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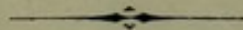
# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

GEORGE REID, M.D., D.P.H.,

FOR THE YEAR 1909.



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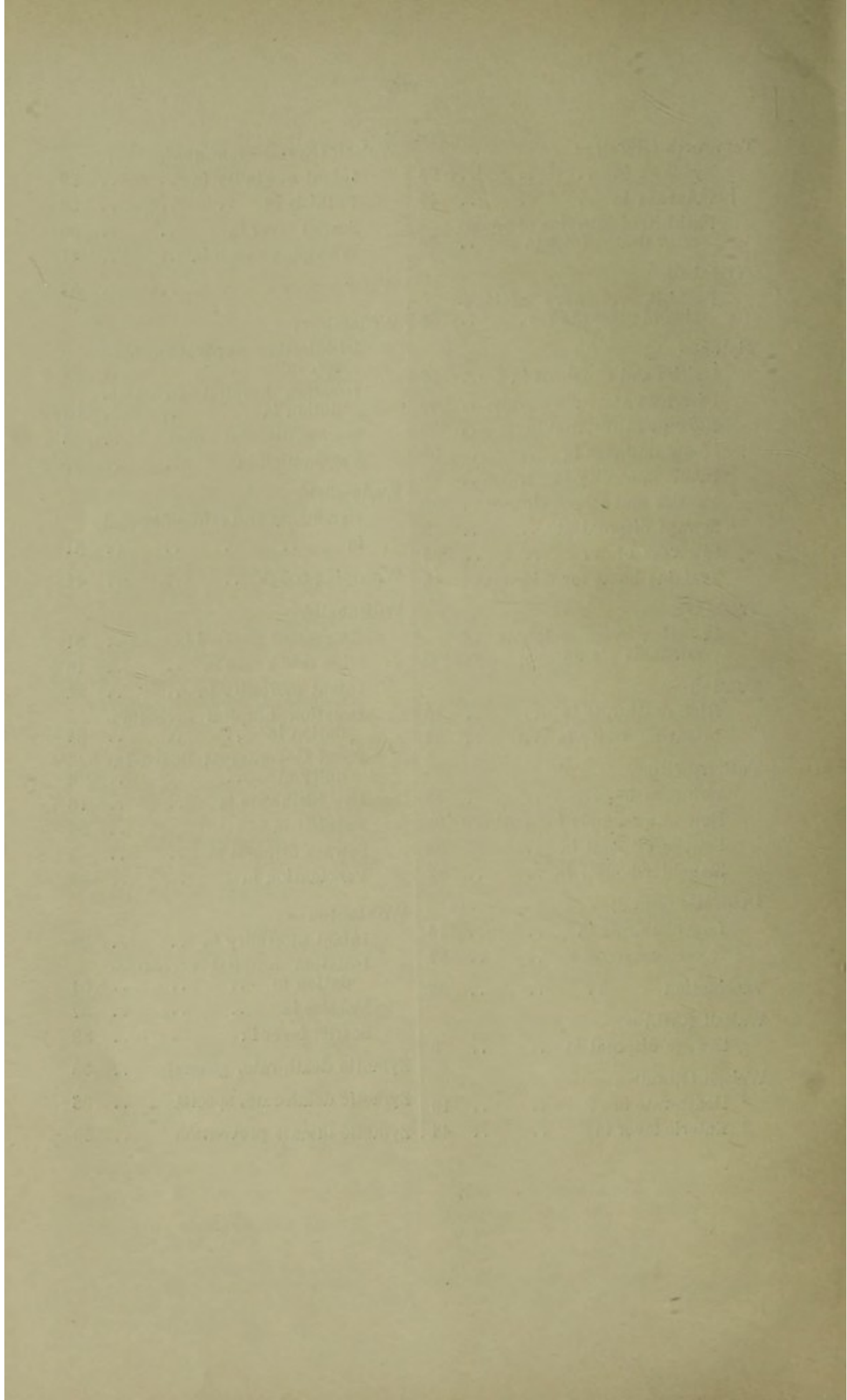
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STAFFORDSHIRE COUNTY COUNCIL.

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**ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH,**

**Presented to the Council at the Quarterly Meeting,  
November 8th, 1910.**

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In this, my Twenty-first Annual Report, I propose to adhere, so far as collating the Reports of District Medical Officers of Health is concerned, to the general plan adopted originally, and deal with the various reports under subject headings, in place of devoting a special summary to each.

I have again indexed the report, so that each question dealt with, whether of general or special significance, may at once be referred to.

I take this opportunity of thanking the Medical Officers of Health, who, almost without exception, have fallen in with my suggestions as to the introduction into their reports of certain details, which, from the point of view of the County Council, are of great value.

In the "Summary of the Year's Work of the Public Health Committee of the County Council," I have endeavoured to convey some idea of what has been done during the year in public health work, more with the view of indicating the lines on which the Committee are proceeding than in the hope that such a condensed account can convey an adequate idea either of the work itself or the good which has attended it.

As regards my duties as School Medical Officer, a full report of the year's work has already been presented to the County Education Authority and to the Board of Education, and, so far as this report is concerned, reference to the work will only appear in commenting upon such of the reports of local medical officers of health as contain paragraphs bearing upon the question from a local point of view.

G. R.



SUMMARY OF THE YEAR'S WORK OF THE PUBLIC HEALTH COMMITTEE OF THE COUNTY COUNCIL, WITH GENERAL COMMENTS ON PUBLIC HEALTH ADMINISTRATION.

As regards the summary of the work of the Public Health Committee, I would point out that the year embraces a period of twelve months ending June 30th, 1910, as the last summary covered the ground up to the end of June, 1909. So far as that portion of the report which deals with the reports of District Medical Officers of Health is concerned, the period covered embraces 1909 only.

The routine work under the Rivers Pollution Prevention Acts has proceeded on former lines. The systematic work of inspecting existing sewage disposal works has gone on uninterruptedly, but as regards the collection of samples of sewage effluents and river waters for analysis the number has been considerably reduced owing to pressure of other work, especially the large amount of time involved in the special enquiry I conducted for the Home Office on the question of infant mortality in relation to factory labour in North Staffordshire. This year only 93 samples (compared with 247 last year) have been analysed, comprising the following :— Sewage effluents, 42 ; river waters, 25 ; well waters, 25 ; and trade waste, 1.

It is customary to call the Public Health Committee's attention at the time to any irregularities which are noted in the management of sewage works, and the responsible Authorities in such cases are invariably communicated with.

To comment at all fully, however, on the action which has been taken during the year in the matter of rivers pollution would require more space than can well be devoted to one subject in a summary of this description. Still, it may be useful to refer, shortly, to the more important questions in this department of the Public Health Committee's work which have received attention.

I am pleased to be able to state that the improvement previously recorded in the condition of the river Tame at the point where it re-enters the County from Warwickshire is still maintained, a circumstance which is mainly attributable



to continued progress on the part of the Birmingham Tame and Rea District Drainage Board in improving and extending their sewage disposal works.

As regards the districts which contribute to the pollution of the Tame above the Drainage Board's area, considerable progress has taken place during the year. The new and extensive works at Oldbury have practically been completed ; the sewerage and sewage disposal scheme for Tipton is well advanced and will soon come into use ; progress is being made in constructing the new disposal works for the County Borough of Walsall ; and the long-delayed scheme for Willenhall is now awaiting the approval of the Local Government Board, some further delay having been occasioned owing to the necessity for complying with certain legal formalities which had been overlooked previous to the scheme being submitted for approval. When these various works are in full operation a great change will undoubtedly be effected in the present foul state of the river ; until then, however, one cannot look for any improvement but rather the contrary, owing to the continued extension of the water-carriage system, a movement which it would be most unwise to interfere with, notwithstanding its temporary drawback from a pollution point of view.

As regards the existing large works in the south of the County, for example, Bilston and Wednesbury, the effluents discharged are altogether satisfactory, but in the case of Darlaston I regret to say I have had occasion to find fault, and pressure is now being brought to bear upon the Authority to induce them to improve and extend the works.

As regards the north of the County, where, as the Council are aware, greater progress has been made, with one exception the various new works continue to produce high-class effluents. The exception referred to is Burslem, where, owing to faults in the construction of the new works and inefficient management, serious difficulties have arisen, to remedy which will involve a very considerable outlay.

In my summary last year I referred to a difficulty which had arisen owing to the growth of works for the manufacture of sulphate of ammonia and the highly-polluting effluents discharged from such works into the various streams. Since



then, on the initiative of the Public Health Committee, a conference of manufacturers has been held to consider the difficult question of dealing with the waste, and this resulted in the appointment of a Committee of Manufacturers to enquire into the matter and report. Quite lately, I accompanied the members of this Committee to Germany in order to see the methods in operation at Westphalia, where there are many works of a similar character, and a report upon that visit is being prepared for submission to the manufacturers.

During the year Local Government Board Inquiries relating to matters of sewage disposal have been held at Kidsgrove (Newchapel), Stone, and Willenhall Urban Districts, and at Endon (Leek Rural District).

Arising out of my Annual Report for last year many matters have been dealt with affecting 20 districts, as follows :— Amblecote, Audley, Bilston, Brierley Hill, Cannock, Coseley, Darlaston, Heath Town, Kidsgrove, Rowley Regis, Sedgley, Smallthorne, Tamworth, Wolstanton Urban Districts, and Cannock, Leek, Mayfield, Tutbury, Uttoxeter, and Walsall Rural Districts.

During the year I have presented eleven special reports, two of which had reference to general sanitary matters relating to Wednesfield Urban District and Lichfield Rural District respectively ; seven had reference to sewage disposal questions in the following districts, namely, Burslem, Darlaston, and Oldbury (Worcestershire) Urban Districts, and Lichfield, Stafford, Stone (Eccleshall), and Uttoxeter Rural Districts ; and two had reference to special trade pollutions at Coseley and Newcastle Urban Districts.

Among other questions which have engaged the attention of the Public Health Committee during the year, may be mentioned (1) A scheme for making use of the South Staffordshire Joint Small-pox Hospital for cases of phthisis when it is not required for small-pox ; (2) a movement for initiating a scheme for dealing with cases of ophthalmia neonatorum in North Staffordshire, which was carried to a successful conclusion, so much so that the Committee have decided to take steps to induce other sanitary authorities in the County to follow the example of the northern authorities.



Besides the annual reports of medical officers of health, I have received 69 special reports during the year, having reference chiefly to outbreaks of infectious disease.

With reference to the consultation work of the health department, which does not necessarily come before the Public Health Committee of the County Council, I have been consulted on 113 occasions by Medical Officers of Health and other officers of Local Authorities and Committees of the County Council on special matters of importance which have arisen.

This consultation work occupies a considerable amount of time, and often involves visits to different districts, either to make enquiries incidental to the points submitted, or to attend meetings of Local Authorities or Committees. It embraces also a careful study of plans and specifications of works and buildings in order to report thereon.

The Council are again to be congratulated upon the success which has attended the arrangement for the gratuitous bacteriological examinations in suspected cases of diphtheria, enteric fever, and phthisis. In some districts, however, medical practitioners have not availed themselves of this aid to accuracy of diagnosis to the extent to which it was hoped they would. In the text of this report, the opinions of many of the District Medical Officers of Health regarding the value of the scheme are quoted, and in the following table the actual number of specimens examined since the commencement is set forth:—



BACTERIOLOGICAL EXAMINATIONS IN SUSPECTED CASES OF  
DIPHThERIA, TUBERCLE, AND ENTERIC FEVER.

	DIPHThERIA.				TUBERCLE.				ENTERIC FEVER.			
	Positive.	Negative.	Doubtful.	Total.	Positive.	Negative.	Doubtful.	Total.	Positive.	Negative.	Doubtful.	Total.
Commencement of Scheme, Oct. 20, 1898, to June 30, 1899 .....	110	101	1	212	...	...	...	..	...	...	...	...
{ From July 1, 1899, to June 30, 1900	196	180	2	378	...	...	...	...	...	...	...	...
{ From Jan., 1900, to June 30, 1900...	...	...	...	...	9	14	...	23	5	4	...	9
From July 1, 1900, to June 30, 1901	350	350	30	730	30	70	...	100	36	36	2	74
From July 1, 1901, to June 30, 1902	190	367	14	571	25	67	...	92	26	32	3	61
From July 1, 1902, to June 30, 1903	247	421	...	668	45	77	...	122	8	41	...	49
From July 1, 1903, to June 30, 1904	183	324	...	507	41	107	...	148	3	34	4	41
From July 1, 1904, to June 30, 1905	231	494	22	747	36	100	..	136	8	24	...	32
From July 1, 1905, to June 30, 1906	271	469	15	755	56	103	...	159	13	34	4	51
*From July 1, 1906, to June 30, 1907	714	771	...	1485	82	120	...	202	18	45	...	63
†From July 1, 1907, to June 30, 1908	660	943	...	1603	47	103	...	150	5	33	1	39
From July 1, 1908, to June 30, 1909	333	637	...	970	48	155	...	203	15	132	3	150
From July 1, 1909, to June 30, 1910	350	904	1	1255	62	187	...	249	11	57	1	69
Totals from commencement of Scheme to June 30, 1910 .....	3835	5961	25	9881	481	1103	...	1584	148	472	18	638

\* Seven special examinations of Cerebro-Spinal fluid for Meningococcus.

† From this year onwards, excluding Smethwick, now a County Borough.

With reference to the administration of the Midwives Act, 1902, although it may not yet be possible to point to any very definite return for the labour spent in this direction, the returns undoubtedly indicate that the rules of the Central Midwives Board are being more uniformly observed. Moreover, the two County Inspectors under the Act are of opinion that there is undoubted evidence of the observance of more cleanly methods on the part of the numerous uneducated and untrained midwives in the County. The full benefit of the Act, however, will not be secured until trained midwives take the place of the numerous ignorant women now in practice.



The Council have already been informed as to the progress of the work in the two divisions of the County, but the following tabular statement, which I have compiled from official returns and from information supplied by the Inspectors, will indicate the present position of the County as regards the number of midwives on the Register and the number who have notified their intention to practise.

The number of certificated midwives on the Roll and the number who have notified their intention to practice are as follows :—

	No. on Roll.		Notified intention to Practice.
Administrative County	722	..	468
County Boroughs ..	306	..	146
	—		—
Total ..	1028		614
	—		—

During the period covered by this report (July 1st, 1909, to June 30th, 1910), in compliance with the rules of the Central Midwives Board, 994 notifications have been received from certified midwives.

The following figures show the number of notifications received in each of the past five years :—

	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
Sending for medical help	379	476	593	606	680
Still births .. ..	259	340	258	294	273
Death of mother ..	3	1	5	2	6
Ditto child .. ..	15	46	45	44	35

As regards the increase in the notifications of sending for medical help, the figures are highly satisfactory, as we may fairly conclude from the steady increase which is recorded that midwives are benefiting by the instruction of the Inspectors, and are realising more and more the importance of not undertaking the sole care of cases presenting abnormal features.

These figures are all the more satisfactory in view of the fact that in 1907 Smethwick was constituted a County Borough, thus removing 40 certified midwives from the number under the control of the Local Supervising Authority for the County.



Unless reliable information is otherwise forthcoming, it is the routine practice to specially enquire as to the circumstances attending all still births reported by midwives. This year 218 such enquiries were made, the total number of still births reported being 273. In addition to these enquiries, arising out of notifications from midwives themselves, 72 others took place, 37 relating to notifications of sending for medical help, 30 to deaths of infants, and 5 to deaths of mothers.

Besides such enquiries, reported irregularities to the number of 44 were specially investigated, as well as 25 cases of puerperal fever occurring in women attended by midwives.

During the year 53 cases of irregular conduct were reported to the Local Supervising Authority. Thirty-four of these had already been dealt with by letters of caution from the County Medical Officer of Health; nine were formally censured by the Local Supervising Authority; and 10 were reported to the Central Midwives Board. Of the latter, two were censured by the Board, three voluntarily surrendered their certificates, four had their names removed from the Roll by the Board, and one case is still pending.

As regards five cases which had been reported to the Board and which stood over from last year, two were censured (to be again reported upon in three months), two were removed from the Roll, and the consideration of the fifth case was deferred for three months for further report, the result of which was that no action was taken by the Board.

