal Works at Cannock Wood and Heath Hayes, practically the whole of the sewage in the district flows to the old and new main disposal works.

STAFFORD R.D.—A sewerage and sewage disposal scheme for Walton, Milford and Brocton was considered by the Rural District Council in 1933, but it has since been decided to deal only with the Milford and Walton sewage, at any rate for the time being.

CANNOCK R.D.— A comprehensive scheme of sewerage and sewage disposal for a large area of Brewood, including a part of Bushbury, has been prepared. The scheme included the sewering of Coven, which was mentioned in last year's report, and which has no satisfactory method of disposal. No action has yet been taken for the sewering of Wood Lane, Saredon, and Wedges Mills in the parish of Cheslyn Hay, in order that the drainage from about 50 houses, which at present discharge into cesspools, can be satisfactorily dealt with.

RUGELEY U.D.—In the Report for 1932 mention was made of the difficulties that were being encountered by the District Council for the disposal of the waste from the Tannery. This is now being dealt with satisfactorily by the Tannery Company before discharge into the sewer, and the construction of a new sewage works has been commenced.

LICHFIELD R.D.—*Armitage and Handsacre.*—It has not been possible to proceed any further with the preparation of a scheme for sewage disposal in these districts.

Brindley.—Replacements to the sewage works in this village will be necessary in future as the distributors are getting old and trouble has been experienced during the year.

Alrewas.—The new works at Alrewas were completed in July (a grant was made towards the cost of these works by the County Council).

Shenstone.—A new storm overflow sewer has been made. This will obviate the flooding complaints which have been received in the past.

TUTBURY R.D.—The new sewerage scheme in the parish of Barton-under-Needwood has been completed.

RIVER TAME WATERSHED.

OLDBURY (Worcs.).—In my report for 1932 I mentioned the formation of a scheme for a new sewage works for this district. The estimated cost was £104,000 but the Ministry suggested that a modified scheme should be undertaken, by which a portion of

the sewage would be dealt with in the existing secondary sedimentation tanks and percolating filters, and new works would be constructed to deal with the remainder of the flow. The scheme has accordingly been amended and will cost approximately £50,000. It has received the approval of the Ministry of Health and is now in course of construction. When completed it is anticipated that a great improvement in the condition of the River Tame will be effected.

BROWNHILLS U.D.—*High Heath and Shelfield.*—A scheme is in course of preparation for the sewage from High Heath and Shelfield to be dealt with at the new sewage works at Goscote, the joint scheme of the Walsall County Borough and Walsall Rural District.

Mining subsidence at Brownhills West and at the sewage farm, Walsall Wood, has necessitated repairs to the works and relaying of sewers.

WALSALL R.D.—As noted above, a combined scheme with the Walsall Borough has been prepared and the new sewage works at Goscote has been commenced.

BILSTON U.D.—A scheme for the sewerage of the Bradley Lane area—mentioned in my Report for 1932—is now in hand.

WALSALL C.B.—*Goscote Joint Sewerage Works.*—As noted above, a joint Sewerage Works is to be built at Goscote and work has already been commenced. These works, when constructed, will take the place of three small sewage works in the area. In connection with this scheme sanction has been obtained from the Ministry of Health for the laying of sewers to connect up various areas in the Borough.

Bescot Sewage Works.—A scheme has been prepared for the extension of these sewage works. An experimental tank has been constructed in the Leamore area with a view to giving rough settlement treatment to stormwater from the sewers before it enters the watercourse.

Plans are being prepared for a similar tank in the Bloxwich area.

DUDLEY C.B.—Work is in progress on the laying of sewers in the Himley Avenue and Himley Road areas. This will entail the erection of a Pumping Station.

WEST BROMWICH C.B.—The new outfall works at Ray Hall, mentioned in my Report for 1932, is well advanced in construction, also the remodelling of existing works at Friar Park and the laying of sewers in the Perry Barr area. It is anticipated that considerable improvement will be noted in the River Tame when this work is completed.

WILLENHALL U.D.—Extension of the sewerage system was carried out at Portobello during the year, involving the laying of new sewers and the thorough cleansing of the main outfall sewer in Bilston Street at the head of the system in Portobello.

DARLASTON U.D.—It has been found that the filtration area at the sewage works was inadequate and a scheme has been formulated to provide two additional filter beds.

TIPTON U.D.—*Sewage Disposal Works.*—A scheme for the digestion of sludge at these works was submitted to the Ministry of Health. A public inquiry has been held and the Council are now awaiting the report of the Consulting Engineer.

TAMWORTH JOINT.—As noted in my Report for 1932 the pumps at the Joint Committee's pumping station had been found inadequate during heavy storms. During the year a Ministry of Health inquiry was held at Tamworth and sanction has since been obtained to the necessary expenditure for new pumps and storm settlement tanks at the pumping station, as the first instalment of what should be a much larger scheme.

UPPER STOUR VALLEY MAIN DRAINAGE BOARD.—Owing to the rapid development of housing in the Dudley C.B. and Tividale in the Rowley Regis Urban District, these works have been overloaded for some time past, and extensions approved by the Ministry of Health have been carried out.

RIVER SEVERN WATERSHED.

WOLVERHAMPTON C.B.—The Smestow Brook throughout the whole of its length from the race course ground to the Borough boundary has been widened to 20 feet and the necessary new culverts under the Great Western Railway and the Tettenhall Road have been constructed. Graisley Brook has been straightened, widened and concreted.

SEISDON R.D.—*Wombourn.*—It was noted in my Annual Report for 1932 that the sewage scheme for Wombourn has been held up for financial reasons, but I understand that it has been revived and extended to include houses which have been added

to the parish owing to the alteration of boundaries under the Local Government Act, 1929.

KINGSWINFORD R.D.—At the Round Hill sewage disposal farm of Kingswinford Rural District, complaints have been received of unsatisfactory conditions during the last few years and the new authority now propose to prepare a scheme for dealing with these.

MINISTRY OF HEALTH INQUIRIES.

The following Inquiries were held by the Ministry of Health during the year 1933 into applications for loans in respect of schemes of sewerage and sewage disposal :

District.	Date of Inquiry.	Amount of Loan.	Purpose.
Newcastle M.B.	20.1.33 ..	£51,000 ..	For works of sewerage.
Walsall R.D.	15.2.33 ..	£5,575 ..	For works of sewerage in the contributory place ofGreat Barr.
Willenhall U.D.	24.5.33 ..	£2,495 ..	For works of sewerage at Portobello.
Walsall C.B. and Walsall R.D.	13.7.33 ..	£45,331 ..	For works of sewerage and sewage disposal to serve the Borough and the contributory places of Rushall and Pelsall.
Walsall R.D.	13.7.33 ..	£3,000 ..	For works of sewerage in the contributory place of Pelsall.
Tamworth U.D. and Tamworth R.D.	12.9.33 ..	£8,492 ..	For works of sewerage and sewage disposal.
Lichfield R.D.	14.11.33 ..	£13,140 ..	Being excess expenditure incurred on works of sewerage and sewage disposal.
Tipton U.D.	15.11.33 ..	£5,890 ..	For works of sewage disposal.

CONTRIBUTIONS TO DISTRICT COUNCILS FOR WATER AND SEWAGE DISPOSAL SCHEMES.

In the Report for 1930 the principles governing contributions from the County Council towards the cost of these schemes were set out in full. To summarise them briefly : if, after allowance has been made for the cost of a water or sewerage scheme, the rate which would have to be levied on the parish concerned is more than the average rate for the rural districts in the county as a whole, then the County Council agree to make a contribution towards the scheme, subject to the Rural District Council making a contribution towards the parish expenses of a sum at least equal to that of the County Council's grant. Details of the scheme must be submitted beforehand, and the necessity and suitability of the scheme must be approved by the County Medical Officer.

During 1933 applications in repect of five sewerage schemes have been under consideration, and in the two undermentioned cases it was agreed to make a contribution :—

Lichfield R.D.—Burntwood Scheme.
Newcastle R.D.—Audley Revised Scheme.

The applications in respect of two schemes were refused, and in one case consideration was deferred. In addition, towards the end of the year several applications for grants in respect of water supply schemes were received, but as the Government's proposals in that direction were not then known, consideration was deferred until early 1934.

The following are particulars of contributions which were made during 1933 in respect of sewerage and sewage disposal schemes considered in previous years :—

Sanitary District	Scheme	
Tettenhall U.D. ..	Tettenhall	1933–34.
Lichfield R.D. ..	Burntwood ..	1930–31 ; 1931–32
	Hammerwich ..	1930–31 ; 1931–32
	Little Aston	1931–32.
	Stonnall	1931–32.
Newcastle R.D.	Audley	1932–33.
Seisdon R.D. ..	Lower Penn ..	1931–32.

Rural Housing

HOUSING ACT, 1930.