Since the Act came into operation the names of 35 midwives have been removed from the Roll as the result of representations to the Board by the Local Supervising Authority.

As the Council are aware, the Act came into full operation on April 1st, 1909, when it became illegal for uncertificated midwives to practise "habitually and for gain." The Local Supervising Authority accordingly determined to take proceedings against all women who disobeyed the law in this respect, with the result that five were prosecuted and convicted, fines being imposed in each case to cover costs.

During the year 14 midwives have died.

In the accompanying table the number of systematic visits by the two Inspectors during the year are set forth, together with particulars as to equipment, &c. :—



VISITS OF INSPECTORS DURING TWELVE MONTHS, JULY 1ST, 1909, TO JUNE 30TH, 1910.

DIVISION.	No. of Midwives who have notified intention to practise.	No. of Visits.	Actual No. of interviews.
DISTRICT A. ...	200	1076	860
„ B. ...	192	766	549
TOTAL ...	392	1842	1409

PARTICULARS AS TO EQUIPMENT AND EFFICIENCY OF MIDWIVES VISITED.

Division	No. of Midwives who have notified intention to practise.	Requirements.						No. who can		No. with reasonable knowledge as to				
		Washing Dresses and Aprons.	Bags Equipped (as far as ascertained).			Books, &c.		No. who can read and write.	Read Thermometer.	Pass Catheter.	Infant feeding and management.	After treatment of mother.		
			Fully.	Partially.	Nil.	Case Books.	Fornis.	Person.	Home.					
Dist. A.	200	197	177	18	5	197	197	175	185	138	166	58	192	192
„ B.	192	188	124	66	2	190	190	181	183	113	138	50	170	182



With reference to the infantile mortality of the Administrative County, the decline first specially noted in 1902 has been maintained. While this must, in the main, be attributed to favourable climatic conditions, still, I hope one is justified in concluding that, in some degree, it has resulted from improved hygienic conditions.

For years this question has engaged the attention of health officers throughout the country, and again in the text of this report I have set forth the opinions of many of the Medical Officers of Health in the Administrative County on the question.

Of course, there are many contributory causes of excessive infant mortality, most of which are preventable, but there is one which far exceeds all others in potency, namely, the prevailing ignorance among mothers as to the proper feeding of infants. Some authorities in the County have creditably done what lies in their power to break through this ignorance by appointing women health visitors and with the assistance, in some cases, of the County Education Committee providing courses of lectures on health subjects; but, commendable though such efforts are, I fear they are comparatively futile so far as the object aimed at is concerned. Experience, I fear, compels one to come to the conclusion that it is hopeless to attempt to educate the present race of mothers. At the same time, some good in this direction may ultimately result from the administration of the Midwives Act, for a midwife has great influence over mothers, and sound advice given during the early weeks of the child's life must, occasionally at any rate, bear fruit. No real headway will be made, however, until the rising generation of both sexes are systematically taught elementary health principles at school. The first step in this direction is to educate the teachers in order that they may be able to give the necessary instruction, and the Education Committee of this County are to be congratulated on having gone thus far. Under that Committee Miss Curwen has been engaged for five years in conducting excellent classes on Practical Hygiene for school teachers, and the good result of this work is already becoming apparent. In my report three years ago I embodied an interesting account of Miss



Curwen's work which she had kindly prepared for me, and this year she has been good enough to prepare a further statement from which I quote as follows :—

“ In my report to the Education Committee this year I am pleased to have been able to show the excellent record made by all three classes in Practical Hygiene for teachers. The attendances have been record ones, in spite of the bad weather, and show that the students were keenly interested in the subject and desirous of learning all that they could. Almost all these teachers are teaching practical hygiene in their schools, and all report the great interest taken in the subject, which is also inculcated in other lessons wherever possible. I have by me two reports made to me by teachers, which are interesting as showing what can be done. Both these schools are old-fashioned and unhygienic. One teacher says :—‘ Since attending the hygiene classes held by Miss Curwen, that subject has been introduced into this school. One half-hour lesson each week is given, from Standard II.—Standard VII., but the subject is not limited to this time as it is introduced into other lessons when opportunities arise.’

“ ‘ The lessons are based chiefly on cleanliness of the skin, hair, teeth, nails, and on clothing, ventilation, exercise, posture, and infant feeding. Particular stress is laid upon the value of fresh air at school and at home.

“ ‘ The results of these lessons are very noticeable and satisfactory. Most of the girls take a pride in having clean, well-brushed hair, well washed hands and faces, and clean pinafores. This week all the girls' hands and nails were inspected, and it was very pleasing to find so many clean and well-cared for hands.

“ ‘ A few months ago an enquiry was made (throughout the school) respecting the possession of tooth-brushes. The result was disastrous, only half a dozen girls possessing one. The same question was asked this week, *i.e.*, since the hygiene teaching started, and out of a class of fifty girls only three had not yet bought a tooth-brush. This school is very badly ventilated, so the windows are kept always open in order to get as much fresh air as possible. If one happens to get



closed the girls notice and ask if it can be opened, and this is the month of February.

“ ‘ They have also become very keen on drill (which is taken in the playground, except on wet days), as they have been taught the value of fresh air. Some time since, if the girls had the least ache or pain, real or imaginary, they asked to be excused in order to sit by the fire. Even those who did go out liked to have all their out-door things on if the weather was at all cold. At the present time wraps have been discarded, and it is quite noticeable if a girl asks to be excused from drill. In fact, they all look forward to this lesson. The lessons on posture have been very beneficial. At one time it was most difficult to get the girls to sit in a good upright position when doing their work. Now, they seem to think of the injuries they may be causing themselves if they sit or stand badly.’

“ This teacher also reports on the interest taken in the lessons on the care and feeding of infants.”

Miss Curwen gives further similar examples of the good which results from the teaching of elementary hygiene in schools, and points out that the statements of the teachers have been verified by the School Medical Inspectors as the outcome of personal observation.

As regards the feeding and care of infants, the statement I am quoting from points out that instruction on the subject has been given in schools for the past five years, and it is surmised that “ a new generation of mothers, who have learnt the right principles governing the care of childhood, should before long make a marked difference in the infantile death-rate of the County.”

The following concluding paragraph of Miss Curwen’s statement is worthy of the serious consideration of the County Education Committee :—“ In conclusion, I would like to draw attention to a practical point which I consider of real moment. In the Hygiene Course, the lectures on School Hygiene draw special attention to the precautions necessary when children are crowded together in classrooms at an age when they are particularly susceptible to various zymotic diseases. One of the most important of these precautions



is adequate cleansing of the school premises, and therefore the proper removal of dust. Dust is always dangerous, but in school life is particularly harmful. The children are coming from all conditions of home-life, bringing with them the possibility of infections. Cultivations of dust from the school floor and furniture will show the presence of a rich bacteriological flora, and the dangers of dust are inculcated by the teachers to the children, but, unfortunately, in a vast proportion of the schools, no provision is made for the proper removal of this dust. Dry sweeping amid smothering clouds and dry dusting afterwards is the usual method, no means are provided for steeping sawdust in water or disinfectant in order that all harmful matter may be collected and burnt and yet there is no doubt of the great reduction in zymotic diseases—with consequent avoidance of loss of grant—which ensues upon the adoption of such simple precautions. I consider that much ill-health is caused by insufficient and improper methods of school cleansing, and that in the long run the adoption of more scientific ones would not only result in a lowering of the zymotic death-rate but would also prove an economy. I am teaching the correct methods in the Practical Hygiene Classes, but only little good is effected if these methods are not enforced by school managers, many of whom do not understand their importance and consider them only an unnecessary and quite useless expense."

As the Council are aware, it has always been contended by those who have interested themselves in the question of reducing the infantile mortality of the country that early information of all births should be obtainable. As regards the registration of a birth, a period of six weeks is allowed parents in which to comply with the law, and, as a large number of infants die within a week or two of birth, it frequently happens that the birth and death of an infant is registered at the same time.

Provision has now been made for the notification of all births to the Medical Officer of Health within 36 hours, under the Notification of Births Act, 1907, the responsibility for so notifying being placed upon the father or the person in attendance on the mother. The Act, however, is adoptive,



but it can be put into operation by a County Council for the whole or part of their area, and by Urban and Rural District Councils for their respective areas, in both cases simply by resolution and with the consent of the Local Government Board, providing certain formalities are complied with.

The present position as regards the adoption of this Act in the County will be dealt with in the summary of the reports of the Medical Officers of Health.

With reference to this year's district reports, I am again glad to be able to record that continued efforts are being made by many of the urban authorities to abolish privies and private well supplies in favour of water-carriage systems and public water supplies.

As regards the former question, it is to be hoped that the account of this movement recorded in this report will stimulate those authorities, of urban districts more especially, who are not displaying much energy in this direction, to adopt this excellent policy. As regards the latter question, the remarks which follow under the heading of Water-supply afford ample evidence of the risks attending the continuance of private well supplies, especially in populous districts, and point to the extreme importance of substituting for these, supplies from a public source when such are available, or, failing that, of making every effort to protect wells from surface contamination.

With reference to the abolition of privies, I would again specially direct attention to a most valuable new Act (Public Health Acts Amendment Act, 1907), which, among many useful provisions, contains clauses which facilitate the substitution of water-closets for privies. It is an adoptive Act, conferring powers on Authorities which previously could only have been acquired by the expensive process of carrying local Acts through Parliament, and it may be adopted, either in part or in whole.



## Summary of Reports with Comments.

### AREA AND POPULATION.

I have no alteration to record this year either in the area or population of the Administrative County owing to re-adjustment or alteration of districts.

In the following table the census figures for 1901 of the Administrative County, and the estimated population up to the middle of 1909, are set forth, the urban being distinguished from the rural districts :—

	Census, 1901.	Estimated to middle of 1909.	Increase.
Urban .....	627,964	708,608	80,644
Rural .....	193,446	201,484	8,038
Total.....	821,410	910,092	88,682

### BIRTHS.

The births registered in the Administrative County numbered 26,295, the number in the urban districts being 21,012, and in the rural districts 5,283.

The mean birth-rates in the whole Administrative County, and in the urban and rural districts respectively, for four quinquennial periods, and for 1909 individually, are shown in the following table, in which corresponding rates in England and Wales, and in the large towns in England, compiled from the Registrar-General's returns, are included :—



DISTRICTS.		BIRTH-RATE PER 1000 OF POPULATION.				
		5 Years 1889-1893.	5 Years 1894-1898.	5 Years 1899-1903.	5 Years 1904-1908.	1909.
Staffordshire	Combined Urban & Rural	34.4	34.0	33.1	30.9	28.9
	Urban .....	36.0	35.4	34.2	32.0	29.6
	Rural .....	30.8	30.5	30.2	27.0	26.2
England and Wales.....		30.8	29.7	28.7	26.9	25.6
Large Towns in England ....		31.5	30.7	29.7	27.8	25.7

It will be noticed that the marked decline in the birth-rate, which has steadily taken place in recent years, is maintained, both in urban and rural districts. The serious significance of this is commented upon in many of the reports. In many of the reports the rate is referred to as being the lowest on record, for example, in the reports for Bilston, Brownhills, Fenton, Sedgley, and Willenhall Urban Districts, and Seisdon and Uttoxeter Rural Districts. Again, in Biddulph Urban District, a rate of 33.1 is referred to as being 1.9 below the average, and, with one exception (1904) the lowest recorded. In Brierley Hill, a rate of 27.3 is recorded, the mean rate for the previous 10 years being 32.2. In Cannock Urban District a rate of 35.3 is recorded, compared with a mean rate for the past 10 years of 37.4. In Darlaston a rate of 37.2 is referred to as being lower than in any year since 1887. In Smallthorne, the Medical Officer of Health, in commenting upon a rate of 37.4, says:—"I am afraid the district must now be numbered with those having a falling birth-rate."

#### DEATHS.

The number of deaths registered among persons belonging to the Administrative County amounted to 13,926, the number in the urban districts being 11,203, and in the rural districts 2,723.

In the following table comparative figures for the past 21 years are given, together with corresponding figures for



the country as a whole, and for town and country districts throughout England:—

## DEATH-RATE PER 1000 OF POPULATION.

YEAR.	STAFFORDSHIRE.			ENGLAND.		
	*General.	*Urban.	Rural.	General.	Large Towns.	Country Districts.†
1889 ...	18·0	18·9	15·4	17·9	19·2	16·5
1890 ...	19·8	20·0	16·3	19·5	21·6	17·5
1891 ...	19·9	20·7	18·1	20·2	22·4	18·5
1892 ...	18·8	19·2	17·9	19·0	20·6	18·1
1893 ...	18·6	19·5	16·3	19·2	21·5	17·4
1894 ...	16·2	16·5	15·4	16·6	18·0	15·6
1895 ...	18·5	19·1	16·9	18·7	20·5	17·0
1896 ...	17·2	18·0	15·2	17·1	19·2	15·3
1897 ...	17·8	18·6	15·7	17·4	19·1	15·8
1898 †... ‡	17·7	18·4	15·5	17·6	18·3	16·0
1899 †... ‡	17·2	17·8	15·4	18·3	20·2	16·3
1900 †... ‡	18·7	19·3	16·8	18·3	19·5	16·9
1901 ...	17·0	17·6	15·4	16·9	17·7	15·3
1902 ..	15·8	16·3	14·4	16·3	17·4	15·3
1903 ...	15·2	15·8	13·5	15·4	16·3	14·8
1904 ...	16·4	17·2	14·4	16·2	17·2	15·3
1905 ...	15·4	15·9	13·5	15·2	15·7	14·9
1906 ..	15·2	15·8	13·0	15·4	15·9	15·1
1907 ...	14·7	15·2	12·9	15·0	15·4	14·7
1908 ...	14·6	15·0	13·1	14·7	14·9	14·7
1909 ...	15·3	15·8	13·5	14·5	14·7	14·5

\* Excluding Brownhills in the case of the year 1897.

† Certain proportion of Urban residents included.

‡ The figures for Burton-on-Trent are taken into account for the three years 1898-1900 only.

It will be seen that, while the general death-rate of the Administrative County is slightly higher than in the preceding three years, the increase is not material, and with the exceptions mentioned the rate still compares favourably with the rates for the previous years since the County Council came into existence.

The death-rates in urban and rural districts, together with the figures upon which they are based, are shown in the tables at the end of this report. In the following table the figures are given for those urban districts in which the rates this year exceed 18·0 per 1,000, together with figures and remarks bearing on the influence which causes, preventable and more



or less non-preventable, have had in causing such high rates. The districts are placed in order in accordance with the death-rates, the highest being placed first. The fact must not be overlooked, however, that there are other districts besides those appearing in the table in which the rates were by no means satisfactory, as a glance at the detail tables at the end of this report will show:—

DISTRICT.	Death-rate per 1000 of Population.	Population estimated to middle of 1909.	Number of persons to the Acre.	Zymotic death-rate per 1000 of population.	Occupation, &c.	Increase over average of entire districts from the undermentioned diseases, affecting appreciably the general rate.				Position as regards mean death-rate for previous 10 years.
						Measles.	Whooping Cough.	Diarrhoea.	Diseases of Respiratory Organs.	
Tunstall ...	21·3	29,230	16·7	2·56	Working class.	..	Slight.	..	Considerable.	21·2
Darlaston ..	20·6	15,916	19·4	4·83	do.	Very Considerable.	..	Slight.	..	19·7
Longton ..	19·6	38,287	19·7	2·89	do.	..	..	Slight.	Considerable.	22·0
Bilston ..	19·4	25,200	13·4	3·65	do.	Considerable.	..	Slight.	..	19·9
Willenhall..	19·3	19,730	15·7	3·19	do.	..	Considerable.	Slight.	..	18·0
Burslem ..	19·1	44,310	23·7	3·34	do.	Slight.	Slight.	Slight.	Considerable.	20·5
Leek ..	18·6	16,610	11·3	1·44	do.	..	..	..	..	16·9
Fenton ..	18·1	26,789	15·2	2·35	do.	..	..	..	Considerable.	17·4

Considering the fact that the general urban death-rate of the County is only 15·8, the above rates must be looked upon as being highly unsatisfactory, more especially having regard to the figures in the last column of the table, which show that the eight districts in question, with the exception, possibly, of Leek, are normally high death-rate districts. It behoves the respective Local Authorities, therefore, to make every effort in their power to effect a reduction in the rates by strictly enforcing the provisions of the Public Health Acts and local Bye-laws. It will be noticed that four of the districts, namely, Tunstall, Longton, Burslem, and Fenton, are constituent districts of the new County Borough of Stoke-on-Trent; reference to them, therefore, in this or any other respect appears for the last time in this report. The position as set forth is worthy of the serious attention of the recently constituted authority and of the other authorities whose



districts are included in this year's "black list." From time to time, in the reports of the medical officers of health, attention is directed to the need for more systematic and determined action in the direction of remedying insanitary conditions, many of which are the direct outcome of lax sanitary administration in the past, and one can only conclude that the reports referred to do not receive that attention which they deserve. A public health officer has no direct executive authority; his responsibility ends when he has informed his council of the conditions detrimental to health existing in the area under their control; it rests with them to enforce the remedy. It is difficult to believe that authorities could view with composure many of the crying evils to which their attention is directed over and over again if they really grasped the significance of the facts set forth in the reports, and I would again repeat the advice given in previous reports that they should appoint sub-committees from time to time to make personal inspections of their districts under the guidance of their medical officers in order to see for themselves typical examples of the conditions which prevail.

The Medical Officer of Health of Leek Urban District, in commenting upon a death-rate of 18·6 for this year, says:— "This is a heavy rate for a locality healthily situated as Leek is, and I fear the employment of female labour in the mills accounts for a good deal."

The Medical Officer of Health of the Borough of Stafford, in commenting upon a death-rate of 13·0, states that it is the lowest on record, so far as he can ascertain.

Regarding a death-rate of 12·8 in Walsall Rural District, the Medical Officer of Health writes:—"I consider this rate a very satisfactory one, as it compares favourably with last year's average rate of the Rural Districts in the County, and also with similar districts throughout England, in the former the rate was 13·1 and in the latter 14·7. Again, the rate for this district, I submit, is really better than the deduction from the figures alone warrants, since the character of the population should be borne in mind. With the exception of one parish, Great Barr, the population of the other



four parishes consists almost entirely of working people, many of the men being coal miners, and in Pelsall, Rushall, and Aldridge, the parishes are almost urban in character, where it might be expected that the death-rate would be considerably higher than in rural districts throughout the country."

#### INFANTILE MORTALITY.

It has been my practice in previous years to compile a table showing the districts in which the infantile death-rates have been exceptionally high, and I have usually adopted 200 per 1,000 births and upwards as the qualifying figure for this "black list." Three years ago, however, owing to a more or less general decline in the rates, I took 180 as the qualifying figure, and I am glad to say I had to reduce that figure for the past two years to 170, and I adhere to that figure this year. To what extent we are justified in attributing this happy circumstance to improved hygienic conditions I am not prepared to say, but, unquestionably, the most potent influence has been the relatively low summer and autumn temperature, which has conduced to a low mortality from infantile diarrhœa. It must be remembered, however, that an infantile mortality of 170 is a high one, and, notwithstanding that fact, there are six urban districts in the Administrative County in which it has been exceeded this year, as the following figures show :—

Deaths among children under one year in certain districts per 1,000 registered births.

	Burslem.	Darlaston.	Fenton.	Perry Barr.	Tunstall.	Willenhall.
5 years 1889-93...	193	214	186	150	213	182
„ 1894-98...	204	212	220	146	224	207
„ 1899-1903	198	204	185	168	200	179
„ 1904-1908	182	196	175	148	205	155
1909...	180	182	175	174	205	179



Dealing with these districts first, in the order in which they appear in the table, the following are the chief comments which appear under this heading in the reports under review :—

The Medical Officer of Health of Burslem calls attention to the procedure which is followed when births are notified under the Notification of Births Act, 1907, which was adopted in that Borough in 1908. The Lady Sanitary Inspector, it appears, visits all houses from which births are notified and gives advice regarding the feeding and care of the infants, leaving a printed card of instructions. It appears that proceedings were taken under the Act for not notifying in four cases, one against a medical man and the other three against midwives. Convictions were obtained in all cases.

It is satisfactory to find that the Darlaston District Council have adopted the Act, and are about to appoint a health visitor.

The Medical Officer of Health of Fenton writes :—  
“ I am afraid our infantile mortality rate will qualify us for a place on the County Medical Officer's ‘ black list.’ Eight deaths only, however, were caused by diarrhœa, as compared with an average of 32 for the decade 1899—1909, and only 19 to the group ‘ Diarrhœal Diseases.’

“ This group includes diarrhœa (all forms), enteritis, muco-enteritis, gastro-enteritis and gastro-intestinal catarrh, in fact, those causes of high infantile mortality which reflect most adversely on the sanitary administration of local authorities, and which are commonly associated with overcrowding, bad ventilation, bad drainage, unpaved back yards, and the like.

“ The main cause of our high infantile mortality for this year is to be attributed to the large number of deaths which occurred, especially during the month of November, from bronchitis and pneumonia.”

He refrains from repeating the advice given in previous reports regarding preventive measures because, as he points out, the district is almost immediately to be absorbed into a large County Borough, when he states it will be possible to deal with the evil more adequately than has been found practicable hitherto.



As regards Perry Barr, too much importance must not be attached to its appearing in the "black list" this year, having regard to the small population and, the consequent tendency to fluctuate. The Medical Officer of Health writes: "One favourable aspect of the high mortality is the absence of deaths from epidemic or summer diarrhoea, a feature doubtlessly largely explained by the wet and comparatively cold summer."

The Medical Officer of Health of Tunstall, where the rate exceeded that of any district in the Administrative County, writes:—"For the previous year the deaths were 203, and the rate 210 per 1,000 births. The prevalence of whooping cough, measles, and their attendant complications of bronchitis and pneumonia, have contributed largely to bring about the above deplorable position. I feel convinced that the mortality from these causes might be considerably reduced were better acquaintance with nursing methods to prevail, and an improved system of housing conditions to exist. It cannot be denied that considerable improvement has been effected during the past ten years in the sanitary conditions of the town, although the housing conditions are far from satisfactory in the older parts of the town. Commendable activity has been bestowed by the Sanitary Committee in cleansing the external conditions of the dwellings, so that one cannot help coming to the conclusion that social evils must be held responsible, in a great measure, for the heavy infant mortality. Poverty, whether through lack of employment or drink, the dirty state in which houses and children are kept, and the ignorance and carelessness as to feeding and care of infants are the main factors.

"I would again respectfully urge the appointment of a lady health visitor as a means of reducing this blot upon your sanitary records. The adoption of the Notification of Births Act involves such an appointment, and I believe in this new departure we have an important means of further improving the health of the people."

Under this heading, the Medical Officer of Health of Willenhall writes:—"Many deaths of infants are caused by improper feeding and exposure due to ignorance or



carelessness. For instance, while breast-fed children seldom get diarrhœa, those fed from the bottle or spoon are specially liable to it in certain months of the year in consequence of bacterial changes in milk or other food often produced by dust or conveyed by flies bred in filthy homes or near homes which have insanitary surroundings. Of 17 cases of infantile diarrhœa which came to my knowledge, 15 were bottle-fed. Many mothers regard whooping cough and measles as trivial diseases and take no pains to prevent their children coming in contact with others suffering from those complaints. Many work in factories and wean their children at the earliest possible moment, with the result that they get improperly fed by neighbours and young children. Many give their babies improper and unsound food, a frequent cause of death by convulsions. Many children are inadequately clothed or placed in strong draughts—and the result is bronchitis or pneumonia. The lives of a few are ended by being overlain, sometimes perhaps the result of parental over-tiredness; more frequently on Saturday nights than other nights, the result of intemperance. Few people take steps to protect milk and food from pollution by dust and flies; and fewer still to arrest putrefactive changes by keeping their food in the coolest part of their houses.

“To combat all this ignorance and carelessness I made a long report to the Council on the possible adoption of the Notification of Births Act, 1907; but I understand the Council has not as yet decided to adopt it. If the Act be adopted I advise the appointment of a well-trained female health visitor, one who understands the habits of poor and ignorant women; and who by character, natural gifts, tact and strong common sense, will be capable of approaching them with sympathy and teaching them how to manage themselves and their health during pregnancy, and how to nurse, clothe, feed, and keep their children clean and their homes bright. The first and most persistent efforts of such a woman should be directed to securing, as far as possible, the abolition of the feeding bottle, and the nursing of children as Nature intended they should be, at the breast; to keep the mother and the child together *in the home*; to help the mother to nurse *her*



*infant herself in her own home*; to give help to mother and child alike. The appointment of an inexperienced woman would, in my opinion, in this district be absolutely useless."

In view of the persistently high infant mortality rate of Willenhall, it is difficult to understand why the District Council should hesitate for a moment in following the advice of their Medical Officer of Health regarding the adoption of the Notification of Births Act, and it is to be hoped that in his next annual report he will be in a position to state that the Act has been adopted and the necessary machinery provided for securing full advantage from it.

Having regard to the population of Biddulph, great credit is due to the District Council for having determined to adopt the Notification of Births Act. The Medical Officer of Health comments upon this action on the part of the Council as follows:—"The Council has decided to adopt this Act,\* and it only now remains for the administrative details to be worked out. These I shall describe in my next report. It may just be said briefly that every child, where required, will receive actual supervision, and the mother will receive advice, from a qualified nurse, commencing from the time that the doctor or midwife ceases to attend. I am in hopes that this will save some of the infant mortality, though we may have to wait a few years before a fair estimate of the value of the work can be made. And we must not forget to allow for difficulties which may arise, especially in bad weather, from the hilly character of the district, and the scattered positions of some of the people."

Under this heading, the Medical Officer of Health of Bilston, where the Notification of Births Act is in operation, writes:—"The marked diminution in the rate of infantile mortality constitutes, together with the decreased general death-rate, the most satisfactory feature in this year's report. The same experience, fortunately, is general. Taking the country as a whole, the rate for the year among infants under one year of age is 109, which is 11 per thousand below the rate in 1908. During ten years the rate of infantile mortality

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\* The Act came into operation on January 26th, 1910.



has dropped no less than 29 per thousand. The wisdom of public authorities in appointing health visitors and nurses to give instructions, particularly in the slum districts, in the rearing of the young is having marked effect. It would be idle to claim that the whole of the improvement in this direction in this district is due altogether to the work of the health visitor, for the benefit, naturally, must be gradual and progressive, but there can be no reasonable doubt that the results are in part due to her services, and already fully justify the action of the Council in making such an appointment 16 months ago. . . . .

“ The following is the report of the health visitor (Miss Grigor) for the year :— ‘ During the year, 1,380 visits were made to the houses of infants, 755 primary and 625 repeated. Each infant, with hardly an exception, was visited twice—when a few days old and again at the age of six months. Hand-fed infants and cases of suspected neglect were visited more frequently.

“ ‘ At the first visit emphasis was laid upon the importance of regular feeding of the baby and the careful dieting of the mother. The rules of general health, the need of fresh air, and the proper clothing and bathing of the infant were all pointed out. The practice of ‘ dosing ’ aches with different medicines is most common and is very difficult to overcome.

“ ‘ At the second visit advice is given according to the condition of the infant. Frequent feeding with starchy food is common ; in one case a mother was feeding her four months’ old baby with barley broth, and naturally the child was found to be wasting. The use of ‘ dummies ’ was condemned ; and advice given as to ‘ weaning,’ suitable foods, &c. Of the 60 cases where these visits were given, owing to ‘ wasting ’ conditions, or prematurity, 19 did well, 8 died, and 33 are improving and are still under supervision. The work requires much tact and patience, and many endeavours to help the mothers to realise their responsibilities.’ ”

Regarding the advantage to be derived from the Notification of Births Act, the Medical Officer of Health of Handsworth writes :—“ The Notification of Births Act, 1907, which



was adopted in Handsworth in May, 1908, is of great value in enabling supervision to be exercised over infants during the earliest and most critical period of their existence. . . .

“In May, 1909, Miss Thompson, who for about a year previously had voluntarily performed the duties of health visitor in the district, was officially appointed to the combined posts of health visitor and school nurse. In the former capacity she visits, as soon after notification of birth has been received as practicable, all the homes in which births unattended by doctors take place, and gives such practical advice and assistance to the mothers as may be needful. Visits are paid also to the poorer homes in which the births have been medically attended, but not until the attendance of the doctor has ceased.

“During the year a total of 1,609 visits were paid in respect of 593 infants.

“The advice given was almost invariably appreciated and faithfully followed, and it is probable that the results are in some measure reflected in the satisfactory infantile mortality figure recorded.”

The Medical Officer of Health of Leek Urban District writes regarding the Notification of Births Act which is in operation in the district :—“It is very difficult to measure the good resulting from this Act with our present limited experience, but there can be no reasonable doubt that the increasing attention now being given to the healthy management of our infants must eventually not only diminish the infant mortality rate, but must also, which is of greater importance, lay the foundation for a more healthy and vigorous life alike in children and in adults. Present results may be disheartening, but the harvest of good will be reaped after many years.”

The Medical Officer of Health of the Borough of Newcastle congratulates his Council on a relatively low infant mortality rate, and recommends that the practice of circulating leaflets as to infant feeding should be continued.

The Medical Officer of Health of Quarry Bank writes :—“After the remarkably low infantile death-rates of 96 in 1907 and 89 in 1908, a rate of 130 comes as a great disappoint-



ment. Table II. in the text, and Table I. (L.G.B.) give comparisons with other districts and other years of a more cheerful character, as although 130 is far higher than we could wish, it is much below the average of the previous ten years, and compares favourably with the infantile death-rates of the County of Stafford and of large towns in England. As already explained, the epidemics of measles and whooping cough account for most, if not for all of the increase in the general and infantile death-rates, and as these do not depend to any great degree on local conditions, the death-rates this year do not necessarily reflect any great defect in the sanitary administration of the district. As bearing on the question of infantile mortality the following facts may be noted :—

“ The subject of infant hygiene is still taught in the Council schools to the elder girls.

“ There is no crèche in the district, nor so far as I can learn need of one.

“ The midwives are of the untrained variety, holding their certificates for long service only.

“ There is no public nurse in the district, either appointed by the Council, school authorities, or public or private subscription.

“ There is, however, at the time of writing this report, a movement to instal a district nurse remunerated by public subscription, and, especially if she came at all under the control of the Council, it might be well to adopt the Notification of Births Act, 1907, by which it becomes incumbent on parents and others to notify to the Medical Officer of Health the birth of a child within 36 hours. Under the present system the birth is notified to the Registrar (not to the Medical Officer) within six weeks, and it is usually over three weeks before this takes place. Many children are, therefore, dead before their birth is officially recognised, and it is the object of the Notification of Births Act to enable observations to be taken and advice to be given immediately after birth. A nurse should call as soon as possible after the birth of the child to take these observations and give advice where needed. It might be argued that if the law insisted in all cases on the attendance during child-birth of a medical man or a com-



petent trained midwife, there would be no need of a special nurse. But, unfortunately, it is not enough to have given advice, as this is only too often neutralised by the conflicting family traditions or by advice of the wise woman always at hand. The nurse must counsel, assist, and superintend until the mother has thrown off these fetters, and the truth of the nurse's recommendation is established."

The Medical Officer of Health of Sedgley writes:—  
 "The infant mortality is undoubtedly largely increased by foolish feeding and careless management of babies. The Education Committee of our County Council arrange for the teaching of senior pupils in everyday matters affecting the health, including in some of the larger schools instructions for senior girls as to infant feeding. The cards issued by this Council, and kindly distributed by the Registrar, as to 'How to feed your Baby,' have been useful, and are appreciated by the parents. These cards are read and explained to the senior girls, as arranged by Education Committee. I recently examined the senior class of girls at Queen Victoria Schools, and found they understood the instructions in the card very well indeed, and that they were much interested in the subject.

"The lessening of our infant mortality is of national importance, especially in relation to the continuously decreasing birth-rate.

"The Notification of Births Act, 1907, has not yet been adopted, but probably it will be in a short time."