As required by the Housing Act, 1930, the County Council enquired into the housing conditions in rural areas. The Rural District Councils were again asked to furnish returns in which information was required about the present needs of the districts. This included the steps contemplated or proposed by the Rural Council to meet these needs, the efforts which had been made in the past five years to bring unfit houses up to the required standard, to demolish those which could not be made fit, and to meet the shortage thus caused by the erection of further houses. Particulars were also requested in respect of houses unfit for habitation in which action could be taken under Part 1 of the Housing Act, 1930,—" Clearance and Improvement Areas "—and those houses which could be dealt with under the Rural Workers Act, 1926. These returns, a summary of which is given in the following table, were submitted to the Housing Sub-Committee of the Public Health Committee who recommended that conferences should be held with representatives of each Rural District Council to discuss the whole matter and examine the problems presenting themselves from various points of view. With the exception of

those districts which were absorbed into other districts on the 1st April, 1934, all the Rural District Councils were interviewed. It was pointed out by the County Council's representatives that the returns made were by no means uniform in character and in some cases were obviously incomplete, and that owing to either insufficient staff or alterations in boundary during recent years, complete housing inspections as required under the Housing (Consolidated) Regulations, 1925, had not been carried out in certain districts.

After full discussion of the problems two main points emerged —the inadequacy of the staff for carrying out housing inspections in many of the districts, and the problem of overcrowding. As regards the latter this is a problem which is not dealt with in the Housing Act, 1930, and no grant can be obtained from the Government for re-housing persons displaced from an overcrowded house except in an " Improvement " area, unless the house is also unfit and is to be demolished. Private enterprise can meet this need to a small extent only, and it is apparent that the Government contemplate some form of subsidy for overcrowded houses in the near future.

With regard to the re-housing of persons displaced from houses that have been demolished under the 1930 Act : a grant can be obtained from the Treasury spread over 40 years, which is based on the number of people displaced as a result of demolition. For every person so displaced the sum of £2 5s. 0d. is payable per year, and in agricultural parishes the appropriate sum is £2 10s. 0d. With reference to the agricultural population, the County Council is also required to bear the charge of at least £1 per annum per house towards the cost of the houses provided by the Rural District Council for persons engaged in agriculture or similar occupation.

HOUSING ACT, 1930.

RURAL DISTRICTS	Number of occupied houses on 31st December, 1932, totally unfit for habitation	Number of houses known to be not in all respects reasonably fit for habitation on 31st December, 1932	Number totally unfit houses demolished during period 1st January 1928 to 31st December, 1932.	Number of houses rendered habitable during period 1st January 1928 to 31st December, 1932	Number of houses built for the working classes from 1st January, 1928 to 31st December, 1932		Estimated number of houses required to meet overcrowding		Estimated number of houses required to meet normal expansion during the year ending March 31st, 1934		Number of houses required for displaced tenants of unfit and overcrowded houses	Total Number of houses approved by Minister but not yet completed		Total number of houses contemplated during the year ending 31st March, 1934, but not yet approved by Minister		No. of houses unfit for habitation in which action could be taken under Part I. Housing Act, 1930 "Clearance and Improvement Areas"	No. of houses in which action could be taken under 1926 (Rural Workers Act) could be taken
					By local authority	By private enterprise or other authorities	For persons engaged in agriculture	For other persons of the working classes	For Agricultural Workers	For other persons of the working classes		For Agricultural Workers	For other persons of the working classes	For Agricultural Workers	For other persons of the working classes		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CANNOCK	—	284	—	680	9	257	—	57	—	50	57	—	—	—	—	—	About 15
CHEADLE	33	118	1	412	—	676	—	—	—	—	—	—	20	—	12	—	—
GNOSALL	2	8	—	160	16	31	—	—	—	—	—	—	—	—	—	—	5
KINGSWINFORD ..	51	1,728	64	1,579	316	105	—	183	—	Cannot say	234	—	50	—	Cannot say	14	—
LEEK	1	4	2	156	—	405	—	12	—	—	—	—	—	—	—	—	—
LICHFIELD	11	188	8	96	—	Probably 110	—	—	—	—	—	—	—	—	—	—	12
MAYFIELD	2	3	—	59	—	—	—	1	—	—	—	—	—	—	—	—	1
NEWCASTLE	8	43	2	350	12	Subsidised 62	—	1	—	—	9	—	—	—	—	8	—
SEISDON	54	8	3	131	—	—	5	12	35	65	70	—	—	—	33	33	51
SHIFNAL (Staffs. Portion)	—	—	—	—	—	—	—	—	6		—	—	—	—	—	—	—
STAFFORD	18	21	13	98	—	227	—	4	—	—	45	—	—	—	—	—	—
STONE	23	84	9	51	32	318	1	2	—	—	16	—	—	—	—	11	84
TAMWORTH	10	32	5	83	238	52	—	—	—	—	—	8	—	—	—	—	9
TUTBURY	12	244	2	6	28	245	2	23	—	—	22	8	30	—	—	—	—
UTTOXETER	23	39	—	71	30	—	—	—	—	4	23	—	20	—	—	14	—
WALSALL..	16	182	26	178	316	—	—	36	—	—	54	—	30	2	2	—	4

HOUSING (RURAL WORKERS) ACT, 1926.

At the conferences referred to above the matter of action under this Act was discussed. It was pointed out that little advantage had been taken of this Act by local property owners, and it was urged that the attention of owners generally should be drawn to it by the Sanitary Officers of the Rural Council at the same time as they were drawing attention to the defects found in property as a result of their inspections. Under this Act contributions can be given by the County Council for the re-conditioning of old houses in rural areas and for the conversion into dwellings of buildings not previously used for that purpose. Applications for grants must come from the owner of the property concerned. During the year grants were given in two instances affecting two houses, one application for assistance was refused and one was withdrawn. The Rural Districts and parishes concerned were as follows :—

Rural District.	Parish.	No. of Houses.	Amount of Grant.
Newcastle	Tyrley	1	£100
Stone	Chebsey	1	£100

Inspection and Supervision of Food

MILK SUPPLY.

In the following tables the number of samples of ordinary and specially designated milks taken during the year by the Official Sampling Officer of the County Council are shown, together with the results of the bacteriological and biological tests carried out in the County Laboratory. In the table of ordinary milk the numbers of samples taken in the various Sanitary Districts of the County are indicated.

ORDINARY MILK SAMPLES.

1st January to 31st December, 1933.

Sanitary Authority.	No. of Samples Submitted.	Result of Examination.		T.B. Found.
		Cleanliness.		
		Satisfactory	Unsatisfactory.	
Urban.				
Amblecote	1	1	—	—
Biddulph	49	39	10	2
Bilston	10	5	5	—
Brierley Hill	5	3	2	—
Brownhills	26	17	9	5
Cannock	20	14	6	1
Coseley	6	3	3	—
Darlaston	9	8	1	—
Kidsgrove	36	30	6	3
Leek	28	22	6	2
Lichfield	24	14	10	2
Quarry Bank	1	1	—	—
Rowley Regis	24	15	9	4
Rugeley	10	7	3	1
Sedgley	41	32	9	4
Short Heath	5	2	3	2
Stafford	80	53	27	6
Stone	16	13	3	2
Tamworth	24	19	5	1
Tettenhall	16	11	5	2
Tipton	9	3	6	—
Uttoxeter	8	5	3	2
Wednesbury	23	14	9	3
Wednesfield	11	7	4	—
Willenhall	10	7	3	2
Rural.				
Cannock	37	25	12	3
Cheadle	†*441	361	68	‡51
Gnosall	3	1	2	—
Kingswinford	22	13	9	4
Leek	92	69	23	4
Lichfield	106	82	24	5
Mayfield	29	21	8	2
Newcastle	71	58	13	9
Seisdon	50	40	10	5
Shifnal (Staffs.)	6	1	5	1
Stafford	29	22	7	3
Stone	43	37	6	7
Tamworth (Staffs.) ..	29	23	6	2
Tutbury	70	52	18	12
Uttoxeter	8	5	3	—
Walsall	36	25	11	4
Totals	† 1564	1180	372	‡ 156

* Special Investigation.

† Includes 12 samples not examined bacteriologically.

‡ One positive result was from two samples of milk bulked together for biological test.

Certain samples included above were unsatisfactory from a cleanliness standpoint and also contained tubercle bacilli. The total number of unsatisfactory samples was 487, and the results of the tests were as follows :—

Due to Coliform Bacilli	197
,, Count	70
,, Coliform Bacilli and Count	64
,, Coliform Bacilli and presence of tubercle bacilli	24
,, Count and presence of tubercle bacilli ..	6
,, Coliform Bacilli, Count, and presence of tubercle bacilli	11
Tubercle Bacilli only found	115

SPECIALLY DESIGNATED MILK.

1st January to 31st December, 1933.

	Total	Satisfactory	Unsatisfactory			
			Due to Coliform Bacilli	Due to Count	Due to Col. Bac. and Count	Due to T.B.
"Certified"	35	30	4	—	1	—
"Grade A" (T.T.) ..	230	195	19	4	11	2*
"Grade A Pasteurised" ..	13	11	1	1	—	—
"Grade A"	1140	963	63	30	35	56†
"Pasteurised"	109	93	—	14	—	2
Totals ..	1527	1292	87	49	47	60*†

* One sample also included under "Coliform Bacilli."

† Two samples also included under "Coliform Bacilli," two under "Count" and three under "Coliform Bacilli and Count."

(1) Cleanliness.

Ordinary Milk.—Of the 1,564 samples mentioned in the preceding table 1,552 were bacteriologically examined, and 1,180 were found to be satisfactory from a cleanliness standpoint, the remaining 372 being unsatisfactory. Of the unsatisfactory samples 329 were produced in the County and 43 outside. The percentage of samples reported clean was 76·0 compared with 75·5 last year.