The Medical Officer of Health of Short Heath writes:—  
 "The deaths of children under a year old per 1,000 births registered were 122·1, as compared with an average of 140·9 in the ten preceding years—a very satisfactory decrease. Of the 16 children who died under a year old, four were prematurely born; the death of one was registered as due to congenital disease; whilst five others were probably weaklings from birth. The Notification of Births Act, 1907, has not been adopted by the Council, and no intimation has been given me that they are likely to adopt it in the near future. Its adoption would do no good unless a female health visitor were appointed to work it."



The Medical Officer of Health of the Borough of Tamworth urges his Council to adopt the Notification of Births Act as a means of "lessening the present rate of infant mortality in the Borough, which is much higher than it should be."

In discussing the question of infant mortality at Tipton, the Medical Officer of Health says:—"In time I feel sure that the advent of the Queen's nurses and the instruction that is given by them and the pupils at the nurses' training home will tend to make the mothers more careful and intelligent in the management of their infants."

In referring to a rate of 113 at Wolstanton, the Medical Officer of Health says:—"I would urge upon the Council the necessity for taking some means of improving this state of things, and strongly recommend the adoption of the Notification of Births Act, and the appointment of a health visitor."

The Medical Officer of Health of Kingswinford Rural District writes:—"I think, in the course of a year or two we ought to reap some advantage in infantile mortality from the deep drainage and the consequent removal of a great many insanitary ash-pits and closets. I hope, too, that it will be lessened by the spread of knowledge amongst young mothers by the aid of the leaflets giving directions as to infant feeding."

The Medical Officer of Health of Lichfield Rural District writes:—"The mortality among infants is perhaps the darkest blot on our national statistics, and it is therefore pleasing to note that in recent years there has been a general tendency to decrease. The figures above show how great an improvement has taken place in your district."

The Medical Officer of Health of Walsall Rural District, where the infant mortality for the year was 99, writes:—"In commenting on the lowness of this rate, which I have happily been able to do now for several years past, I have expressed doubts as to whether the reduction would remain permanent, but as there has been a satisfactory rate now for some five years past, I am hopeful that the better sanitary conditions which undoubtedly prevail in this district now



as compared with years ago, have already made their good effects felt in tending to reduce the mortality of young infants."

As in previous years, I have prepared a table showing the infantile mortality rates in different groups of artisan towns in the Administrative County, classified according to the proportion of married women workers in each, as far as such can be ascertained. The grouping is based upon the number of married and widowed females in relation to the female population between the ages of 18 and 50 years, as obtained from the 1901 census, the Registrar-General having been good enough to supply me specially with the data.

Had it been possible to work out the rates in each case on the married female population only, the percentages would of course, have been higher, but I had no data to allow of this being done. Again, I am obliged to assume, in the absence of corresponding figures from previous census returns, that the number of married and widowed outworkers to the female population within the specified age limit was the same throughout the 29 years covered by the infant mortality figures as in the last census year, an assumption which, I think, is justified by the fact that no change has taken place in the special trades carried on in the various towns during the whole period.

Class according to percentage of Married and Widowed Workers to Female Population between 18 and 50 years.	No. of Towns.	Total Population, 1901 Census.	Deaths of Infants under 1 year per 1,000 registered births.		
			1881-1890	1891-1900	1901-1909
I.—12% and over	5	132,299	195	212	186
II.—Under 12% and over 6%	13	263,868	165	175	152
III.—Under 6% ...	8	131,508	156	168	139

It will be seen from these figures that, while the mean rate for the past nine years has been considerably lower in each group than in the previous two decennial periods, practically



the same relative proportion has been maintained in the three groups.

Owing to the amalgamation of the pottery towns by the constitution of the new County Borough of Stoke-on-Trent, I shall no longer have an opportunity of dealing statistically with the infant mortality returns as influenced by the employment of married women in factories or in other work which takes them from home during the day, because in this County it is only in the Pottery area that mothers are largely engaged in factory work. I am glad, therefore, to be in a position this year, as the result of a special enquiry which I conducted on behalf of the Home Office, to supplement the data I have formerly given from year to year bearing upon this question.

The enquiry referred to was confined to the six pottery towns, namely, Hanley, Stoke-on-Trent, Tunstall, Burslem, Longton, and Fenton, the object being to determine with greater accuracy than hitherto had been possible, the effect of home conditions, and especially the influence of factory employment upon infant mortality. With this object in view, particulars regarding the twelve months' history of infants born in 1908 among artisan families were noted, the information being obtained by four experienced ladies who were specially appointed for the purpose, and who, from day to day, for a period of about five months, visited the families to obtain answers to a comprehensive schedule of questions. We thus succeeded in obtaining the desired particulars relating to 4,275 infants born in the year in question, and, from the schedules, summary sheets were prepared on a pre-arranged plan for the convenience of the Home Office officials.

The enquiry was not confined to Staffordshire, but embraced other large artisan centres, and, no doubt, in due course, the Home Office will issue a comprehensive report dealing with the question in all its aspects, but for the purpose of this report I propose to utilize the data in the case of the Pottery towns only so far as it directly relates to the effect on infant mortality of the industrial employment of mothers.

In the following table the figures of infant mortality in



the two groups of families are shown :—

Class.	No. of births in 1908.	Deaths under 1 year.	Deaths under 1 year per 1,000 births.
Home Mothers .. ..	3150	462	146
Mothers working in factories or away from home during the day ..	1125	236	209

It will thus been seen that the death-rate among infants of mothers who leave their homes during the day to engage in work in factories or elsewhere exceeds that among infants of home-mothers by 43 per cent. I have always contended that this result is attributable to the fact that among the home-mother class a larger proportion of the infants are naturally fed, and thus have a better chance of survival than the infants of the other class, most of whom are artificially fed.

Hitherto, I have not been able to obtain reliable data showing the relative death-rate among breast-fed and artificially-fed infants in Staffordshire, but, thanks to the Home Office inquiry, figures relating to artisan families in the six Pottery towns are now available, from which I have prepared the following table. For the purpose of this table, I have selected those infants only who were alive one month after birth, because, contrary to my expectation, practically all the factory mothers suckled their infants during the four weeks they were compelled by law to remain at home after their confinements, while most of the other out-working mothers were at home for at least two or three weeks after their confinements. For the purpose of grouping as regards feeding, I have included among the wholly breast-fed only those infants who were so fed for three months and upwards.



INCIDENCE OF MORTALITY AMONG INFANTS WHO SURVIVED  
THE FIRST MONTH OF LIFE, CLASSIFIED ACCORDING TO  
NATURE OF FOOD.

	Breast wholly.	Breast partly.	Artificially wholly.
Number surviving first month	2429	932	457
Number of those dying under one year .. .. .	235	162	114
Deaths under one year per 1,000 infants who sur- vived first month ..	97	174	249
Percentage increase over breast-fed .. .. .		79%	157%

I am aware that in certain large towns where similar inquiries have been conducted the fact of mothers working in factories does not seem to increase the infant death-rate, and the suggested explanation is probably the right one, namely, that the increased earnings from such work enable the families in question to live under better home conditions as regards food, clothing, &c., and so, by counteracting the injurious effect of poverty, balance the injury arising from the increased proportion of artificially-fed infants. Among the families in the Pottery towns included in the inquiry, however, poverty was conspicuously absent, and the standard as regards home conditions was remarkably uniform, so that, the evil effect of injudicious artificial feeding was not obscured by other compensating influences.

ZYMOTIC DEATH-RATE.

The death-rate from zymotic diseases, including under that heading, according to the Registrar-General's classification, the seven principal ones, viz., small-pox, measles, scarlatina, diphtheria, fevers, whooping cough, and diarrhoea—is



higher, both in urban and rural districts than it was in 1908, but it will be remembered that last year's rate was the lowest recorded in the history of the Council. It will be seen, on referring to subsequent tables, that the chief cause of the increased rate was the wide prevalence of measles and whooping cough, especially the former, diseases which are of less significance from a strictly sanitary point of view than some others.

In the following table the comparative figures are given for the past twenty-one years, together with similar figures for England and Wales, and for the larger towns in England :—

	Districts in Administrative County.			England and Wales.	Large towns in England.
	Urban.	Rural.	Urban & Rural combined.		
1889 .....	2.36	1.17	1.99	2.40	2.72
1890 .....	2.06	1.15	1.77	2.05	2.77
1891 .....	2.00	1.36	1.82	1.83	2.41
1892 .....	2.03	1.10	1.77	1.90	2.63
1893 .....	2.41	1.58	2.17	2.47	3.17
1894 .....	1.68	0.97	1.47	1.76	2.43
1895 .....	2.39	1.15	2.04	2.14	2.82
1896 .....	2.71	1.55	2.39	2.18	2.90
1897 .....	2.91	1.57	2.54	2.15	2.87
1898 .....	3.41	1.68	2.97	2.22	2.85
1899 .....	2.54	1.27	2.22	2.21	2.81
1900 .....	3.04	1.89	2.75	2.00	2.50
1901 .....	2.50	1.39	2.21	2.05	2.68
1902 .....	1.63	0.93	1.44	1.64	2.12
1903 .....	1.63	0.86	1.43	1.46	1.89
1904 .....	2.41	1.15	2.14	1.94	2.49
1905 .....	2.00	0.91	1.77	1.52	1.88
1906 .....	2.15	0.81	1.87	1.73	2.24
1907 .....	1.60	0.73	1.41	1.26	1.54
1908 .....	1.49	0.71	1.32	1.29	1.59
1909 .....	2.08	0.82	1.80	1.12	1.42



## SPECIAL ZYMOTIC DEATH-RATE.

**Small-pox.**—The period of quiescence from this disease referred to in my last annual report, is still maintained, no cases having been notified during the year. Judging from former experience, we may hope to be practically free from this disease for a few years, but, having regard to the inadequate protection afforded by vaccination—owing to re-vaccination not being compulsory, and the imperfect way in which primary vaccination is too often performed, if it takes place at all—it is inevitable that outbreaks of the disease will occur sooner or later, therefore the costly machinery for dealing with such outbreaks must be maintained.

**Measles.**—In the Administrative County, 622 deaths occurred from measles, as compared with 139 in 1908, equal to a rate per 1,000 of the population of 0·68, as against 0·15. Of these deaths, 591 occurred in the urban districts, or 0·83 per 1,000, and 31 in the rural districts, producing a rate of 0·15 per thousand.

In the following table corresponding figures are given for four quinquennial periods, and for the past year:—

MEASLES.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	Number of Deaths...	281	356	260	280	591
	Rate per 1000.....	0·51	0·59	0·38	0·39	0·83
Rural	Number of Deaths...	68	69	40	39	31
	Rate per 1000.....	0·29	0·30	0·17	0·19	0·15

Under this heading, the Medical Officer of Health of Amblecote writes:—"As I have before stated in previous annual reports, there are two important factors which favour an epidemic of this disease, the first and most important being the aggregation in our schools of children under five years of age, when they are most susceptible, and the persistence of the mothers in regarding the disease as of slight importance, and thus not taking proper care to keep them isolated."

The Medical Officer of Health of Coseley writes:—"The



disease was prevalent during 1908, and 17 deaths resulted. During the present year there were 15 fatal cases, all, as usual, being in children under five years of age.

“These deaths occurred in July, August, September, and October, and were no doubt largely contributed to by lack of care on the part of the parents. The majority of the cases receive no medical attention until severe bronchitis or broncho-pneumonia has set in, owing to too early exposure of the child. It cannot be too often insisted upon that measles becomes a highly dangerous disease if the sufferer is not well nursed, that it is not safe to allow the patient to be exposed to the weather for a week or more after the disappearance of the rash, and that very few cases need end fatally if proper precautions are observed.

“The danger of the disease is much increased by stuffy and ill-ventilated rooms, and overcrowded houses have the largest number of fatal cases. The system of notification by the teacher of absent children, which is now carried out, is of great service, and should be continued. Children coming from homes in which measles exists are admitted to school if they have previously suffered from the disease.”

With reference to school closure as a preventive measure, the Medical Officer of Health of Tipton writes:—“Our working rule in cases of measles epidemic is that we close the infants' schools if more than 50 per cent. of the children are absent from that cause. We do not prohibit children their attendance in the higher schools if they come from a measles infected house, but do not allow any infant in school if he or she comes from an infected house. The contention is that as it is practically a young child's disorder, most of the children in the higher schools will have previously suffered from the disorder, and are not likely to become infected again.”

The Medical Officer of Health of Lichfield Rural District writes:—“Measles is a disease which fluctuates greatly from year to year, and even from quarter to quarter. It is difficult to control because the patient is infective before the nature of the disease becomes apparent. It has been suggested as a means of lessening the spread of measles that



whenever a fresh outbreak occurs in any particular class in a school, the parents of all the scholars in that class should be informed and should be asked to carefully watch their children and isolate them at once if any running from the eyes and nose sets in, as in that case they are probably sickening with the complaint."

Among other districts where the disease was prevalent may be mentioned Brierley Hill, Burslem, Newcastle (Borough), Quarry Bank, Rowley Regis, Smallthorne, Stoke-on-Trent (Borough), and Wolstanton Urban Districts, and Kingswinford Rural District. It would appear from the reports under review that measles was not only very prevalent, but that the type of the disease was unusually virulent.

**Scarlet Fever.**—In the Administrative County, 106 deaths occurred from scarlet fever, as compared with 76 in 1908, equal to a rate per 1,000 of the population of 0·11, as compared with 0·08. Of these deaths, 95 occurred in the urban districts, or 0·13 per 1,000, and 11 in the rural districts, producing a rate of 0·05 per 1,000. In the following table corresponding figures are given for four quinquennial periods, and for the past year:—

SCARLET FEVER.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	{ Number of Deaths...	124	133	134	85	95
	{ Rate per 1000.....	0·22	0·22	0·20	0·12	0·13
Rural	{ Number of Deaths...	40	37	36	16	11
	{ Rate per 1000.....	0·17	0·16	0·15	0·08	0·05

Under this heading, the Medical Officer of Health of Smallthorne writes:—"The disease was of a very mild type; for the whole district 58 cases were notified, and three deaths resulted. I made a special report to you concerning the continued prevalence of scarlet fever in Milton, in which I pointed out to you the difficulty we had in stamping out the disease. Owing to the extreme mildness of type it was



difficult to form a diagnosis, in many cases the temperature was only raised for a few hours, the rash was evanescent and throat symptoms were rare. Under these conditions medical advice was not sought until peeling was advanced, with the result that children were about during this peeling stage. Some adults had no idea that they had suffered from scarlet fever until this stage was reached, having experienced nothing more than what they thought to have been a common cold. Most of the cases notified were removed to hospital. Parents frequently remarked that other children of the family had been just the same, but that they had never sought medical advice. No cases have been notified since September."

In Stafford, on the other hand, the type of the disease was said to be severe, many of the cases being complicated with disease of the throat, nose, and ear, necessitating prolonged stay in hospital.

In Wolstanton it would appear that the number of cases notified was the smallest on record.

The Medical Officer of Health of Walsall Rural District writes:—"Scarlet fever appears to be endemic in the Borough of Walsall, where there is no scarlet fever hospital, and it is little wonder therefore that cases are numerous in the rural district, which surrounds the Borough, considering the amount of daily inter-communication which is going on."

### Diphtheria and Membranous Croup.—

In the Administrative County, 140 deaths occurred from diphtheria and membranous croup, as compared with 144 in 1908, equal to a rate per 1,000 of the population of 0·15, as against 0·16. Of these deaths, 110 occurred in the urban districts, or 0·15 per 1,000, and 30 in the rural districts, producing a rate of 0·14 per 1,000. In the following table corresponding figures are given for four quinquennial periods, and for the past year:—



DIPHTHERIA.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	{ Number of Deaths...	28	132	230	182	110
	{ Rate per 1000.....	0·05	0·22	0·34	0·18	0·15
Rural	{ Number of Deaths...	21	39	72	28	30
	{ Rate per 1000.....	0·09	0·17	0·31	0·14	0·14

As an example of how this disease may be spread, I quote the following from the report of the Medical Officer of Health of Audley:—"In August, an insurance agent, whose duties are largely in neighbouring towns, contracted diphtheria. The attack, being of a very mild character, was not brought to the notice of any doctor. The man went about his duties as usual, visiting a large number of houses in this and other districts while still in a condition to spread the disease. A fortnight later, two of his children developed the disease, one of whom died. During September other cases appeared in this neighbourhood, and by the end of the year 20 cases had come under my notice. I have no doubt that this mild case of diphtheria brought the disease into our district, and spread it to a number of houses. Only one ward on the Audley side of the district has been involved in the epidemic, the other two wards having so far escaped."

Happily, the practice of supplying anti-toxin serum as a curative agent is now very general, and many of the Authorities are supplying it as a prophylactic also. In this connection specially I quote the following from certain of the reports under review:—

The Medical Officer of Health of Brierley Hill writes:—"In every case the usual means were adopted to control the spread of the disease, and to prevent a fatal issue, such as free bacteriological examination to confirm the diagnosis, free supply of anti-toxin serum; as far as possible, isolation of the affected persons and thorough disinfection and fumigation of infected houses and schools.

"A supply of anti-toxin serum is always kept in stock at the office, Moor Street, and is available at all times for the



free use of medical practitioners in the district, with a properly sterilized syringe. Success depends upon the prompt injection of this serum. It has been extensively used during the past year, and I have reason to believe with good results. The public should know by now of the advantage which is freely offered to them, and be prepared to demand its application. At one time there was some prejudice against the use of this remedy, but I never hear of any objection being raised to it now.

“ With the treatment of diphtheria by the early application of anti-toxin, if the public will seek medical advice early in all cases of sore throat and especially in cases with difficulty of breathing or signs of croup, the mortality ought to be reduced to almost vanishing point. It is certain that the early application of this treatment prevents malignant symptoms developing, and as a result one sees and hears less of those very malignant cases, which terminated rapidly and gave rise to the dread which at one time was felt when this disease was mentioned.”

The Medical Officer of Health of Fenton writes :—“ Since October, 1905, the Council have supplied anti-toxin free of charge, and pay a fee for its use, both for injection of patients as well as of all contacts willing to submit to the operation.”

The Medical Officer of Health of Heath Town writes :—“ The Council keep in stock at the Isolation Hospital 10,000 units of serum, and also two prophylactic doses, and also a serum syringe. Any doctor is allowed to use these for any case that occurs in the district, on condition that he returns the syringe to the Hospital, and orders a fresh supply of serum forthwith. If the doctor satisfies the Council that the patient or his friends are unable to pay for the serum, they are willing to pay for 10,000 units per case. Applications should be made to the Medical Officer or Inspector. This application has only once been used during the year.”

The Medical Officer of Health of Kingswinford Rural District writes :—“ The Council still offer to provide anti-toxin serum free of charge for use in cases where the patients' circumstances are such that they are unable to afford to pay for it. To avoid any delay the Council decided to permit



medical men in their district to use their own serum and to recover the expense from the Council."

**Whooping Cough.**—In the Administrative County, 369 deaths occurred from whooping cough, as compared with 216 in 1908, equal to a rate per 1,000 of the population of 0·40, as against 0·24. Of these deaths, 306 occurred in urban districts, or 0·43 per 1,000, and 63 in rural districts, producing a rate of 0·31 per 1,000. In the following table corresponding figures are given for four quinquennial periods, and for the past year:—

WHOOPING COUGH.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	{ Number of deaths.	257	240	223	245	306
	{ Rate per 1000.....	0·46	0·40	0·33	0·34	0·43
Rural	{ Number of deaths.	54	54	44	42	63
	{ Rate per 1000.....	0·23	0·23	0·19	0·20	0·31

It would seem that the disease was specially prevalent in Burslem and Quarry Bank and in the rural districts of Cannock and Walsall.

The Medical Officer of Health of Quarry Bank calls attention to the habitual carelessness of parents as contributing to the spread of the disease in the following terms:—"The uncertainty of distinguishing the disease in its earliest stages renders it one of the most difficult to prevent. Since, moreover, parents who would hesitate to expose their children when suffering from less harmful diseases, take these little patients into tramcars, railway carriages, and places of public resort, and frequently press their attendance at school, there is little wonder that, especially in populous districts like Quarry Bank, little can be done to arrest an outbreak."

**Enteric Fever.**—This disease, which must be looked upon as being entirely preventable, caused 66 deaths, as against 68 in 1908, equal to a rate of 0·07 in each year. Of



these, 58 occurred in urban and eight in rural districts, equalling a rate respectively per 1,000 of the population of 0·08 and 0·04. In the following table corresponding figures are given for four quinquennial periods, and for the past year :—

ENTERIC FEVER.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	{ Number of deaths.	98	124	118	76	58
	{ Rate per 1000.....	0·17	0·20	0·17	0·10	0·08
Rural	{ Number of deaths.	30	19	22	6	8
	{ Rate per 1000.....	0·12	0·08	0·09	0·03	0·04

The above figures are certainly encouraging, and should stimulate local authorities to press forward measures of sanitary reform which are calculated to lead to a still further reduction in the mortality from enteric fever, especially the substitution of water-carriage for the conservancy method of excrement removal.

The Medical Officer of Health of Bilston, in commenting upon seven cases of enteric fever which occurred in the district in 1909, says :—“ These cases were, as usual, mostly connected with defective privy middens or privy vaults, with consequent contamination of the soil.”

The Medical Officer of Health of Brierley Hill writes with reference to five cases which occurred in his district, two of which proved fatal, as follows :—“ Of the two cases that died, one was that of a young man who lived at a house where no fault could be found with the sanitary condition. He had been in the habit of eating shell-fish, purchased in the market. The other was that of a man who had been working in the night-soil department. In this case the house and premises were found to be in a deplorable insanitary condition.

“ Of the cases that recovered, one was at a cottage which I had reported as unfit for human habitation, and on the premises there was an old brick sewer, exposed, and with a large hole in it, which was said to be very offensive at times. One was a very mild case at a fairly good house, where no



sanitary defect was detected. The other was that of a boy who had been visiting at Southsea, and returned home ill. He was known to have eaten a considerable quantity of uncooked cockles about a fortnight before his illness. The Medical Officer of Health at Southsea was notified."

With reference to the above quotation, it hardly seems creditable to the Authority that a house which had been condemned was still occupied.

It would appear from the report of the Medical Officer of Health of Rowley Regis that of the 14 cases which occurred in that district the disease in seven instances appeared to have been contracted in the "hop-yards."

In Smallthorne, where ten cases were notified, no less than seven occurred in one family. It would appear that the first of these seven cases contracted the disease while on a visit in another town, and on returning home the nature of the disease was not recognised, in fact, medical advice was not sought, with the result that no preventive precautions were adopted, and six other members of the family contracted the disease.

The Medical Officer of Health of Lichfield Rural District writes:—"During the last five years only 12 cases of typhoid fever have been notified, whereas in earlier years it was not unusual to get twice that number in a single year."

The Medical Officer of Health of Walsall Rural District writes under this heading:—"The most pleasing feature of my report this year is the fact that not a single case of enteric fever has been notified. This has not happened before since I have known the district, now some 16 years. For a number of years past the cases have grown fewer and fewer, and is a striking proof of the beneficial results arising from improved sanitation, especially the advent of the cleanly water-closet in the more urban parts of the parishes."

**Diarrhœa.**—In the Administrative County, 337 deaths occurred from diarrhœa, as compared with 545 in 1908, equal to a rate per 1,000 of the population of 0·37, as compared with 0·60. Of these, 314 occurred in urban and 23 in rural districts, equalling a rate respectively of 0·44 and 0·11.



In the following table corresponding figures are given for four quinquennial periods, and for the past year :—

DIARRHOEA.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	Mean for 5 years. 1904-1908.	1909.
Urban	Number of deaths	405	581	569	565	314
	Rate per 1000.....	0.73	0.97	0.84	0.78	0.44
Rural	Number of deaths	89	93	81	40	23
	Rate per 1000.....	0.38	0.41	0.35	0.20	0.11

The Medical Officer of Health of Handsworth writes :—  
 “ The remarkable annual variations in the death-rate from diarrhoeal diseases are chiefly to be accounted for by the variations in the summer and autumn climatic conditions, the highest mortality being experienced in hot and dry years.

“ It is generally held that the prevalence of these diseases bears some relationship also to the efficiency of the systems of sewage and refuse removal and to the cleanliness of dwellings, and for this reason diarrhoeal mortality is by many considered to be an index of the general sanitary condition of a district.

“ Although the proximate cause of that deadly form of the disease known as epidemic or summer diarrhoea has not yet been identified with certainty, there is little doubt that it is bacterial in nature, and that it gains access to the body of its victims chiefly by means of food which it contaminates.

“ It is thought that the bacteria are conveyed to food in dust and also through the agency of the common house fly.

“ A mass of circumstantial evidence has gradually been accumulated against the latter, whose habit of feeding impartially on garbage and on human food had long brought it under suspicion. It is probable that measures directed towards the extermination of the fly, or, short of this, its banishment from dwellings, would have a marked effect in reducing diarrhoeal mortality.

“ The fly is most successfully attacked while in either the egg or the larval stage in its breeding places, which are princi-



pally manure heaps and the contents of privies and ashpits. The minimum period required for the complete development of the fly from the egg is eight days ; therefore the systematic removal and destruction at shorter intervals than that period of the material in which the eggs are deposited are clearly indicated. In this connection, the institution of a weekly collection of domestic refuse in this district and the adoption of a bye-law compelling the weekly removal of stable manure and similar accumulations, as suggested in previous reports, are strongly recommended.

“ All food, especially milk, should be protected from the raids of winged pests, and it is highly important that food should also be kept in as cool a place as possible. Multiplication of disease-producing bacteria is greatly favoured by warmth, and an originally small degree of contamination (of milk, for example) is liable to assume highly dangerous proportions after a few hours' exposure to summer temperature.

“ In regard to dust and its attendant evils, these would probably be mitigated by the application of tar-macadam (or by some similar process) to those roads which by reason of comparatively light traffic are most suitable for such treatment.

“ This process has been tried on several roads in this district and the results have been very satisfactory from the points of view of wear and tear and of immunity from dust.”

The Medical Officer of Health of Quarry Bank writes :—  
 “ There has been little or no epidemic diarrhoea this year, and not a single death was attributed to it. This is, I believe, unique in your annual returns, and may be due to some extent to the prompter methods in sanitary matters. Early in August I wrote to your Sanitary Inspector asking his special attention during that and the following month to scavenging, street watering, and refuse removal, as being among the important steps in the prevention of diarrhoeal outbreaks, and his ready response seems to have borne good results. The common house fly is credited with being a very active agent in the causation of diarrhoea and enteric fever, and, if this is so, much of the recent improvement may be traced to



the cold and damp autumns of the last three or four years having had a deterrent effect on the breeding of flies. Middens and manure heaps are the breeding grounds of these pests, and they carry direct from them particles of noxious substances into the houses and deposit them on food and utensils. This is not theory, as such flies when carefully examined have been found to have on their feet disease-producing germs similar to those existing in the midden contents. Middens abound in your district as a standing menace to the health of the people, and all efforts to protect the food from flies are unscientific and futile until their breeding grounds are removed."

Under this heading, the Medical Officer of Health of Tipton writes:—"I have noted during the year a more constant use of sweetened condensed milk as an article of diet for infants and very young children. When noticed I always remark upon it, there is an abundant supply of wholesome pure milk to be obtained at a very small cost and a minimum of trouble. It cannot be too well known that fresh milk is infinitely more suitable as an article of diet than milk of the best brands that has been lying in a tin, and that the less that milk is sweetened the better for the user. In the summer weather it is advisable as a safeguard from diarrhœa and intestinal complaints to cook it in a porringer or to boil it. It is advisable not to eat any tinned foods during the summer, they rapidly decompose, and many cases of diarrhœa and enteritis are traceable to their use. Diarrhœa and enteritis cannot be traced to any one overwhelming cause, but to the very many disturbing causes from carelessness in sanitation or errors in diet."

**Cholera.**—No mention is made of this disease in any of the reports under review.

**Erysipelas.**—Little reference is made to this disease in any of the reports.

**Puerperal Fever.**—In the Administrative County, 20 deaths were attributed to puerperal fever, as against 18 in 1908. In only a few of the reports is any special reference



made to the circumstances attending the cases. It may be mentioned, however, that it is my invariable rule to specially enquire into the circumstances in all cases reported to me which have not been attended by medical men in the first instance but by midwives.

It may here be convenient to call attention to remarks which appear in some of the reports under review regarding the administration of the Midwives Act.

The Medical Officer of Health of Cannock Urban District writes:—" . . . . . under the Act every midwife is bound to send for medical help when she is in a difficulty, and then afterwards she ceases to be responsible. The Act does not provide payment for the doctor, however, and he has often gone unpaid. In February, 1908, the Privy Council issued a circular to Guardians advising that 'it is competent to the Guardians to pay the fee of any medical man called in on the advice of a midwife to attend upon a poor person in case of a difficulty,' and in this district the Cannock Board of Guardians, acting on this circular, provides payment for medical help when found necessary."

The Medical Officer of Health of Darlaston writes:—"The replacement of the so-called 'handy woman' by an adequately trained midwife is a real want at the present time. Any difficulty which she might experience in coping with pressure of work in the future could easily be met by the adoption of some such scheme as that which obtains at Tipton, whereby the County Nursing Association supply suitable young women to assist the midwife and generally to nurse under her supervision.

"Although the district nurses render valuable aid if a parturient patient becomes septic after delivery, our greatest need is for a properly trained midwife to take charge of the case from the outset and so minimise the risk of puerperal fever developing.

"In advocating most strongly the necessity for such an appointment, I venture to express the opinion that it appears singularly inconsistent to give the artisan public the advantage of skilled nursing in general illness, and yet at the same time to withhold from the expectant mothers of the district



that special attention without which health and even life may be jeopardised."

With reference to the above quotation, it is hardly accurate to say that the County Nursing Association supply suitable women to assist the midwife. What happens is this: at Tipton an excellent training home has been established, and, through the aid of a grant from the County Education Committee, the County Nursing Association are able to send for training to the home (Staffordshire Training Home for Nurses) a number of suitable women annually who, no doubt, after they have been some time under training are able to give material assistance to the excellent staff of trained midwives attached to the home. There is no reason why Darlaston should not join in the movement and thus participate in the advantages resulting from the scheme, and, at the same time, help on a very excellent movement.

**Influenza.**—It would appear from the reports under review that influenza again occurred in most parts of the County, chiefly in the early part of the year, but the type again seems to have been mild.

Among the districts where the disease appears to have been prevalent may be mentioned Rowley Regis and Rugeley Urban Districts, and Eccleshall, Tamworth, and Tutbury Rural Districts.

**Diseases of the Respiratory Organs.**—Under this heading, which does not include phthisis, 2,752 deaths occurred, as compared with 2,322 in 1908. None of the reports contain any remarks regarding these diseases which call for special reference.

**Phthisis.**—In many of the reports considerable prominence is given to the question of the causation and prevention of phthisis, from which disease no fewer than 757 deaths have resulted during the year.

Having regard to the vital importance of the question, in order that the public health authorities in the Administrative County may know what is being done in various districts



in the direction of prevention, I quote pretty fully from the reports under review.

The Medical Officer of Health of Biddulph writes:—  
 “The notifications in 1909 were 22 ; see Table 5 ; although we have just seen that 32 deaths occurred. The increase in the numbers over the average is mainly due to the new requirement that district and workhouse medical officers must notify pauper cases. This accounts for five of the Bucklow notifications, and all those at Knutsford and Middlewich. Curiously, none have been received for either Biddulph or Winsford, either locally, or from their respective workhouses. The voluntary system may therefore be considered to have failed ; and compulsory notification will, no doubt, sooner or later, be enforced universally.”

The Medical Officer of Health of Bilston writes regarding the scheme now under consideration for making use of the South Staffordshire Small-pox Hospital for phthisis cases as follows:—“The proposal to use the hospital of the Board for the isolation and treatment of suitable cases of pulmonary tuberculosis is one likely to be of great benefit to the community, and is deserving of careful consideration.”