The names of the producers of the unsatisfactory milks were, as in previous years, reported to the County Farm Institute, and the farmers concerned were communicated with by the Assistant Director for Agricultural Education, and offered every assistance. In accordance with the usual practice, if no improvement in the cleanliness of the milk resulted, the District Council in whose area the producer resided was communicated with, so that the necessary steps could be taken under the Milk and Dairies Order.

Specially Designated Milk.—Samples of all graded milks are taken monthly for bacteriological investigation, to ensure that the standard of cleanliness laid down in the Regulations is maintained.

On referring to the table it will be seen that of the 1,527 samples submitted for bacteriological test 183 were unsatisfactory from a cleanliness standpoint.

As regards the unsatisfactory samples of " Certified," " Grade A (T.T.)," and " Grade A " milks, 88 were produced in the County and 73 outside, whilst in six instances the source of production was not known. The sources of production of the 16 unsatisfactory samples of " Pasteurised " milks were not known, but only 3 were treated at premises within the County, the remaining 13 coming from outside.

(2) TUBERCULOSIS.

Ordinary Milk.—156 samples taken by the Official Sampling Officer during 1933, representing 10% of the total samples, were found to contain tubercle bacilli, and investigations under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, were carried out in 133 cases, the remaining samples being duplicates, with the exception of 14 referred to outside Authorities.

In addition, two positive samples of ordinary milk were received from Sanitary Inspectors in the County, and the herds concerned were examined.

Complaints under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, were received from Medical Officers of Health of areas outside the County, where milk produced in Staffordshire is sold, and, as a result, investigations were made in 93 instances

The following table gives details of the animals dealt with following the veterinary investigations :—

Samples taken by	Animals Slaughtered				Died before Positive Result of Test known
	Under Tuberculosis Order			By Owner	
	Advanced	Not Advanced	Not Tuberculous		
Official Sampling Officer	69	31	1	7	1
Sanitary Inspectors ..	—	2	—	—	—
Outside Authorities ..	60	18	—	10	—
Totals	129	51	1	17	1

In my reports for 1931 and 1932 particulars were given of investigations carried out as a result of complaints made by the Medical Officer of Health of Sheffield that tubercle bacilli were found in milk supplied in bulk from a large depot in this County. A third investigation was commenced in February, 1933, as a result of a complaint received from the Medical Officer of Health of the County Borough of Rotherham regarding milk from the same source, samples being taken by the Official Sampling Officer of each farm's supply before being mixed and bulked at the depot. The animals dealt with in this County as a result of subsequent veterinary examinations of the herds producing tuberculous milk are included in the preceding table, but the following record of the investigation is of interest. 228 samples from 224 sources were submitted for examination, and tubercle bacilli were found in 32 out of 225 samples examined biologically, viz., 14·2%. Twenty-six of the farms concerned were situated in Staffordshire, and the herds were examined by Veterinary Surgeons. As a result 18 animals were slaughtered under the Tuberculosis Order, 12 being in an advanced state, 5 not advanced, and 1 non-tuberculous. Of the remaining 6 positive samples, 4 were from farms in a neighbouring County, and the results of the representations made to the Authority concerned are included in the succeeding paragraph. The other two were bulk samples of milk supplied from large depots outside this County, and the Authorities concerned were informed accordingly. In one instance it was found that an investigation was already being conducted. A fourth investigation of the depot in Staffordshire was commenced in December, 1933.

Fourteen representations under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, were made to outside Authorities in respect of milk sent into this County for sale, samples of which taken by the Official Sampling Officer were found to contain tubercle bacilli. All these cases were investigated by the Authorities concerned, in 5 instances with negative results. In the remaining 9 tuberculosis was found, and 10 animals were slaughtered, 4 being in an advanced state. Information was not supplied as to the state of the disease in the remaining 6. Two of the advanced cases were dealt with as a result of the investigation mentioned in the preceding paragraph.

Specially Designated Milk.—As stated previously, samples of all graded milks are taken monthly for bacteriological investigation, and they are examined specially for tuberculosis quarterly as a routine. Subsequent to a positive result, however, samples are biologically examined monthly until such times as the milk is again negative.

From the table at the beginning of this section of my report it will be seen that 60 of the samples taken by the Official Sampling

Officer contained tubercle bacilli, viz., 2 " Grade A (T.T.)," 2 " Pasteurised," and 56 " Grade A."

The " Grade A (T.T.) " milks were not produced in this County, and the matter was referred to the appropriate Authority and the Ministry of Health.

With regard to the 2 positive samples of " Pasteurised " milk, they were treated at large depots, one within the County and the other outside, where the supplies are bulked, and the source of production is not therefore known. Subsequent samples gave negative results.

Of the 56 " Grade A " samples which were found to contain tubercle bacilli, 51 were produced in the County and 4 outside, whilst the source of production of the remaining sample was not known. With regard to the herds within the County, 26 investigations were made at 24 separate farms, the balance of the samples being duplicates.

In addition, 1 positive sample of " Grade A " milk was received from a Sanitary Inspector in the County.

Six investigations were also made on " Grade A " farms as a result of complaints from outside Authorities.

The following are particulars of the animals dealt with subsequent to the veterinary inspections :—

Samples taken by	Animals Slaughtered.				Died before Positive Result of Test known
	Under Tuberculosis Order			By Owner	
	Advanced	Not Advanced	Not Tuberculous		
Official Sampling Officer	10	5	—	5	1
Sanitary Inspector ..	—	—	—	—	—
Outside Authorities ..	3	2	—	—	—
Totals	13	7	—	5	1

As a result of the usual quarterly veterinary inspections of " Grade A " herds, 8 tuberculous animals were dealt with.

Of the 4 positive samples of " Grade A " milk produced outside the County, 3 were in respect of one farm. Representations to the Authorities concerned were made under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, and, as a result, 4 animals were slaughtered under the Tuberculosis Order, in one instance

the state of the disease being advanced, whilst as regards the other 3 information as to the state of the disease was not given.

(3) GENERAL.

From the foregoing it will be seen that, as a result of action taken under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, in connection with milk produced within the County :—

(*a*) 201 cows were dealt with under the Tuberculosis Order, the disease being in an advanced state in 142 of these, *i.e.*, 70·6%.

(*b*) 22 tuberculous animals were slaughtered by owners.

(*c*) 2 tuberculous animals died prior to positive results of tests.

It will also be observed that, in addition, 8 tuberculous animals were dealt with following the quarterly examinations of " Grade A " herds.

It will be noted that a large number of the cows slaughtered were suffering from tuberculosis in an advanced stage. Whilst young animals have a relative immunity to this disease, this is lost as they get older, so that from the public health point of view much more supervision is necessary in the case of older animals, and for this reason I am very glad to be able to report that in October the County Council approved the establishment of a whole-time veterinary service for carrying out inspections of herds and work under the Tuberculosis Order. The staff will consist of a Chief Veterinary Officer and six Assistant Veterinary Officers.

I give below particulars of the licences which have been granted for the production of graded milks, from which it is satisfactory to find that their popularity continues to be maintained.

At the end of 1932 the following licences were in force in this County :—2 for " Certified," 5 for " Grade A (T.T.)," and 82 for " Grade A " milks. On the 31st December, 1933, there were 3 " Certified " licences, 5 " Grade A (T.T.) " licences, and 80 " Grade A " licences. With regard to the " Grade A " licences, one was not renewed for 1933, 8 new ones were issued during the year, 8 were relinquished, and one farm was situated in the area transferred to the County Borough of Wolverhampton.

CHEMICAL EXAMINATION.

Samples analysed under the Food and Drugs Acts are shown in the report of the County Analyst, already referred to, from which it will be observed that 2,348 samples were submitted, 1,975 of which were found to be genuine and 373 adulterated or below standard.

(1) MILK.

During the year 1,747 samples of ordinary milk were chemically examined and 343 were found to be unsatisfactory.

One hundred and thirty-nine samples of specially designated milks were chemically examined, and 8 " Grade A," 2 " Grade A (T.T.)," and 4 " Pasteurised " milks were found to be below standard.

The following samples were also examined :—54 sterilised milks, 6 condensed milks, and 1 skimmed milk. They were all found to be satisfactory except 8 samples of sterilised milk and 3 samples of condensed milk.

Action taken.—Of the 343 unsatisfactory samples of ordinary milk, 28 were " appeal to cow " samples, and 131 were informal, and no action could be taken. In 78 cases, representing 140 unsatisfactory samples, two or more having been taken simultaneously from the same purveyor in several instances, the degree of deficiency in fat content was very small and cautions only were issued. Thirty-five prosecutions were instituted in respect of the 44 remaining samples, 32 for added water and 3 for deficiency of fat. Thirty-three were sustained, and in the other 2 cases the defendant absconded, so they were adjourned *sine die.*

As regards the graded milks, cautions were issued in respect of the 2 " Grade A (T.T.)," 1 " Grade A," and 3 " Pasteurised " samples which were unsatisfactory, the 7 other " Grade A " samples being informal. The remaining sample of " Pasteurised " milk was deficient in fat, and proceedings were instituted, which were sustained.

Four proceedings were instituted in respect of 4 unsatisfactory samples of sterilised milk, 3 for added water, and 1 for fat deficiency, and were sustained. The other 4 samples were informal, and no legal action could be taken. One informal and 2 formal samples of full cream condensed milk taken from the same firm were incorrectly labelled, the tins containing the equivalent of 0·77 pint of milk instead of 2 pints as labelled. A caution was issued.

In total, 85 retailers or producers were cautioned, and 40 proceedings were instituted. Fines amounting to £49 5s. 0d. with £50 17s. 0d. costs were imposed.