Later, in his report, the same Medical Officer of Health says:—“The conditions associated with the development or spread of tubercular diseases have been fully discussed in previous reports, and the absolute need, above all others, of fresh air, both day and night, insisted upon. Homes, workshops and factories all require to be kept as free from dust as possible, with plenty of pure air and sunlight. Treatment in the open air is essential, and, in the *early* stage, frequently leads to recovery. This, practically, is impossible in the homes of poor people—hence the need of sanatoriums which are appearing in different parts of the country. Many of these are proprietary, that is, are carried on for profit and admit, therefore, only patients who can pay high fees. Some are charitable in their aims, and are supported by voluntary subscriptions or subsidised by public bodies or corporations. These will no doubt increase in number unless and until a system of insurances, somewhat after the manner of that in Germany, causes the necessary provision to be made.



Notification of *all* cases should be made compulsory.

“ A pure milk supply is essential to the stamping out of consumption. The channels through which the disease reaches the human body are two—infected milk and the germs or bacilli which are coughed up by infected persons—these latter dry and pass into the atmosphere. A pure milk supply, therefore, is essential. Diseased cows should be destroyed and compensation given to the owners; stall-fed animals should disappear, for constant confinement, often in close, over-heated and ill-ventilated cowsheds, is bad for them, and the means of conveyance and storage of the milk should be carefully supervised. Polluted milk is a fertile cause of the fatal diarrhœa of infants so common in hot weather, and milk laden with tubercle bacilli when taken into the digestive system of the child is the recognised form of infantile tuberculosis which affects the bowels and through the alimentary system extends to the brain and other organs. Until the pure milk supply is made certain—and this is the aim of the Milk Bill of Mr. John Burns, milk should be kept clean and free from dust, and stored in a cool, well-ventilated place—and always before use sterilised by boiling.”

The Medical Officer of Health of Brierley Hill writes:—  
 “ On January the 1st, 1909, the Public Health Tuberculosis Regulations came into effect, and it became the duty of the Poor Law Medical Officers to notify all parish cases to the Medical Officer of Health. Four cases were thus notified during the year 1909. Each case was visited by the Sanitary Inspector and myself. Spitting cups and disinfectants were supplied free by the Council, and the patients were instructed how to use them; the friends or relations were advised as to the risk of infection, and the necessity for good feeding and fresh air. The Poor Law Guardians sent one of the cases to the Sandgate Sanatorium, Kent. He returned in a very much improved condition and commenced to work. Another was sent as a preliminary step to the Union Infirmary for nursing and feeding, but having a bad fistula in ano, which required treatment in the sick ward, he refused to stay.

“ My inspection of these four cases confirmed the opinion



I had already expressed, that the means we adopt to combat the disease could only be palliative. Consider for a moment the condition under which this class of people exist. Extreme poverty ; cheap, overcrowded, insanitary houses (houses, the proper remedy for which would be demolition) ; and the ever-constant struggle to obtain the means of subsistence. These four cases were men over 40 years of age, the bread-winners of the household, to whom it seemed a mockery to mention the necessity of a good and plentiful supply of nourishing food ; and with their insanitary, sunless, and stuffy environment, almost equally absurd to emphasise the necessity of plenty of sunlight and fresh air. There is little wonder they are helpless victims before such an enemy as pulmonary tuberculosis.

“ The main difficulty in effectually dealing with the disease is a financial one. If the whole of the District Councils comprised in the parish of Kingswinford would combine, there are sites within its own area where buildings might be erected, and the cases successfully treated ; not the palatial buildings which are called sanatoria, but the more economical and quite as effectual chalet. They can be treated and educated in suitable situations at home, quite as well as in more remote parts of the country. If we had such a system, I believe it could be managed at a reasonable cost, and being nearer the homes of the patients, would be more appreciated. . . .

“ When a death occurs we disinfect and fumigate the room occupied by the patient.”

The Medical Officer of Health of Coseley writes :—“ Under the regulations which came into force at the beginning of the year, five cases of phthisis, occurring amongst paupers, were notified ; they were three males and two females. Two of the males were far advanced in the disease when reported, and they died during the year. The houses were disinfected, and in one case the bedding destroyed. The remaining male case was in an early stage. After a good deal of delay he was sent to a sanatorium, and is now home again and free from symptoms. One of the female patients, a married woman, was offered, but declined, sanatorium treatment. All the cases were supplied with spittoons, paper handkerchiefs,



and disinfectants, and advised as to the best means of avoiding the spread of infection. It is very desirable to obtain voluntary notification of non-pauper cases, and your Council would do well to invite the medical practitioners to report such in return for a small fee. Tuberculosis is an infectious disease, and the large majority of deaths from the pulmonary form occur during the working years of life, and not in infancy as in the case of the acute infectious diseases, and yet while large sums of public money are quite properly spent on the latter, up to the present very little has been devoted to the prevention of tuberculosis.

“ If pulmonary tuberculosis were abolished the expectation of life of young adults would be increased, and great financial gain to the nation would result. In Germany this is recognised and acted upon, the German Insurance Companies, who insure workpeople against sickness, finding it to their financial gain to provide for sanatorium treatment.

“ A report is under consideration by the South Staffordshire Joint Small-pox Hospital Board as to the use of the building as a sanatorium, it being splendidly equipped and easily rendered fit for the purpose, and having up to the present never been occupied. Of course, the patients would have to be sent out immediately if an outbreak of small-pox occurred, but as these outbreaks are very infrequent, and as there are a large number of cases of phthisis in this district, for which no institutional treatment is available, the scheme should be carefully considered. It is anticipated that £1 10s. od. per week would be required in respect of each patient, and that the average stay would be six weeks, it being intended more as an attempt to educate as many patients as possible to take care of themselves, than to attempt to treat much smaller numbers for much longer periods.”

The Medical Officer of Health of Fenton writes with reference to notified poor-law cases :—“ In order to deal with such cases, forms have been drawn up on the same lines as those used in the case of other notifiable infectious disease (Tatham's forms). On the receipt of a notification the Sanitary Inspector proceeds to the house, makes inquiry as to family history, sanitary environment, and so forth, and enters the



results of his enquiries under the respective headings contained on the form referred to. He also leaves a card at the house containing certain rules to be observed."

The Medical Officer of Health of Longton writes:—"At the beginning of 1909 pulmonary tuberculosis amongst paupers became notifiable, and we have had 39 notifications of such. These cases are visited directly they are notified and advised about ventilation, fresh air, and spitting, and when possible to have a bedroom to themselves; whenever a death takes place a thorough disinfection is carried out. This disinfection has been done for several years now, whenever we could get the necessary information, and the people were willing to have it done in any case of death from pulmonary tuberculosis, whether pauper or not."

The Medical Officer of Health of the Borough of Newcastle writes:—"Tubercular diseases were responsible for 21 deaths. Of these, 14 deaths were due to pulmonary phthisis. This shows an improvement on the previous year, and now that the Poor Law Officials notify this disease, we may hope for further improvement in the future. This disease is greatly aggravated by insanitary surroundings, damp conditions, overcrowding, and absence of sunlight. A phthisical patient is always liable to infect other people, particularly those in the same household, and I would mention that my Authority is always anxious to disinfect houses where deaths from phthisis have occurred. In those cases notified by the Poor Law Officials leaflets containing instructions for the treatment and care of the patient and for the people in the same household are distributed. Spitting bottles are also provided with instructions how to destroy the contents and to disinfect. If these means for the prevention of phthisis could be extended to members of the community, the benefit would be great. The matter is worthy of your consideration."

Regarding the poor-law cases notified at Quarry Bank and the general question of prevention, the Medical Officer of Health writes:—"Each case was visited by the Sanitary Inspector and myself, and such assistance and advice was given as lay in our power. Disinfectants and spit cups were supplied by the Council, and the patients and friends instructed as



to the infectious nature of the disease and the necessity for fresh air. The Poor Law Authorities offered to send one of the cases to a sanatorium, but she refused to go. Four of the seven died during the year. From the first inspection it was obvious to my mind that such means could be only palliative. Poverty, overcrowding, and general lack of interest bespoke a struggle for the means of subsistence. It was painful to emphasise the need of good food and plenty, where one full meal a day was a practical impossibility, of fresh air and space where in one case nine persons occupied one bedroom of a total capacity of about 1,600 cubic feet, and in most others four or five persons shared the same bedroom, and of sunlight in buildings which seemed specially designed to exclude the rays of the sun. Fortunately, the poor live much in the open air; as long as they can stand, the front door and the street corner are their sanatoria. Not until the whole matter is taken up with a bold hand, and they are lifted from their starving, hopeless, degrading and unwholesome conditions can any real progress be made in the battle on their behalf. Until recent years all that was done was 'to close the stable door after the horse had gone,' but a new principle is at work. 'Prevention' is the watchword of the future, and those who would see an end of consumption must apply themselves to strengthen the constitution and maintain the health of the poor by giving them fresh environments and better opportunities than they have at present. Grinding poverty involves overcrowding, and in these conditions there is little wonder that the poor develop vicious or careless habits, and that they fall ready victims to all kinds of diseases. More work for the willing if it can be got, a better allowance, either as pensions for the aged and infirm, or as pecuniary relief for the out-of-work; more sanitary dwellings and better enlightenment of the people on matters relating to health; these are the weapons by which the tuberculosis demon must be fought if the issue is to be favourable and permanent. Every person suffering from active pulmonary tuberculosis must be regarded as a centre for the spread of the disease, and should be taught so to regard the health of others, that he will, without supervision, destroy his



expectorations, and take such precautions in company, and especially in the house, that the risk of infecting others would be reduced to a minimum. Last year I cited a family in Quarry Bank in which in two and a half years seven members died of this disease, and since then another has died. These instances are not specially rare, and afford a striking object lesson of the danger of infection in consumption. One patient in your district, who was fortunately well provided for, lived and worked about 20 years after the disease was well established. In my own practice there are many patients, also fairly well provided for, who were undoubtedly consumptive, and have recovered entirely. These are instances of what is possible under favourable circumstances."

Considerable space is devoted to this question in the report of the Medical Officer of Health of Rowley Regis, who says:—"With regard to the disinfection of houses and the disinfection (and destruction when necessary) of infected articles; this has been the practice of the Council for the last eight or nine years, not only for paupers, but for all cases of death from pulmonary tuberculosis in this district."

From the following extract from the report of the Medical Officer of Health of Sedgley it may be inferred that his Authority are slow to act upon his advice as regards the provision of eaves spouting. There can be no excuse for this, having regard to the simple nature of the remedy and the ease with which it may be enforced:—"Fresh air and sunlight are the great desiderata for tubercular patients, and their dwellings should be free from damp and overcrowding. I regret to repeat next sentence from last year's report. A large number of old houses in your district are still without eaves spouting. During 1909 your Surveyor, Mr. Turton, has had eaves spouting put up under notice to nine houses, the same number as last year. Your Sanitary Inspector, Mr. Wayne, has succeeded in getting the same thing done to nine houses while he was remedying other sanitary defects in the same. No better check to the spread of this disease can be offered in this district than a firm policy of dealing with dilapidated, damp, and insanitary dwellings, for the natural advantages of Sedgley, as regards pure air, bracing atmosphere, and



general dryness of the soil, are well established. The provision or renewal of eaves spouting should not be delayed longer."

In Tettenhall it would appear that the Authority have made provision for the voluntary notification of phthisis, and pay a fee of 2s. 6d. for each notification.

The Medical Officer of Health of Willenhall writes:—  
 "Thirteen cases of pulmonary consumption were certified under the Board's Order of 1908, of whom eight died. Leaflets have been prepared and distributed amongst those suffering from the disease and their immediate friends, and personal efforts have been made to educate the public to protect themselves. The bed and bed and body clothing of all who died from consumption were disinfected by the steam disinfector, and the bedrooms they occupied before death were cleansed and disinfected with sulphurous acid. In the early stages of the disease many completely recover by temporary residence in a sanatorium, and the education acquired there does permanent good. In the later stages, when health is fast failing institutional treatment separates the patient very largely from those susceptible to infection. Section 131 of the Public Health Act, 1875, gives the Council power to enter into an agreement with the managers of any hospital for temporary or permanent residence of consumptive persons therein; and as regards the very poor, I believe excellent arrangements for their comfort are made at the Union House. The Council has power also to make bye-laws prohibiting spitting in public carriages, halls, waiting rooms, and places of public entertainment."

The Medical Officer of Health of Gnosall Rural District is of opinion that phthisis should be made compulsorily notifiable.

In Tamworth Rural District, houses in which deaths occur are disinfected, stripped, and limewashed at the cost of the Authority.

The Medical Officer of Health of Walsall Rural District writes:—"Four cases of pulmonary tuberculosis were notified during the year—one each at Bentley, Aldridge (fatal), Great Barr (fatal), and Pelsall—under the recent Tuberculosis



Order. The Order applies only to cases which are attended by Poor Law Medical Officers, and though I recognise the compulsory notification of such cases as a step in the right direction, I am convinced that in the present state of our knowledge of this disease, this restriction should be removed as soon as possible.

“Numbers of cases of this disease must at present exist in crowded houses of which the Health Officials know nothing, because the patients are in a position to pay for a medical practitioner to attend them; the compulsory notification of such cases would result not only in benefit to the patients themselves, but also to the other inmates of the houses in calling their attention to the importance of carrying out certain rules and regulations to prevent the spread of the disease.”

**Ophthalmia Neonatorum.**—In my summary of the year's work of the Public Health Committee reference is made to a movement for providing the necessary machinery for dealing with cases of ophthalmia neonatorum, a disease which is a fruitful source of permanent blindness. Shortly, the scheme provides for the immediate notification of all cases of inflammation of the eyes of new-born children to the Medical Officer of Health, who is empowered to take steps to insure that every case is medically treated, and, if need be, provided with proper nursing assistance. The scheme has been adopted in all the towns in North Staffordshire now constituting the County Borough of Stoke-on-Trent, also in the Borough of Newcastle, and in the Urban Districts of Leek and Wolstanton, but it has not yet been long enough in operation to enable one to say what good has resulted. In my next year's report I hope to be in a position to state that, as the result of the further action of the Public Health Committee, the scheme has been adopted by every sanitary authority in the Administrative County, as I feel satisfied that the experience of those authorities who have already adopted it will prove to be a convincing argument in advocating its general adoption.

Concerning the working of the scheme in Fenton, the Medical Officer of Health writes:—“Since notification of



this disease became compulsory in this district on September 1st, 1909, six cases have been reported—five by registered qualified medical practitioners and one by a midwife.

“ On receipt of a notification the house is at once visited and certain enquiries made, which are entered on a printed form.

“ In cases reported by midwives the Sanitary Inspector explains the danger to the child's sight, and insists on medical aid being at once called in.

“ Should the medical man thus called in consider the case to be one of ophthalmia neonatorum a notification is sent by him to the Medical Officer of Health, thus confirming the midwife's diagnosis, or not, as the case may be. In the only case reported by a midwife the medical man did not consider it to be one of ophthalmia neonatorum, consequently no notification was sent, and the midwife's diagnosis therefore not confirmed.

“ In all cases the Medical Officer of Health, or in his absence the Sanitary Inspector, is empowered to obtain the services of one or more trained nurses on receipt of a request from the medical practitioner in attendance, the fees for the nurse's services being charged to the local Sanitary Authority. This was done in one case.

“ In this case two nurses were engaged, one for day duty and one for night, arrangements being made by the institution from which the nurses were obtained for their board and lodging in an institution near the house in which the patient resided. The total cost involved was:—

	£	s.	d.
Two nurses for five days and four nights..	2	3	4
Extras (board and lodging) .. ..	0	12	6
	£2 15 10		

“ In this case the sight of one eye was saved, that of the other, unfortunately, lost. It appears it was a very virulent case. All the remaining four cases recovered. These had, however, all been attended by qualified medical practitioners from the outset.”



In Leek Urban District it appears that six cases were notified during the short period the scheme had been in operation, and all of these recovered.

The Medical Officer of Health of the Borough of Newcastle writes :—“ In October this Authority decided to include ophthalmia neonatorum as a disease notifiable under the Act. A scheme was adopted for the proper carrying out of the treatment for these cases, when parents, not being paupers, were unable to provide the proper medical attention. The Corporation undertook the responsibility for the medical treatment in each case. Four cases were notified, all the eyes being saved. So far, this scheme has not been working sufficiently long enough for a pronouncement to be made upon it. At the end of this year I hope to be able to lay a full report before you for your consideration.”

The Medical Officer of Health of the Borough of Stafford writes :—“ Inflammation of the eyes in newly-born infants is the cause of much of the blindness occurring among young children. The disease runs a rapid course, and, unless prompt and efficient means of treatment are adopted, the virulence of the poison soon destroys the delicate membrane of the eye. Where the results of neglect are so disastrous to the welfare of the child, injuring or altogether destroying its sight, and consequently destroying to a large extent its power of appreciating the realities of life and its power of maintaining itself later on, the obligation on us to use every possible means to secure treatment for the child is obvious. That can be assured by compulsory notification, and I earnestly endorse the recommendation of the Conference referred to above to have the disease known as ophthalmia neonatorum added to the list of diseases notifiable under the Infectious Disease (Notification) Act, 1889. Indeed, its inclusion is more important than is that of some of the diseases already on the schedule.”

#### ZYMOTIC DISEASE PREVENTION.

**Isolation and Disinfection.**—In most of the reports, both for urban and rural, districts, this question is very fully dealt with.



In the table at the end of this report, headed "Result of the Working of the Compulsory Notification of Infectious Diseases Act," figures are given showing to what extent isolation hospitals are made use of in districts where they exist. It will be noticed that the use made of them varies very considerably, and in most cases it is evident that they can be of little practical value in curtailing epidemics—the chief purpose for which they are intended.

The percentage of infectious cases isolated in districts where hospitals are available and have been available during the year varies very much—from *nil* in Audley, Cannock, Darlaston, Quarry Bank, Sedgley, Wednesbury and Wednesfield Urban Districts, and Mayfield Rural District to 94·4 in Lichfield Urban District, and 88·4 in Tutbury Rural District.

With reference to school closure as a preventive measure, the Medical Officer of Health of Biddulph writes:—"This procedure will be strongly discountenanced in future. The latest Education Code does not contain the proviso (against which I have so often protested), that managers could close, whenever they liked, under the advice of any medical practitioner. There are now only two ways of closing; (1) the old way under a closing order from the Council, which cannot be issued unless the Medical Officer of Health advises it, and (2) on the advice or with the approval of the School Medical Officer (the County Medical Officer of Health).

"I beg to draw the attention of the County Medical Officer of Health and of the Director of Education to the fact that even yet very few communications are received by me from school teachers as to cases of illness, and I am strongly of opinion that the District Medical Officer of Health should be furnished with a weekly list of all absentees from sickness, from each school, and a daily list of new absentees from infectious disease, if known."

With reference to the last paragraph quoted, I may mention that the whole question of securing co-operation between the school medical service and the public health service is now under consideration, and I have no doubt but that a smoothly workable scheme will soon be put in operation.



The Medical Officer of Health of Handsworth points out the need there is for an isolation hospital for the district, and states that plans for such a building are now under consideration.

The same Medical Officer of Health, with reference to scarlet fever, states that the system of notification by teachers and school attendance officers of suspicious illness occurring among elementary school children has proved of great value in detecting such cases. The following is quoted from his report as School Medical Officer:—"A system of medical inspection of school children, instituted in 1906, has been continued as an auxiliary to routine inspection under the 1907 Act, and it will be seen that it serves to fill many of the gaps left by the latter system, as well as providing for the detection of diseases of an infective nature. Briefly the scheme is as follows:—

"(1) Teachers are supplied with stamped addressed post cards for the purpose of notifying the Medical Officer of any children in school who appear to require examination at once. The Medical Officer visits the school and examines such children as soon after the receipt of notification as practicable.

"(2) Another form of card is supplied to the teachers, upon which they may immediately notify the Medical Officer of the fact that they have sent home from school any child whom they suspect to be suffering from any infectious or contagious disease or condition. The Attendance Officers also report to the Medical Officer all cases of suspected infectious illness brought to their notice.

"All such cases, not medically attended, are either visited at their homes or seen at the Council House, according to their nature.

"This system has proved very valuable in enabling 'missed cases' of infectious disease to be detected."

The Medical Officer of Health of the City of Lichfield calls attention to the need for improved and extended isolation hospital accommodation as follows:—"On account of the number of cases we were compelled to utilize the cottages usually reserved for diphtheria, and the small-pox hospital as scarlet fever wards, and to engage extra nurses and attendants.



“The need of large and properly ventilated wards with bathrooms was very urgently felt in dealing with these cases, and I strongly recommend your Council to consider the advisability of constructing such wards as soon as possible.”

The Medical Officer of Health of Rugeley writes :—“No hospital for the isolation of infectious diseases, other than small-pox, has been yet supplied for this district, although several attempts have been made by your Council, at different times, in this direction. The difficulty arises from the comparative smallness of our area, the unwillingness of the surrounding districts to join us in any scheme, and the apparent relaxation of interest and energy at one time displayed by the County Council on the subject, especially in regard to this district. Every effort by the local practitioners to separate the sick from the healthy in houses where infectious diseases exist, but in many where the bedroom accommodation is barely sufficient for the healthy, perfect isolation is impossible. The Urban District Council’s Small-pox Hospital on Cannock Chase is still available to receive patients, should occasion arise. A question arose at one of the meetings of your Council as to the advisability of disposing of the hospital. Such action, under the existing condition of vaccination in the country, and especially in this district, where upwards of 50 unvaccinated children have accumulated in two years, represents a source of danger in the event of small-pox turning up, which I strongly think, in the interests and welfare of the district, should not be overlooked.”

In referring to an epidemic of scarlet fever which occurred at Sedgley, the Medical Officer of Health writes :—“Isolation was not possible in most of the families attacked, and the provision of hospital accommodation for this disease is again urged upon us by the County Council. It is to be hoped that the negotiations pending between yourselves and the Coseley Urban District Council for a joint hospital will end successfully.

“Last year an agreement was come to with the Wolverhampton General Hospital, by which our cases of typhoid fever and diphtheria will in future be treated in that institution. This plan will, I feel confident, be a great improvement,



and will tend by better nursing and accommodation to lessen suffering and prevent loss of life. You have now provided for hospital treatment of cases of small-pox, diphtheria, and typhoid fever—a marked advance on the previous state of affairs.”

The Medical Officer of Health of Stone Urban District writes:—“The new Joint Isolation Hospital is now nearly ready for occupation, and will, I hope, be opened early in the year, when it will be possible to properly isolate all cases of infectious disease.”

The Medical Officer of Health of the Borough of Tamworth writes as follows regarding the need for extending the isolation hospital accommodation, and the same remarks appear in his report as Medical Officer of Health of the Rural District of Tamworth, which is also served by the hospital:—“During the year the hospital has almost exclusively been used for the isolation and treatment of scarlet fever, there having been sufficient accommodation only on one occasion when there were fewer cases of scarlet fever in hospital to allow of three patients suffering from diphtheria to be admitted.

“The accommodation at the second block is barely sufficient when there are many cases of scarlet fever coming from both rural and urban districts at the same time, and when there are fewer cases it serves as a much-needed block for the convalescents to occupy previous to their discharge and return to their homes.

“In order to minimise the risk of treating both the diseases in such a limited space and without convalescent or observation wards, the question of providing more accommodation than there is at present is one which will require your serious consideration.”

The Medical Officer of Health of the Borough of Wednesbury writes:—“I am pleased to say that no conditions calling for the use of the isolation hospital have arisen, apart from the treatment of cases which occurred at the end of 1908, and were admitted before the end of that year. This leads me to express the hope that the mining engineer who is advising the Council may shortly be able to declare the local subsidence has ended, so that the necessary repairs to the hospital may



be safely carried out. It is highly desirable that the hospital should really be in a fit state for the reception of patients, inasmuch as the risk of an outbreak of small-pox is becoming daily greater in consequence of the highly imperfect system of vaccination at present in operation. To this a full reference has already been made."

The same Medical Officer of Health urges his Authority to provide an efficient disinfecting apparatus in the following terms:—"I likewise feel it my duty to recommend to the Council the desirability of the provision of means for the systematic disinfection of bedding and clothing from infected premises, and in doing so I have specially in mind the endemic prevalence of scarlet fever in the town. I am not in a position to demonstrate the degree of benefit which would result from such systematic disinfection in the direction of checking the persistence of this disease; but I am of opinion the disinfection of the houses can give only very limited protection, so long as all the bedding and clothing are allowed to remain laden with the scarlatinal poison."

The Medical Officer of Health of Willenhall points out that "no provision has been made for the isolation in hospital of any disease except small-pox."

The same Medical Officer of Health, in referring to the memorandum recently published by the Local Government Board and Board of Education jointly on the closure of and exclusion of children from schools, says:—"It is also laid down that 'the frequent and thorough washing of classrooms and cloakrooms is an efficient means of removing both dust and infection. Dry sweeping on the other hand tends to scatter dust.' I have already advised that every school in the town ought to be well scoured at least once in each month. I doubt if schools here are scoured oftener than once in three months."

With regard to the need of improvements in the case of the Wolstanton isolation hospital, the Medical Officer of Health writes:—"None of the necessary improvements mentioned in my last report have yet been undertaken, owing to the amount of compensation payable by Tunstall not yet having been settled. I understand, however, that proceedings



have been taken by the Joint Hospital Board to bring this matter to a conclusion, so that a settlement may be expected at an early date, after which I trust it will not be long before the Bradwell Sanatorium is put into a more satisfactory and up-to-date condition."

The Medical Officer of Health of Stafford Rural District writes:—"The isolation hospital is unsuitable and quite inadequate for the district. As a consequence active steps are being taken by your Committee with the object of considering the desirability of providing suitable accommodation."

**Vaccination.**—I fear that in many of the districts vaccination is still very inefficiently performed, owing to what one, I regret to say, must characterise as dishonesty on the part of certain medical practitioners, and it is much to be desired that some guarantee should be enforced which would insure greater efficiency when the operation is performed by private practitioners.

It is evident, also, from the reports under review, that the facility afforded by the recent Act for obtaining exemption certificates has already had serious consequences as regards the number of children who are protected against small-pox by vaccination.

The Medical Officer of Health of Bilston, in referring to the continued falling off in the number of vaccinated children, writes:—"These figures show the great increase in the number of so-called 'conscientious objections' which throughout the country are providing ready victims for an extensive epidemic of small-pox. Last year a mother declined to have her fourth baby vaccinated. The first three had been vaccinated safely and were healthy, but she coming in all seriousness, said that even though vaccinated they had not escaped 'the ordinary children's ailments,' and therefore they would see what experience the fourth child would have without vaccination. She said her husband had therefore decided to 'apply for an exemption order'—this is an illustration of a 'conscientious objection!'

"This contrasts in marked degree with the practice in



Germany. In the latter country the High Court has quite recently decided that the authorities had the right to compel a father, by the use of force if necessary, to have his child vaccinated—the law allowed exemption from vaccination for reasons of health under a medical certificate, but for no other reason. Here the payment of a fine for non-compliance with the Act could not, and did not secure escape, for the police, so the High Court decided, were justified in taking the child by force to the Medical Officer for the purpose, and to prevent the creation of risks to others.”

The Medical Officer of Health of Cannock Urban District writes with reference to the returns of the Vaccination Officer:—  
“He also states in his return that the number of illegitimate births for the year ending 31st December, 1909, in the Cannock Urban District is 30.

“The number of certificates of conscientious objections, viz., 265, as against 128 in 1908, and 11 in 1907, is an extraordinary increase, when taking into account the births for the last three years respectively, viz. :—

1909	..	..	..	..	973
1908	..	..	..	..	917
1907	..	..	..	..	900

“I can only repeat the warning given in my last annual report on this subject.”

The Medical Officer of Health of Darlaston writes:—  
“My report on the administration of the Vaccination Act in this district for 1908 showed our position to be far from satisfactory, and I regret to say that this year’s record proves more deplorable still.

“One hundred and eighty-five children have been successfully vaccinated compared with 257 in 1908, and 415 in 1907, this is due to the exemption clause, affording an easy avenue of escape for those desirous of evading the Act.

“The thirty-five exemptions in 1907 increased to 180 in 1908, and during this year the large number of 250 has been obtained. . . . .

“Owing to the facility with which exemption certificates can be obtained, one mark’s vaccination has almost disappeared.

“As long as the law regulating conscientious objection



is as elastic as it is at present, so long shall we be increasing the already large unprotected element in our community."

The Medical Officer of Health of Leek Urban District writes:—"We cannot ignore the fact that there is a considerable opposition to vaccination, in spite of improved methods, vaccination performed at the home, and the use of glycerinated lymph.

"The number of exemptions is 62.9 per cent. of the total number of births registered, which is much too high for the safety of the community.

"As far as I am able to judge, vaccination is efficiently performed. It is, however, a matter of regret that the Act does not compel the private practitioner to vaccinate in four places as the public vaccinator is obliged to do. It would also, in my opinion, improve the efficiency of vaccination if the Government supplied lymph to all practitioners, inspected the work done, and paid the fees."

The Medical Officer of Health of Rugeley states that "the number of conscientious objectors increases rapidly, and is just double what it was last year."

The Medical Officer of Health of Sedgley writes:—"The great increase in the number of exemptions is accounted for by the new Vaccination Act, which has made exemption easy to obtain. A small-pox scare will doubtless, sooner or later, be a rude awakening to parents who have denied to their children the proved protection of vaccination. Meanwhile, in the absence of proper vaccination and re-vaccination the costly hospital machinery for dealing with small-pox has to be maintained."

The Medical Officer of Health of the Borough of Wednesbury writes:—"The record of vaccination performed during the year calls for more than passing comment. Of 796 children alive at the end of June, 1909, and born during the previous twelve months, 445 were successfully vaccinated, or 55.9 per cent. Included in the balance of unvaccinated cases—351 in number—were 321 exemptions on account of conscientious objections. This number is equal to 40 per cent. of the children who were due for vaccination. In this connection it is instructive to examine the rates since



the Amended Vaccination Act came into operation on January 1st, 1899. The following are the figures :—

Year.	Number of Living Children.	Percentage of Successful Vaccinations	Number of Exemptions.	Percentage of Exemptions.
1899	734	63·3	123	16·7
1900	816	61·6	67	8·2
1901	866	58·9	51	5·9
1902	804	84·7	41	5·9
1903	839	88·5	40	4·7
1904	810	89·2	38	4·6
1905	837	89·2	41	4·8
1906	794	87·5	68	8·5
1907	769	87·9	53	6·8
1908	860	72·6	195	22·6
1909	796	55·9	321	40·0

“ The position revealed by these figures is in my judgment both serious and deplorable. When in 1899 Parliament decided upon a policy of enforced vaccination, this special and reliable safeguard against small-pox had almost fallen into disuse. Boards of Guardians, who frequently contained ardent anti-vaccinators, had ceased to prosecute defaulters, and vaccination officers, unsupported by their employers, were unable to pursue their duties with any show of authority. All this, however, was greatly altered by the Amended Act of 1898—and immediately the results obtained were immensely improved. This, so far as Wednesbury is concerned, is well shown by the figures supplied. The percentage of successful vaccinations gradually rose, until in 1904 and 1905 it amounted to 89·2, and that of exemptions fell to 4·6. Curiously enough, however, the authorities conceived the idea that the Act was an oppressive measure. Continuity of so highly successful a policy was abandoned, and the existing Act was modified in such a manner as to enable any objector to obtain an exemption without trouble or expense. The immediate effect of this uncalled-for step, a step wholly retrograde in character from the health standpoint, is seen in the figures



under review. Instead of 87·9 per cent. of successful vaccinations, with 6·8 per cent. of exemptions, as in 1907, we find the corresponding rates in 1908—72·6 and 22·6 respectively. While in the year 1909 those rates were—55·9 and 40.

“The steady administration of the Act as it stood would very soon have rendered the country safe from small-pox—*i.e.*—as safe as is possible without providing for the equally necessary re-vaccination. On the other hand, the retrograde policy now in full swing, will, if persisted in, leave the country open to further outbreaks of small-pox, with all the attendant expense and dangers.”