In addition to the above, proceedings were taken against a farmer's son who deliberately upset a churn of milk which the Inspector was about to sample, a fine of £4 with £4 14s. 6d. costs being inflicted.

(2) General Articles of Food.

Two samples of baking powder, one informal and one official, were found to be unsatisfactory. The official sample, taken as a result of the analaysis of the informal one, contained only 5·3% of available carbon dioxide, whereas a good quality baking powder should contain at least 8%.

One informal and one formal sample of ground ginger were taken from the same retailer. The formal sample contained 192 parts per million of sulphur dioxide. The retailer was cautioned.

Two informal samples of shredded beef suet were found to contain 1·9% and 1·8%, respectively, excess of the recognised maximum of rice flour. No action could be taken as these samples were informal.

Prevention of, and Control over, Infectious Disease

Smallpox.—No case of smallpox was recorded in 1933, a similar experience to that of last year.

Scarlet Fever.—The incidence of this disease in the County was considerably more than that for the previous year. There were 1,249 notifications as against 787 last year, 940 in urban districts and 309 in rural districts. Six deaths occurred in urban and one in rural districts. The case rate per thousand of the population is 1·74 compared with 3·21 for England and Wales as a whole. The death-rate in urban and rural districts is 0·01 and 0·00 respectively. The prevailing type of the disease was mild.

Diphtheria.—Fewer cases were notified in 1933 than in the previous year, the numbers being 383 as against 505. The decrease was mainly in the urban districts where there were 267 cases compared with 353 in 1932. 116 cases were notified in rural districts as against 152 in the previous year. The case rate was 0·53 compared with 1·18 for England and Wales. Nine deaths occurred in urban districts with a death-rate of 0·02 per thousand of the population. Eleven died in rural districts, which yields a death rate of 0·05. On reference to the tables at the end of the report the numbers and death-rates for each Sanitary District will be found.

It is gratifying to note the comparatively small number of cases that have occurred this year, and as would be expected, the reduction is chiefly found in the urban districts. The prevailing form of diphtheria, although more severe than scarlet fever, was mild. Cases were notified in all but three of the forty-two Sanitary Districts, but in none can it be said to have attained epidemic form.

By arrangement with the District Medical Officers of Health, the Assistant Medical Officers carried out Schick testing and immunization in children attending schools in the Brierley Hill, Leek, Rugeley, and Tettenhall Urban Districts, and the Cannock, Kingswinford, and Walsall Rural Districts. The work undertaken was a continuation of that started in previous years, except in Leek where it was first commenced in December, 1932, and Kingswinford, where it was resumed after an interval of a year.

The response by the parents to this scheme has been disappointing, and may be due to the protracted period which must elapse before the complete Schick tests and immunization can be carried out. It is hoped, by eliminating the preliminary Schick tests, to persuade a greater number to accept this valuable means of protection against diphtheria.

Full advantage has been taken of the facilities afforded at the County Laboratory for bacteriological investigations and 7,386 specimens were sent by medical practitioners compared with 10,646 in the previous year. This included 74 virulence tests undertaken in special cases.

ENTERIC FEVER.—Six notifications of typhoid fever in urban and 6 in rural districts were received during the year, compared with the total of 16 in 1932. Two deaths occurred in urban districts but none in rural districts. The case rate was 0·01 compared with 0·04 for England and Wales. On reference to the tables at the end of the report, the areas in which these cases occurred will be seen.

ENCEPHALITIS LETHARGICA.—During the year 3 cases were notified, 2 of which were in urban districts. Ten deaths were reported, and the districts in which they occurred will be found in the tables at the end of the report.

DYSENTERY.—During the year 113 cases of dysentery were notified. Eighty-four of these were at the Cheddleton Mental Hospital, 7 at the Cheadle Cottage Homes, and 12 cases were notified from the Babies' Hospital at Canwell Hall in the Tamworth Rural District. The following are the districts in which the remaining cases occurred :—Coseley Urban District, 1 ; Tipton Urban District, 1 ; Cannock Rural District, 4 ; Cheadle Rural District, 2 ; Lichfield Rural District, 1 ; Walsall Rural District, 1.

CEREBRO-SPINAL FEVER.—During the year 11 cases were notified, 8 in urban and 3 in rural districts : 6 of these recovered. In no instance did these cases constitute an epidemic. The number of deaths from cerebro-spinal fever registered during the year is 11, so that 6 of the fatal cases were not notified.

Seventeen specimens of cerebro-spinal fluid were examined in the County Bacteriological Laboratory. Special arrangements have been made so that the cerebro-spinal fluid can be sent to the laboratory in a portable incubator, because these organisms do not survive if sent through the post in the ordinary way.

Also 31 swabs were examined, and there were 8 cases for typing.

With reference to non-notifiable infectious diseases, the deaths from measles, whooping cough, diarrhœa, and enteritis are as follows :—

Measles.—There were 50 deaths in urban districts with a death-rate of 0·10, and 8 deaths in rural districts with a death-rate of 0·03. As the disease is not notifiable the number of cases is unknown, but from the returns sent by the Head Teachers of elementary schools I find that a total of 2,579 cases of measles and 185 cases of German measles occurred in children of school age.

At the same time, it must be pointed out that the cases so reported relate only to the County Elementary Education Area, having an estimated population of 454,090 out of 713,540 for the Administrative County, and consequently there must have been many more cases.

Whooping Cough.—In 1933 there were 17 deaths in urban districts with a death-rate of 0·03 and 14 deaths in rural districts with a death-rate of 0·06. The deaths in urban districts occurred in 9 out of the 26 districts.

Only 8 of the 16 rural districts were affected. The school teachers in the County Elementary Education Area reported 1,101 cases in children of school age, but the disease specially attacks children during infancy, and is more fatal at that period of life. As the disease is not notifiable we have no accurate knowledge of its incidence.

Diarrhœa and Enteritis.—78 deaths occurred in urban districts with a death-rate of 9·6 per thousand live births, and 8 in rural districts with a death-rate of 2·4 per thousand births in children under 2 years of age, which shows a greater incidence of this disease than in the previous year. The cases occurred in 18 out of the 26 urban districts and in 5 of the 16 rural districts.

Influenza.—In 1933 there were 296 deaths in urban and 128 in rural districts, a noticeable increase from the previous year when there were 169 deaths in urban and 52 in rural districts.

The number of cases of Notifiable Infectious Diseases with the deaths, in the Administrative County during 1933, are as follows :—

Diseases.	Notifications.		Deaths.		† Cases admitted to Hospital.
	Urban.	Rural.	Urban.	Rural.	
Small-pox	—	—	—	—	—
Scarlet Fever	940	309	6	1	846
Diphtheria	267	116	9	11	322
Enteric Fever	6	6	2	—	8
Puerperal Fever	19	11	9	10	20
,, Pyrexia	56	22			34
Erysipelas	189	69	*	*	19
Cerebro-Spinal Fever	8	3	5	6	7
Poliomyelitis	6	6	1	3	3
Pneumonia	1099	302	475	132	43
Encephalitis Lethargica ..	2	1	9	1	—
Dysentery	2	110	*	*	108

* Not classified in Registrar General's Return.
† Information obtained from District Reports.

OPHTHALMIA NEONATORUM.—The accompanying Table shows the cases for the last 10 years. One hundred and thirty-eight out of the total of 185 were not severe, and, as will be noted from the table, 183 were completely cured. Only 19 cases were in-patients in hospital, 6 were treated in the out-patient department, and the others received treatment at home.

	CASES				Vision un-impaired	Vision impaired	Total Blind-ness	Deaths
	Notified	TREATED						
		At home	In Hospital					
			In-patient	Out-pat'nt				
1924	109	89	20		107	1	—	1
1925	138	96	*42		135	1	—	1
1926	166	149	12	5	162	3	—	1
1927	166	135	13	18	162	3	—	1
1928	145	129	7	9	143	—	—	2
1929	193	170	14	9	190	—	—	3
1930	148	130	17	1	145	1	—	2
1931	191	169	20	2	186	1	—	4
1932	194	174	14	6	192	2	—	—
1933	185	160	19	6	183	—	—	2

* One case removed from district; result not known.

Vaccination

The ineffectiveness of the working of the Vaccination Acts is shown on examination of the Returns of the various Vaccination Officers for the year 1st January to 31st December, 1932, where it is seen that out of 10,807 children born during the year, in whom vaccination was possible, only 32·1% were subsequently protected against smallpox.

Tuberculosis

At the end of the year there were 6,899 cases of all forms of tuberculosis on the registers of the district Medical Officers of Health, made up as follows :—

Total Cases.	Pulmonary.			Non-Pulmonary.		
	M.	F.	Total.	M.	F.	Total.
6899	2493	2336	4829	1105	965	2070

This indicates that there is one case of tuberculosis in every 103 persons, or just 9·7 per 1,000 of the population, and on reference to the mortality Tables which follow it will be found that approximately one death occurs amongst twelve cases in the year.

During the year 469 persons died from pulmonary tuberculosis, giving a death-rate of 0·65 per thousand of the population, whilst 87 deaths occurred from other forms of tuberculosis with a death-rate of 0·12.

The following table shows new cases of tuberculosis, including primary notifications and cases which came to notice otherwise than by formal notification, and deaths from the disease classified according to ages and sex :—

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0—	—	—	8	5	—	1	5	1
1—	7	2	34	32	4	2	16	7
5—	20	26	39	29	3	7	9	11
10—	18	24	19	16				
15—	40	60	13	16	54	75	7	7
20—	52	92	6	15				
25—	93	106	13	14	53	61	3	6
35—	86	46	8	4	48	36	6	—
45—	66	33	5	3	51	24	—	2
55—	31	10	2	2	27	8	—	1
65and upwards	5	8	4	2	9	6	4	2
Totals	418	407	151	138	249	220	50	37

In the General Tables at the end of the Report, the death rates for each sanitary district during 1933 will be found.

On reference to the tables it will be seen that, as regards the pulmonary form of the disease, the incidence is almost the same in both males and females, but is more marked in females between the ages of 15 and 35. In this area it appears to be more fatal in young women, but after the age of 35 there are more deaths in the male sex from pulmonary tuberculosis. The non-pulmonary forms of the disease occur mainly before adult life is reached, and are particularly fatal during the first year of life. In the succeeding years, the disease is more chronic, and, whilst resulting in much disability and ill-health, does not often cause death. The non-pulmonary forms arise from infection through tuberculous milk and from open cases of pulmonary tuberculosis.

The following show the number of primary notifications received since 1913 :—

1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
1722	1399	1233	1048	873	856	699	642	929	971	1029	974	1232

1926	1927	1928	1929	1930	1931	1932	1933
1400	1106	1194	1017	1021	1129	1074	1011

With regard to notifications, speaking generally this duty is satisfactorily performed in the County. As already noted, the ratio of deaths to cases is approximately one to twelve, and this compares favourably with the figure laid down by experts that for every death there are at least ten persons suffering from the disease. The District Medical Officers of Health reported 103 cases as against 79 last year that had come to their knowledge in various ways not having been previously notified. It was found that 64 had died without being formally notified under the Regulations, 39 were taken from the death returns of the local Registrars, and 17 were transferable deaths sent by the Registrar-General, that is to say, that the death occurred outside the district where the person usually resided. Eight cases were notified to the Medical Officer of Health actually after the death had occurred.

The ratio of non-notified tuberculosis deaths to the total tuberculosis deaths is 1 in 8·69 ; roughly 8 out of 9 deaths were notified under the regulations before death.

With regard to the unreported cases, I am afraid we cannot expect always to receive the notifications before death, especially where the disease is extremely acute, and some cases are bound to occur in which the practitioner was under the impression that the disease had been notified previously.

An account of the treatment afforded for tuberculosis will be found in the annual report of the Joint Committee of the Staffordshire County Council and the Wolverhampton and Dudley County Boroughs. This body is only responsible for treatment and not for measures of prevention, which duty falls upon the District Councils, and their contribution towards the measures for dealing with this complex subject relates to the environmental conditions of the patient, amongst these being adequate housing in each district, which is of paramount importance. An investigation of the environmental conditions of each patient is made by the Health Visitors as soon as the disease is notified and although every effort is made to arrange the accommodation in the house so that the patient can have a room to himself, this has only been found possible in 31·8% of the cases reviewed in the Joint Committee's area in 1933. In every case in which overcrowding occurred the District Medical Officer's attention was specially drawn to the matter, but for some years now it has been found very difficult to take adequate measures.

At the same time I desire to emphasise the necessity of District Councils utilising to the full all the powers they possess under the Housing Acts, for it is one of the primary duties of a Sanitary Authority to provide adequate housing accommodation for the population in their area.

During the year no action was found to be necessary under the Public Health (Prevention of Tuberculosis) Regulations, 1925, which prohibit persons suffering from tuberculosis engaging in milking operations.

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

The accompanying table shows the death-rates in the urban and rural districts of the County from 1914. From this it will be observed that both the urban and rural death-rates are increased compared with the previous year.

Year.	Death Rate per 1,000 of the Population.			
	Phthisis.		Other forms of Tuberculosis.	
	Urban.	Rural.	Urban.	Rural.
1914	0·89	0·54	0·31	0·20
1915	0·94	0·67	0·34	0·29
1916	1·01	0·80	0·40	0·29
1917	1·01	0·74	0·34	0·31
1918	1·03	0·88	0·31	0·28
1919	0·83	0·61	0·22	0·30
1920	0·75	0·56	0·30	0·21
1921	0·80	0·53	0·23	0·21
1922	0·80	0·55	0·24	0·17
1923	0·75	0·58	0·25	0·22
1924	0·73	0·58	0·22	0·20
1925	0·83	0·49	0·22	0·14
1926	0·74	0·50	0·22	0·11
1927	0·73	0·44	0·21	0·22
1928	0·64	0·48	0·14	0·13
1929	0·76	0·54	0·15	0·12
1930	0·72	0·54	0·15	0·13
1931	0·78	0·52	0·17	0·13
1932	0·64	0·42	0·16	0·14
1933	0·72	0·50	0·14	0·08

W. D. CARRUTHERS,
County Medical Officer of Health.

September, 1934.

TABLES.

Table showing Population, Number of Persons per acre, Birth and Death-rates as well as the Death-rates at all ages and among Children under 1 year, and the Death-rates from Zymotic Diseases, Tuberculosis, Diseases of the Respiratory Organs, &c.

URBAN.

District	Population at all ages.		Number of Persons per acre.	Live Birth-rate per 1,000 of population.	Still-births. Rate per 1,000 of Population.	General mortality per 1,000 of population.	Standardized Death Rate.	Mortality in children under one year per 1000 registered live births.	Zymotic Mortality.							Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Cirrhosis of Liver.	Acute and Chronic Nephritis.	Congenital Debility and Malformation, Premature Birth
									Per 1000 of population						Per 1000 Live Births										
	Census, 1931.	Estimated to middle of 1933 of areas as constituted after changes in boundary.							Typhoid and Paratyphoid Fevers.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria	Diarrhœa, &c. (under 2 years)									
Amblecote	3,099	3,013	4·5	8·6	0·66	11·6	..	115	..	..	0·33	..	..	..	..	0·66	..	0·99	..	0·66	..	..	0·99	0·66
Biddulph	8,346	8,363	1·5	17·6	0·72	9·8	..	61	0·12	..	..	..	..	..	..	0·48	..	1·43	0·24	0·60	0·12	..	0·36	0·72
Bilston	31,255	31,210	16·7	18·5	0·54	12·3	12·6	107	..	..	0·03	..	0·06	0·03	25·9	0·99	0·32	0·99	1·15	1·38	0·06	0·03	0·32	0·45
Brierley Hill	14,347	14,170	13·9	16·4	0·77	11·0	10·9	69	..	..	..	..	..	0·07	12·9	0·49	0·07	1·90	0·70	0·92	..	..	0·49	0·63
Brownhills	18,368	18,640	3·0	17·5	0·48	10·2	10·5	79	..	..	0·21	..	..	..	12·2	0·43	..	0·96	0·96	0·91	0·05	0·05	0·37	0·64
Cannock	34,585	34,700	4·3	18·0	0·63	10·5	10·3	72	..	..	0·20	..	0·06	..	9·5	0·52	0·14	1·27	0·46	0·75	0·03	..	0·26	0·63
Coseley	25,137	25,740	7·8	17·2	0·74	12·0	12·0	61	..	..	0·08	0·08	..	0·08	13·5	0·81	0·15	1·12	0·43	1·16	0·15	..	0·11	0·70
Darlaston	19,736	19,810	21·7	17·5	0·65	10·5	11·0	60	..	..	0·35	..	..	..	2·9	0·96	0·20	1·41	0·91	1·01	0·10	..	0·20	0·35
Kidsgrove	14,804	14,840	3·6	16·8	0·87	11·8	..	84	..	..	..	..	0·07	0·07	12·0	0·87	0·13	0·67	0·54	1·01	0·20	0·13	0·13	0·81
Leek	18,567	18,660	12·8	13·2	0·59	13·2	12·6	61	..	..	..	..	..	0·05	..	0·75	0·27	2·14	0·32	0·43	0·16	0·05	0·21	0·43
Lichfield	8,507	8,592	2·5	15·0	1·63	14·8	..	46	..	..	..	..	0·11	..	..	0·58	..	1·86	0·70	1·16	..	..	0·23	0·46
Newcastle	53,979	57,640	6·6	15·7	1·18	11·5	11·1	63	0·02	..	..	..	0·08	0·02	3·3	0·66	0·08	1·30	0·50	0·97	0·08	0·03	0·21	0·47
Quarry Bank	8,100	8,447	12·7	16·9	0·59	10·8	..	63	..	..	..	0·12	..	..	..	0·12	..	0·95	0·71	0·47	0·23	..	0·12	0·71

Deaths occurring during the year 1933, classified according to Diseases and Localities, together with Births occurring during the year.

URBAN

District	Live Births.	Still-Births.	Deaths from all causes.	Deaths under 1 year.	Smallpox.	Typhoid and Paratyphoid Fevers.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Influenza.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Syphilis.	General Paralysis of the Insane, Tabes Dorsalis.	Cancer, Malignant Disease.	Diabetes.	Cerebral Hemorrhage, &c.	Heart Disease.	Aneurysm	Other Circulatory Diseases.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Peptic Ulcer.	Diarrhœa, &c. (under 2 years).	Appendicitis.	Cirrhosis of Liver.	Other Diseases of Liver, &c.	Other Digestive Diseases.	Acute and Chronic Nephritis.	Puerperal Sepsis.	Other Puerperal Causes.	Congenital Debility, Premature Birth, Malformation, &c.	Senility.	Suicide.	Other Violence.	Other Defined Diseases.	Causes ill-defined or unknown.
Amblecote	26	2	35	3	..	..	1	..	..	..	1	..	..	2	..	..	..	3	1	4	6	..	..	..	2	..	..	..	1	..	..	..	3	1	..	2	..	..	3	5	..
Biddulph	147	6	82	9	..	1	..	..	..	..	5	..	..	4	..	..	..	12	1	5	17	..	3	2	5	1	..	..	1	..	..	2	3	..	..	6	2	1	3	8	..
Bilston	578	17	383	62	..	..	1	..	2	1	24	..	..	31	10	..	1	31	5	16	60	..	13	36	43	2	2	15	2	1	3	7	10	..	2	14	5	1	15	29	1
Brierley Hill..	232	11	156	16	..	..	..	..	..	1	2	..	..	7	1	..	1	27	1	13	20	2	5	10	13	..	3	3	..	..	..	3	7	..	..	9	11	2	6	9	..
Brownhills.....	327	9	190	26	..	..	4	..	..	..	8	..	..	8	..	1	..	18	1	10	38	..	4	18	17	1	3	4	1	1	..	8	7	..	1	12	4	1	4	16	..
Cannock	627	22	364	45	..	..	7	..	2	..	11	..	..	18	5	..	..	44	4	29	76	1	14	16	26	1	2	6	1	..	2	3	9	2	..	22	21	9	13	20	..
Coseley.....	444	19	309	27	..	..	2	2	..	2	17	3	..	21	4	1	..	29	2	22	44	1	8	11	30	4	4	6	..	..	1	13	3	..	..	18	23	4	10	23	1
Darlaston	348	13	208	21	..	..	7	..	..	..	9	..	..	19	4	..	..	28	1	12	24	..	10	18	20	2	3	1	..	..	..	5	4	..	1	7	7	4	6	16	..
Kidsgrove	249	13	176	21	..	..	..	..	1	1	21	1	..	13	2	..	..	10	2	6	37	..	5	8	15	3	1	3	1	2	2	3	2	1	..	12	5	2	7	9	1
Leek	246	11	246	15	..	..	..	..	..	1	15	..	1	14	5	1	1	40	1	14	68	2	14	6	8	3	1	..	2	1	1	5	4	..	2	8	2	3	6	17	..
Lichfield	129	14	127	6	..	..	..	..	1	..	9	..	..	5	..	1	..	16	2	5	23	..	13	6	10	..	..	..	2	..	..	4	2	..	..	4	3	2	8	11	..
Newcastle.....	908	68	665	57	..	1	..	..	5	1	45	1	..	38	5	1	4	75	7	47	165	1	26	29	56	5	3	3	4	2	1	14	12	2	..	27	13	6	27	38	1
Quarry Bank..	143	5	91	9	..	..	..	1	..	..	6	..	..	1	..	..	..	8	1	10	15	..	5	6	4	2	1	..	2	..	1	1	1	..	..	6	6	2	6	6	..

URBAN—continued

District	Population at all ages. Census, 1931.	Population at all ages. Estimated to middle of 1933 of areas as constituted after changes in boundary.	Number of Persons per acre.	Live Birth-rate per 1,000 of population.	Still-births, Rate per 1,000 of Population.	General mortality per 1,000 of population.	Standardized Death Rate.	Mortality in children under one year per 1000 registered live births.	Zymotic Mortality. Per 1000 of population. Typhoid and Paratyphoid Fevers.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria	Zymotic Mortality. Per 1000 Live Births. Diarrhœa, &c. (under 2 years)	Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Cirrhosis of Liver.	Acute and Chronic Nephritis.	Congenital Debility and Malformation, Premature Birth
Rowley Regis	41,235	41,470	10·8	14·7	0·55	9·7	10·0	52	..	..	0·17	0·02	..	..	3.3	0·79	0·05	1·13	0·60	0·82	0·09	0·09	0·24	0·31
Rugeley	5,262	5,485	8·4	15·3	1·64	11·5	..	36	..	..	..	..	..	0·18	11·9	0·18	..	2·19	0·18	0·73	..	..	..	0·18
Sedgley	19,262	19,440	5·1	12·9	0·62	10·6	10·5	52	..	..	..	..	..	..	7.9	0·72	0·10	0·56	0·67	0·87	0·05	..	0·20	0·15
Short Heath	5,047	5,320	5·0	19·9	0·56	12·6	..	85	..	..	0.19	..	..	..	18·8	0·75	..	1·50	0·37	1·31	0·19	..	..	0·94
Stafford	29,485	29,440	8·6	13·0	0·78	11·6	11·5	60	..	..	..	..	0·03	..	2·6	0·64	0·07	1·42	0·54	0·81	0·07	0·10	0·34	0·54
Stone	5,952	6,284	4·0	11·6	0·63	15·3	..	96	..	..	..	..	..	..	..	0·63	0·32	1·27	0·63	0·63	0·16	..	0·95	0·63
Tamworth	7,509	11,990	4·5	15·9	1·08	10·2	..	42	..	..	0·08	..	..	..	..	0·92	0·08	1·00	0·33	0·58	..	..	0·58	0·50
Tettenhall	5,769	5,879	3·8	10·4	0·17	14·9	..	65	..	..	0·17	0.17	..	..	..	0·51	0·17	2·21	0·68	0·85	..	..	0·85	0·34
Tipton	35,814	36,610	16·9	19·0	0·82	12·0	11·9	91	..	..	..	..	0·05	0.03	15·7	1·01	0·11	1·36	0·74	1·12	0·19	..	0·30	0·71
Uttoxeter	5,909	5,983	5·8	11·8	0·83	10·7	..	28	..	..	..	..	..	..	14·1	0.33	0·17	1·34	0·17	0·83	0.17	..	0·33	0·17
Wednesbury	31,531	32,080	15·8	18·0	0·84	12·4	12·4	105	..	..	0·37	..	0·03	..	17·3	0·56	0·28	1·59	0·68	1·12	0·06	..	0·34	1·00
Wednesfield	9,330	† 9,624	3·8	16·2	0·72	9·8	..	44	..	..	..	..	..	..	6·3	0·93	0·51	1·24	0·20	1·03	..	..	0·20	0·51
Willenhall	21,150	22,020	17·3	18·8	0·63	12·5	12·7	82	..	..	0·27	0·04	0·09	..	14·5	1·00	0·18	1·13	0·32	1·45	0·04	..	0·13	0·63
Totals and Averages..	482,085	‡495,450	6·7	16·3	0·77	11·5	..	72	0.00	..	0·10	0·01	0·03	0·02	9·6	0·72	0·14	1·29	0·59	0·96	0·09	0·03	0·28	0·55
118 large towns in England	..	..	..	14·4	0·67	12·2	..	67	0·00	0·00	0·06	0·02	0·06	0·08	9·4	..	..	..	..	..	..	..	..	..

† Alteration in boundary 1.4.33. Rates calculated on adjusted population of 9,684.
‡ The mean birth and death rates of the urban districts are calculated on an adjusted population of 495,510.

District	Population at all ages. Census, 1931.	Population at all ages. Estimated to middle of 1933 of areas as constituted after changes in boundary.	Mean Area per person in acres	Live Birth-rate per 1,000 of population.	Still-births, Rate per 1,000 of Population.	General mortality per 1,000 of population.	Standardized Death Rate.	Mortality in children under one year per 1000 registered live births.	Zymotic Mortality. Per 1000 of population. Typhoid and Paratyphoid Fevers.	Smallpox	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria	Per 1000 Live Births. Diarrhœa, &c. (under 2 years)	Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Cirrhosis of Liver.	Acute and Chronic Nephritis.	Congenital Debility and Malformation, Premature Birth
Cannock	20,822	(a) 20,400	2·4	17·5	0·63	10·8	10·1	64	..	..	0·24	..	0·24	0·05	8·3	0·58	0·05	1·16	0·82	0·77	0·05	0·05	0·43	0·48
Cheadle	27,452	28,830	1·9	15·1	0·80	11·1	10·3	68	..	..	..	..	..	0·03	4·6	0·45	0·10	1·18	0·87	0·66	0·10	0·03	0·45	0·62
Gnosall	4,732	4,730	6·1	16·0	1·27	12·2	..	39	..	..	..	..	0·42	..	..	0·21	0·21	1·06	0·63	0·63	0·21	..	..	0·42
Kingswinford	22,804	22,540	0·3	15·3	0·71	11·8	11·3	49	..	..	..	0·04	0·04	0·04	..	0·84	0·09	1·42	0·80	0·84	0·22	..	0·22	0·40
Leek	15,030	15,980	4·3	12·4	1·25	11·6	10·2	111	..	..	..	..	0·06	0·12	..	0·87	0·19	0·94	0·31	0·69	0·06	..	0·19	1·00
Lichfield	29,632	29,990	2·4	15·9	0·80	9·3	8·2	48	..	..	..	..	0·03	0·03	2·1	0·40	0·20	1·27	0·26	0·66	0·10	..	0·30	0·63
Mayfield	3,719	3,586	6·9	13·9	0·56	13·9	..	120	..	..	..	..	..	..	..	0·28	..	1·67	0·56	0·28	0·28	..	0·56	1·39
Newcastle	17,517	16,720	2·4	13·5	0·66	12·1	..	66	..	..	..	..	0·06	0·06	..	0·24	..	1·31	0·54	0·24	..	0·06	0·78	0·78
Seisdon	17,845	(b) 14,000	3·0	15·1	0·46	10·8	9·0	52	..	..	0·13	..	0·13	0·06	4·3	0·59	..	0·98	0·19	0·32	0·06	0·19	0·19	0·52
Shifnal (Staffs. por.)	661	658	8·3	19·7	..	12·1	..	77	..	..	..	..	..	..	..	..	..	1·52	..	..	..	..	..	1·52
Stafford	9,656	9,872	5·5	16·0	0·40	9·2	7·8	25	..	..	..	..	..	..	..	0·50	..	1·31	0·30	0·20	0·10	0·10	0·20	0·10
Stone	12,643	11,940	5·2	13·0	0·67	11·9	9·8	45	..	..	..	..	..	0·08	..	0·25	0·08	1·09	0·67	0·75	0·25	0·08	0·50	0·33
Tamworth	7,280	6,003	3·3	18·6	0·16	8·3	..	62	..	..	..	..	..	..	..	0·33	..	1·00	0·33	0·66	0·33	..	0·33	1·00
(Staffs. por.) Tutbury	9,244	9,384	2·8	15·4	0·21	12·4	..	103	..	..	..	..	..	..	..	0·42	..	0·85	0·32	0·42	..	0·10	0·21	0·96
Uttoxeter	7,179	7,937	6·0	14·2	0·88	14·0	..	88	..	..	..	..	..	..	..	0·50	..	1·51	0·38	0·75	0·12	..	0·25	0·88
Walsall	14,953	15,520	0·7	15·8	0·71	9·1	9·1	69	..	..	0·06	..	0·06	0·13	4·0	0·51	0·06	0·77	0·38	0·58	0·19	..	0·13	0·64
Totals and Averages ..	221,169	†218,090	2·8	15·2	0·70	11·0	..	63	..	..	0·03	0·00	0·06	0·05	2·4	0·50	0·08	1·16	0·52	0·60	0·12	0·04	0·33	0·63

(a) Alteration in boundary 1.4.33. Rates calculated on adjusted population of 20,620.
(b) " " " " " " " " 15,310.

URBAN—continued

District	Live Births.	Still-Births.	Deaths from all causes.	Deaths under 1 year.	Smallpox.	Typhoid and Paratyphoid Fevers.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Influenza.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Syphilis.	General Paralysis of the Insane, Tabes Dorsalis.	Cancer, Malignant Disease.	Diabetes.	Cerebral Hæmorrhage, &c.	Heart Disease.	Aneurysm	Other Circulatory Diseases.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Peptic Ulcer.	Diarrhœa, &c. (under 2 years).	Appendicitis.	Cirrhosis of Liver.	Other Diseases of Liver, &c.	Other Digestive Diseases.	Acute and Chronic Nephritis.	Puerperal Sepsis.	Other Puerperal Causes.	Congenital Debility, Premature Birth, Malformation, &c.	Senility.	Suicide.	Other Violence.	Other Defined Diseases.	Causes ill-defined or unknown.
Rowley Regis	609	23	404	32	..	..	7	1	..	..	29	..	1	33	2	1	1	47	5	19	80	1	12	25	34	4	2	2	..	4	1	8	10	..	3	13	17	4	12	26	..
Rugeley	84	9	63	3	..	..	..	..	..	1	7	..	..	1	..	..	..	12	2	4	14	..	4	1	4	..	..	1	..	..	..	3	..	..	..	1	..	..	3	5	..
Sedgley	251	12	207	13	..	..	..	..	..	..	11	..	..	14	2	..	..	11	2	18	52	..	5	13	17	1	3	2	2	..	..	5	4	..	..	3	20	1	7	14	..
Short Heath ..	106	3	67	9	..	..	1	..	..	..	1	..	1	4	..	..	1	8	..	2	14	..	1	2	7	1	..	2	..	..	1	..	..	..	..	5	4	1	2	9	..
Stafford	383	23	342	23	..	..	..	..	1	..	15	2	..	19	2	3	2	42	3	16	63	1	18	16	24	2	7	1	4	3	3	7	10	..	..	16	22	2	11	26	1
Stone	73	4	96	7	..	..	..	..	..	..	5	..	..	4	2	2	..	8	2	2	25	1	9	4	4	1	1	..	..	..	..	1	6	..	..	4	7	4	..	3	1
Tamworth	191	13	122	8	..	..	1	..	..	..	4	..	..	11	1	..	..	12	3	7	25	..	4	4	7	..	1	..	1	..	..	1	7	..	..	6	10	1	7	9	..
Tettenhall	61	1	88	4	..	..	1	1	..	..	2	..	..	3	1	..	..	13	2	4	28	..	4	4	5	..	1	..	1	..	..	..	5	..	..	2	1	..	..	10	..
Tipton	698	30	441	64	..	..	..	..	2	1	19	1	1	37	4	1	1	50	3	31	71	1	3	27	41	7	1	11	3	..	..	4	11	1	2	26	32	4	12	32	1
Uttoxeter	71	5	64	2	..	..	..	..	..	..	2	..	..	2	1	..	..	8	2	5	15	..	2	1	5	1	..	1	..	..	..	1	2	..	..	1	5	1	..	8	1
Wednesbury ..	579	27	400	61	..	..	12	..	1	..	20	..	..	18	9	1	1	51	4	18	54	..	5	22	36	2	3	10	1	..	3	7	11	2	..	32	19	5	11	42	..
Wednesfield ...	157	7	95	7	..	..	..	..	..	..	1	..	..	9	5	..	..	12	..	2	19	..	4	2	10	..	..	1	1	..	..	4	2	..	..	5	1	..	2	15	..
Willenhall	414	14	276	34	..	..	6	1	2	..	7	1	1	22	4	1	1	25	3	16	52	..	11	7	32	1	2	6	..	..	1	12	3	..	..	14	19	1	9	15	1
Totals	8081	381	5697	584	..	2	50	6	17	9	296	9	5	358	69	14	14	640	60	337	1105	11	202	294	475	44	44	78	30	14	20	121	138	9	11	275	259	61	190	421	9

RURAL—continued

District	Live Births.	Still-Births.	Deaths from all causes.	Deaths under 1 year.	Smallpox.	Typhoid and Paratyphoid Fevers.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Influenza.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Tuberculosis of Respiratory System.	Other Tuberculous Diseases.	Syphilis.	General Paralysis of the Insane, Tabes Dorsalis.	Cancer, Malignant Disease.	Diabetes	Cerebral Hemorrhage, &c.	Heart Disease.	Aneurysm.	Other Circulatory Diseases.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Peptic Ulcer.	Diarrhœa, &c. (under 2 years).	Appendicitis.	Cirrhosis of Liver.	Other Diseases of Liver, &c.	Other Digestive Diseases.	Acute and Chronic Nephritis.	Puerperal Sepsis.	Other Puerperal Causes.	Congenital Debility, Premature Birth, Malformation, &c.	Senility.	Suicide.	Other Violence.	Other Defined Diseases.	Causes ill-defined or unknown.
Cannock.....	361	13	224	23	..	..	5	..	5	1	7	..	..	12	1	..	1	24	1	7	29	..	12	17	16	1	3	3	2	1	3	3	9	1	1	10	17	..	14	18	..
Cheadle.....	437	23	321	30	..	..	..	..	..	1	22	..	..	13	3	..	..	34	2	19	68	..	11	25	19	3	1	2	4	1	2	4	13	2	..	18	7	4	20	22	1
Gnosall.....	76	6	58	3	..	..	..	..	2	..	3	..	..	1	1	..	..	5	..	4	15	1	..	3	3	1	1	..	..	..	..	2	..	1	..	2	2	3	5	3	..
Kingswinford .	345	16	267	17	..	..	..	1	1	1	13	..	1	19	2	..	..	32	7	15	39	..	14	18	19	5	3	..	1	..	1	6	5	2	1	9	12	3	19	18	..
Leek	198	20	185	22	..	..	..	..	1	2	13	..	..	14	3	..	2	15	..	6	35	1	12	5	11	1	2	..	3	..	..	4	3	1	1	16	6	3	10	13	2
Lichfield	477	24	281	23	..	..	..	..	1	1	6	..	..	12	6	..	..	38	3	15	62	1	20	8	20	3	2	1	2	..	..	4	9	..	1	19	8	4	13	22	..
Mayfield	50	2	50	6	..	..	..	..	..	..	4	..	..	1	..	..	..	6	1	4	8	..	..	2	1	1	..	..	..	..	..	1	2	..	..	5	6	..	5	2	1
Newcastle.....	226	11	203	15	..	..	..	..	1	1	17	..	1	4	..	..	..	22	4	12	46	1	4	9	4	..	1	..	..	1	..	7	13	..	..	13	11	3	12	16	..
Seisdon	231	7	166	12	..	..	2	..	2	1	10	..	..	9	..	1	..	15	1	8	37	1	16	3	5	1	2	1	..	3	2	4	3	..	..	8	4	3	7	16	1
Shifnal ..... (Staffs. por.)	13	..	8	1	..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..
Stafford.....	158	4	91	4	..	..	..	..	..	..	3	..	..	5	..	1	..	13	4	4	14	..	7	3	2	1	..	..	2	1	..	3	2	1	..	1	6	1	7	10	..
Stone	155	8	142	7	..	..	..	..	..	1	11	..	..	3	1	..	..	13	1	5	29	..	11	8	9	3	..	..	2	1	1	3	6	1	..	4	2	3	7	17	..
Tamworth .... (Staffs. por.)	112	1	50	7	..	..	..	..	..	..	1	1	2	2	..	..	..	6	1	4	5	..	1	2	4	2	..	..	1	..	..	1	2	..	..	6	1	1	4	3	..
Tutbury.....	145	2	117	15	..	..	..	..	..	..	6	..	1	4	..	..	..	8	2	9	28	..	6	3	4	..	2	..	1	1	2	4	2	1	1	9	4	..	7	12	..
Uttoxeter	113	7	111	10	..	..	..	..	..	..	7	..	..	4	..	..	1	12	2	4	30	..	12	3	6	1	..	..	..	..	..	3	2	..	1	7	5	1	..	10	..
Walsall.....	246	11	142	17	..	..	1	..	1	2	4	..	..	8	1	1	..	12	2	7	27	..	7	6	9	3	..	1	1	..	1	4	2	..	1	10	10	3	6	12	..
Totals	3343	155	2416	212	..	..	8	1	14	11	128	1	6	111	18	3	4	256	31	123	474	5	133	115	132	26	17	8	19	9	12	53	73	10	7	138	101	33	136	195	5

Table showing the number of cases of certain Infectious Diseases notified in each sanitary area during the year 1933, and the Attack-Rates per 1,000 of the population.

URBAN

District	Estimated Population in the middle of 1933 for calculating rates	Small-pox		Scarlet Fever		Diphtheria		Enteric Fever		Puerperal Fever		Erysipelas		Pneumonia		Cerebro-spinal Fever Cases	Poliomyelitis Cases	Encephalitis Lethargica Cases	Puerperal Pyrexia Cases
		Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate				
Amblecote	3,013	..	..	5	1·66	..	..	..	..	1	0·33	..	..	1	0·33	..	..	..	..
Biddulph	8,363	..	..	13	1·55	9	1·07	1	0·12	..	..	4	0·48	27	3·23	..	..	..	..
Bilston	31,210	..	..	58	1·86	6	0·19	..	..	2	0·06	19	0·61	142	4·55	..	2	..	3
Brierley Hill.....	14,170	..	..	18	1·27	9	0·63	..	..	1	0·07	5	0·35	11	0·77	..	..	..	2
Brownhills.....	18,640	..	..	9	0·48	3	0·16	..	..	1	0·05	10	0·53	76	4·08	..	..	..	3
Cannock	34,700	..	..	40	1·15	19	0·55	..	..	1	0·03	11	0·32	5	0·14	..	..	..	5
Coseley.....	25,740	..	..	33	1·28	8	0·31	..	..	..	..	7	0·27	51	1·98	1	..	1	2
Darlaston	19,810	..	..	33	1·66	4	0·20	..	..	1	0·05	3	0·15	81	4·09	..	..	..	1
Kidsgrove	14,840	..	..	21	1·41	12	0·81	..	..	1	0·07	12	0·81	38	2·56	..	1	..	6
Leek	18,660	..	..	57	3·05	52	2·78	..	..	..	..	3	0·16	16	0·86	1	1	..	1
Lichfield	8,592	..	..	2	0·23	4	0·46	..	..	..	..	..	..	2	0·23	..	..	..	..
Newcastle.....	57,640	..	..	121	2·10	36	0·62	..	..	..	..	19	0·33	87	1·51	1	1	..	1
Quarry Bank	8,447	..	..	20	2·37	8	0·95	..	..	1	0·12	5	0·59	24	2·84	..	..	..	2

URBAN—continued

District	Estimated Population in the middle of 1933 for calculating rates	Small-pox		Scarlet Fever		Diphtheria		Enteric Fever		Puerperal Fever		Erysipelas		Pneumonia		Cerebro-spinal Fever Cases	Poliomyelitis Cases	Encephalitis Lethargica Cases	Puerperal Pyrexia Cases
		Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate				
Rowley Regis	41,470	..	..	76	1·83	25	0·60	..	..	1	0·02	16	0·38	63	1·52	..	..	..	6
Rugeley	5,485	..	..	4	0·73	4	0·73	..	..	..	..	..	..	3	0·54	..	..	..	..
Sedgley	19,440	..	..	40	2·06	9	0·46	..	..	..	..	17	0·87	87	4·47	..	..	..	..
Short Heath	5,320	..	..	9	1·69	1	0·19	..	..	..	..	2	0·37	7	1·31	1	..	..	1
Stafford.....	29,440	..	..	40	1·36	7	0·24	..	..	1	0·03	5	0·17	59	2·00	1	..	..	7
Stone	6,284	..	..	12	1·91	9	1·43	..	..	1	0·16	5	0·79	20	3·18	..	..	..	..
Tamworth	11,990	..	..	10	0·83	..	..	..	..	2	0·16	5	0·42	18	1·50	1	..	..	..
Tettenhall.....	5,879	..	..	12	2·04	4	0·68	..	..	1	0·17	1	0·17	16	2·72	..	1	..	..
Tipton.....	36,610	..	..	66	1·80	11	0·30	1	0·03	3	0·08	17	0·46	118	3·22	..	..	..	9
Uttoxeter	5,983	..	..	2	0·33	1	0·17	..	..	..	..	1	0·17	1	0·17	..	..	..	..
Wednesbury	32,080	..	..	63	1·96	9	0·28	4	0·12	1	0·03	14	0·43	81	2·52	..	..	..	2
Wednesfield.....	9,684	..	..	81	8·36	4	0·41	..	..	..	..	2	0·20	13	1·34	..	..	1	1
Willenhall	22,020	..	..	95	4·31	13	0·59	..	..	..	..	6	0·27	52	2·36	2	..	..	4

RURAL

District	Estimated Population in the middle of 1935 for calculating rates	Small-pox		Scarlet Fever		Diphtheria		Enteric Fever		Puerperal Fever		Erysipelas		Pneumonia		Cerebro-spinal Fever Cases	Poliomyelitis Cases	Encephalitis Lethargica Cases	Puerperal Pyrexia Cases
		Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate				
Cannock	20,620	..	..	22	1·06	13	0·63	..	..	2	0·09	10	0·48	19	0·92	..	1	..	2
Cheadle	28,830	..	..	95	3·29	16	0·55	5	0·17	4	0·14	23	0·80	85	2·95	1	2	..	3
Gnosall	4,730	..	..	12	2·53	1	0·21	..	..	..	..	..	..	8	1·69	..	..	..	..
Kingswinford	22,540	..	..	24	1·06	5	0·22	..	..	..	..	5	0·22	32	1·42	1	..	..	6
Leek	15,980	..	..	17	1·06	9	0·56	..	..	..	..	1	0·06	11	0·69	..	..	..	1
Lichfield	29,990	..	..	42	1·40	18	0·60	..	..	..	..	14	0·46	58	1·93	..	..	..	1
Mayfield	3,586	..	..	2	0·56	1	0·28	..	..	..	..	..	..	1	0·28	..	..	..	..
Newcastle	16,720	..	..	11	0·66	4	0·24	..	..	1	0·06	4	0·24	21	1·25	..	1	..	1
Seisdon	15,310	..	..	17	1·11	2	0·13	1	0·06	..	..	3	0·19	5	0·32	..	..	1	..
Shifnal (Staffs. por.)	658	..	..	..	..	..	..	..	..	..	..	..	..	1	1·52	..	..	..	..
Stafford	9,872	..	..	13	1·31	3	0·30	..	..	..	..	..	..	6	0·61	..	..	..	1
Stone	11,940	..	..	22	1·84	12	1·00	..	..	2	0·17	1	0·08	15	1·25	..	1	..	1
Tamworth (Staffs. por.)	6,003	..	..	6	1·00	2	0·33	..	..	..	..	..	..	10	1·66	..	..	..	2
Tutbury	9,384	..	..	7	0·74	9	0·96	..	..	..	..	1	0·10	2	0·21	1	..	..	3
Uttoxeter	7,937	..	..	4	0·50	2	0·25	..	..	..	..	..	..	3	0·38	..	1	..	..
Walsall	15,520	..	..	15	0.96	19	1·22	..	..	2	0·13	7	0·45	25	1·61	..	..	..	1

Maternity and Infant Welfare

Particulars relating to the work during the year ended 31st December, 1933.

District.	Births, Visits, Deaths, Removals and Transfers, Welfare Centres, etc.
URBAN.	
Biddulph	[illegible]
Brownhills	[illegible]
Kidsgrove	[illegible]
Lichfield	[illegible]
Quarry Bank	[illegible]
Rugeley	[illegible]
Sedgley	[illegible]
Short Heath	[illegible]
Tamworth	[illegible]
Uttoxeter	[illegible]
Wednesfield	[illegible]
Willenhall	[illegible]
RURAL.	
Cannock	[illegible]
Gnosall	[illegible]
Kingswinford	[illegible]
Leek	[illegible]
Mayfield	[illegible]
Newcastle	[illegible]
Seisdon	[illegible]
Stafford	[illegible]
Stone	[illegible]
Tamworth (Staffs. Portion)	[illegible]
Tutbury	[illegible]
Uttoxeter	[illegible]
Walsall	[illegible]
PARISHES.	
Blymhill and Weston	[illegible]
	[illegible]