The Medical Officer of Health of Willenhall writes:—  
“One hundred and eighty-two children were successfully vaccinated; 247 exemption certificates were legally obtained; the vaccination of 71 was postponed; and 61 died without being vaccinated. With such results as these, it seems to me a waste of public money to have a vaccination officer at all.”

#### INSANITARY DWELLINGS AND OVERCROWDING.

It would appear from some of the reports that progress is being made in the direction of improving dwellings and reducing overcrowding, but, on the other hand, in some of the districts there is evidently room for more energetic action on the part of the authorities.

The Medical Officer of Health of Brownhills writes:—  
“I think, with a few exceptions, the housing accommodation is very good. From the nature of the district already referred to there are ample open spaces about the houses and the cleanliness of the surroundings is good. The supervision of the erection of new houses is under the control of the Surveyor, and the plans have in all cases to be passed by your Council prior to any buildings being erected. In former reports I have condemned the houses known as Ten Row and Five Row. I again call your attention to the insanitary state in which they are, and ask if this be not remedied that they should be at once closed. In some of them I see the people have left them of their own accord.”

In Coseley it would appear that good work is being done in the matter of the housing of the working classes, both under



the Act and as routine work under the nuisance clauses of the Public Health Act. The Medical Officer of Health states that the greatest credit is due to the Sanitary Inspector for the work he is doing, and he points out that the time has arrived when he should be provided with clerical assistance in order that he may have more time to devote to more strictly sanitary duties in the future. I quote the following from the report in question :—“ It will therefore be seen that all that can be done by moderate measures to improve the dwellings of the workers is being done, and I feel sure that the time is not far distant when, considering the large number of defects which are constantly cropping up in the old properties, the fresh and increased work required in many other directions, owing to fresh legislation, and the greater attention given to public health matters, your Council will consider it wise and necessary to provide office assistance, and so leave the Inspector unhampered by clerical work, as he is at present. This is surely reasonable in a district of this area and population.”

The Medical Officer of Health of Leek Urban District writes :—“ The house accommodation is fairly good, both as regards its adequacy and fitness for habitation. Three cases of overcrowding have been investigated and reported on, and after notice had been served, the conditions were brought within legal limits, prosecution being rendered unnecessary.

“ I fear there are many cases best described as borderland cases, which I should heartily rejoice to get rid of, but the dearth of houses having good sized rooms at a low rent makes it impossible, for wages are always comparatively low in many branches of silk manufacture.

“ The injurious effects in these borderland cases would be largely counteracted if the people would learn to open the windows more freely and to unstop the chimneys which are stuffed with bags of shavings, etc., or blocked by boards which are frequently papered over. These conditions, which plainly mean want of fresh air, and an accumulation of bad air in the bedrooms, have an important bearing on our infant mortality, for infants are most susceptible to a poisonous atmosphere, and either die in the early months, or surviving



these, grow up poor miserable undersized weaklings."

It would appear from a subsequent paragraph in the same report that a practical attempt is being made to enable the people to put in practice the advice given in the last paragraph quoted. Under the heading "Phthisis," the Medical Officer of Health writes:—"I am pleased to report that since the commencement of the house-to-house inspection by the inspector no less than 343 bedrooms have been properly ventilated, provided always that people will recognise the fact that a window is made to open. There is much to be said in favour of the adoption of windows which cannot be completely closed."

The following account of the serious consequences in the case of certain houses in two adjoining localities arising from the existence of an underground fire is of considerable interest, and is therefore quoted *in extenso* from the report of the Medical Officer of Health of Rowley Regis:—"On May 1st, 1909, six houses in Corngreaves Road, Cradley Heath, belonging to Mr. Bridgwater, were invaded by a quantity of carbonic acid gas, to such an extent as to cause severe symptoms of poisoning amongst the occupants, and to one of the medical men who was called in to their assistance. The gas filled the cellars, extended to the living rooms, and in two cases to the bedrooms. Thirteen of the residents were affected, six of them to the stage of unconsciousness. Two of them were so ill as to necessitate their removal to the Guest Hospital, Dudley. One of them has since died.

"The houses are built on an old mound composed of slag and mineral refuse from blast furnaces, road scrapings, and dry ashes, which, in the course of years, has filled up a valley of a depth of 80 to 100 feet. The external walls of the houses show cracks in several places, owing to the subsidence of the ground. The cellars are undrained, but the soil underneath is so very porous that any water thrown down in them immediately disappears.

"Notices were served on the owner to close the houses as unfit for human habitation. Preventive measures have been adopted by the owner, viz., partly filling up the cellars by layers of sand and concrete floated in cement; sealing



the floors under the living rooms and putting under them a system of cross ventilation. Up to the present the results are not so satisfactory as desired.

" On September 27th, 1909, I was informed that four houses, viz., one unnumbered, and Nos. 12, 13, and 14, Overend Road, Cradley Heath, had been invaded by noxious gas, that a young man had been found unconscious in his workshop, and that the occupants of the houses were more or less affected by symptoms similar to those experienced by the occupants of Mr. Bridgwater's houses in Corngreaves Road. These houses are built on a portion of the same mound as those in Corngreaves Road, and the conditions of the two lots of houses are similar. All the cellars contained carbonic acid gas in varying quantities, but in all cases sufficient to be a source of danger to the health and lives of the tenants, and to render the houses unfit for habitation.

" The rain water in the underground cistern belonging to No. 13 was quite hot, the temperature when first noticed on September 27th, was 98° F., and steadily increased. On October 15th it registered 102° F. This shows that a considerable portion of the mound on which the houses are built is on fire within a short distance of the surface, and that the fire is increasing in severity. On October 7th, Dr. Reid, the County Medical Officer of Health came over and inspected the houses and mound with me. He agreed with me that all the houses above mentioned, both in Corngreaves Road and Overend Road were unfit for human habitation, and he promised to send an Official from the County Council Health Department to take samples of the gas. Notices were served on the owners to close the houses in Overend Road.

" The houses have been under constant observation, and the fluctuation in the amount of gas in the cellars duly recorded.

" On November 1st the water in the cistern at No. 13 was 112° F., and on November 15th, 116° F. From this date the conditions began to improve, the temperature of the water gradually decreasing until at the close of the year it was down to 86° F.

" The gas in the cellars also gradually diminished in



quantity, until on December 31st no evidence of its presence could be detected. The source of the gas, in my opinion, is in the mound itself, which has been smouldering with more or less intensity for a number of years, and during the last twelve months has been giving off fumes and steam very freely. The subterranean fire is apparently extending in two directions, viz., towards the Corngreaves Road and towards the Overend Road. Fissures are opening and the surface is subsiding in both these directions. The gas is probably being driven before the advancing fires, and on account of the extreme porosity of the soil under these houses is finding its way into the cellars.

“ The following is a copy of Dr. Geo. Reid’s report :—

“ ‘ At the request of the Medical Officer of Health of Rowley Regis, I have considered the question of the position of certain houses in Corngreaves Road and Overend Road, Cradley Heath, in regard to their fitness for habitation, in view of the recent occurrence of an underground fire and the consequent discharge of dangerous fumes into the houses through the cellars or basement floors.

“ ‘ In company with the Medical Officer of Health and Sanitary Inspector, I visited the locality on the 7th October last, and having inspected the two lots of houses, and analysed certain samples of air subsequently collected by the County Sanitary Inspector, I beg to report as follows :—

“ ‘ I carefully inspected one of these houses in Corngreaves Road, where an attempt had been made by concreting the cellar floors and introducing ventilation openings under the ground floor to prevent the injury. I found, however, that this attempt had utterly failed, as, indeed, was to be expected from the nature of the attempted remedy.

“ ‘ In my opinion the proper course to be adopted is :—

“ ‘ (1) To entirely abolish the cellars and all pantries below the ground floor, filling up the cellar spaces to within a short distance of the ground floor, providing at least 6 inches of well-made cement concrete on the top, with an inch layer of floated cement on the surface.

“ ‘ (2) To re-construct the ground floors of the rooms on iron girders to allow of their being formed of concrete,



with a surface floating of cement as before mentioned.

“(3) Between the concreted surface of the abolished cellar and the concreted surface of the ground floor, a space of about 6 inches to be left to allow of free ventilation by means of large iron gratings carried through the wall on at least two sides.

“By such a plan I believe the houses might be rendered safe. At the same time, the owners should be given to understand that they accept the risk in the event of failure.

“As regards the houses in Overend Road, samples of air were collected on the 18th October from each of the five houses on the side of the road nearest to the burning mound, the conditions as regards evidence of foul gas, as indicated by analysis, were found to vary very greatly, *e.g.*, in the case of an unnumbered house occupied by John Walker, and Nos. 12, 14, and 15.

“In the case of the unnumbered house, the condition, although not detectable to the senses, showed chemically that the air was dangerously contaminated.

“House No. 12. Here a light was extinguished 1 foot from the cellar floor, and the chemical impurity of the air collected was so great that it exceeded the limits of the test employed to record it.

“House No. 13. An accident occurred in connection with the analysis of this sample, so I am unable to record the results.

“House No. 14. In this case the impurity was three times greater than in the case of the unnumbered house.

“House No. 15. In this case there was no observed evidence of foul gas, nor was there any evidence chemically upon analysing a sample of the air.

“As regards the houses opposite, 17 in number, samples were collected from the small cellars of Nos. 17, 18, 21, and 32, but upon analysing these I found no very distinct chemical evidence of the existence of foul gas.

“As I interpret the position, it is evident that the fire has extended sufficiently far to render dangerous, and in some cases highly dangerous, the houses on the side of Overend



Road nearest to the fire, and although there was not at the moment when the sample was collected chemical evidence of danger in the case of No. 15, I certainly think that all these houses should be condemned as unfit for habitation

“ ‘ As regards the houses on the other side of the road, it does not appear that the fire has, up to the present, extended sufficiently far to affect them; at the same time, the risk of this happening is imminent, and constant samples of air should be collected for analysis if the safety of the occupiers is to be safeguarded.

“ ‘ With reference to the remedy in the case of the houses which I suggest should be condemned, the same comments apply as in the case of the houses in Corngreaves Road, both as regards the nature of the precautionary measures to be adopted and the attitude of the Authority in relation to the owner or owners.’ ”

In the report of the Medical Officer of Health of the Borough of Tamworth, under a summary of the matters of most pressing importance, the following paragraph appears:—  
“ The provision of much-needed additional house accommodation for persons of the working classes by exercise of the powers conferred by the Housing of the Working Classes Acts. The establishment of a Municipal Common Lodging House is also a matter deserving of attention, and, indeed, appears to be urgently needed.”

The Medical Officer of Health of Kingswinford Rural District writes:—“ I would draw the Council’s attention to the number of undedicated streets in the district, and to their deplorable condition from a health point of view, especially in wet weather. I would earnestly ask them to endeavour to remedy this evil, and, as far as possible, to insist on having these streets dedicated, as soon as the houses have been connected with the main sewers.”

#### EXCREMENT AND REFUSE DISPOSAL.

I have called attention in my preliminary remarks to the satisfactory advance which has taken place in the system of dealing with the excrement and refuse in many districts. This subject has received considerable attention in my pre-



vious reports, but as it is one of such supreme importance from a health point of view, I propose to notice, very fully, the paragraphs in the reports under review which deal with it.

The Medical Officer of Health of Amblecote writes:—  
 “On referring to the Sanitary Inspector’s report it will be seen that a great advance has been made in getting the old privies converted into water-closets, 82 having been converted during the year, entailing the great advantage also of getting the drainage to these properties into a good working sanitary condition. There now remain only 20 to be cleared off, so that the whole district may now be said to be obtaining the full advantage of the drainage system where that is available.”

Under the heading “Scavenging,” the Medical Officer of Health of Audley states that “the employment of two men instead of one in the Talke area has led to the work being done in a more regular and efficient way, and there have been few complaints during the year.” It is disappointing to find, however, from a later paragraph in the report that the Authority seem to be perpetuating the objectionable conservancy system, for in the case of 115 defective closets which were reported upon, 29 appear to have been rebuilt, and in the case of the remaining 86, earthenware vessels were substituted for defective vaults.

The Medical Officer of Health of Bilston writes:—  
 “During the year water-closets were substituted for 72 vault privies, 31 midden-privies, and 22 pans or pails, and 8 ash-pits were closed and 14 dust bins used in their place. The number of privy-middens remaining in houses is 1,292, of vaults 1,361, and of pans 882. It is obvious that the existence of these constitutes a continued menace to the well-being of the community, and that the process of conversion should be much more rapid.

“It is now well established that privy-middens, privy-vaults, &c., are most injurious to health, having an intimate relationship to the prevalence of typhoid fever and diarrhœa. This is well illustrated in the report for 1908-9 of the Medical Officer of the Local Government Board by references to the experiences of Nottingham and Leicester. Years ago both



these towns were notorious for a conserving system of excrement disposal and a high death-rate from typhoid. The former has made slow progress in the adoption of water-carrying system, the latter rapid progress. As a result, the typhoid death-rate in Nottingham still continues high, whilst that in Leicester has markedly decreased. Upon this, Dr. News-holme thus comments: 'A gigantic experiment has been performed on these two communities under circumstances which enable fairly trustworthy comparison to be made; and at the present time it remains then, that in Nottingham a large number of deaths from diarrhœa and from enteric fever are occurring year by year which would cease to occur were this city in every part of it to adopt, like Leicester, a more cleanly system of disposal of excremental matter.' An abundant water supply belonging to the Council should assist such concession here and so aid also in the abolition of the abominable 'tips' that are in use and have been the cause of so many complaints in recent years."

It would appear from the report of the Sanitary Inspector of Cannock Urban District, which is printed with the report of the Medical Officer of Health, that the Authority have ceased to contract for the removal of nightsoil and have appointed a staff of twelve men to do the work. From the same report, however, it is disappointing to find that plans of new houses with privies are still being approved.

In Coseley the scavenging staff has been increased on the recommendation of the Medical Officer of Health.

The Medical Officer of Health of Darlaston states that at the present rate of progress privy middens will be almost entirely abolished in about five or six years.

The Medical Officer of Health of Handsworth points out that a weekly collection of refuse for the whole district is very desirable, especially during the summer.

The Medical Officer of Health of Heath Town again calls his Authority's attention to the very objectionable method of refuse removal in that town in the following terms:—  
 "The excrement and house refuse is removed by the Council's scavengers, and is done fortnightly. The method is to shovel the contents of the privy and the garbage into a barrow, and



wheel it into the street, where its contents are tipped on to the surface of the street. Similar piles are made opposite each entry, and later transferred to a cart. The latter are of the ordinary contractor's type, and there is no provision against leakage, which often takes place freely. I have often pointed out the objections to and even danger involved in this practice, and the County Medical Officer has inspected the practice in operation and submitted a special report, which I included in my report at the time. The chief points advocated were:—The use of a galvanised bin mounted on a trolley which can be lifted off and emptied directly into a cart, (2) the use of revolving tipping carts, (3) weekly instead of fortnightly scavenging, (4) a general scheme of substitution of the water-carriage system.

“The first three proposals might very readily be adopted as a preliminary over the whole affected part of the district, but with the adoption of the Public Health Amendment Act, 1907, powers are given to your Council with all these privies, and to cause them to be converted into water-closets or slop-closets, and I strongly advise that full use should be made of these powers where the privies are kept in bad condition or are a nuisance. The length of time that has elapsed since the Council caused the large privies to be altered into the present type has been sufficient to prevent a further interference on the part of the Council being an injustice.”

The Medical Officer of Health of Leek Urban District, where a weekly collection of refuse is in operation in the case of houses provided with moveable receptacles, writes as follows:—“The disposal of refuse consists in its being emptied on the ‘tip.’ I have long advocated a destructor as the most sanitary method of refuse disposal, but I am bound to admit that the ‘tipping’ as at present carried out at the sewage farm is robbed of many of its objectionable features, inasmuch as the refuse is levelled and covered over with a good layer of earth, thus obviating the nuisance associated with the ordinary tip.

“Constant supervision is necessary to prevent the exposure of a large tipping surface, it should be covered with soil almost as it is tipped, otherwise the decomposing matter



may give rise to evil smells for which the sewage works are likely to receive the blame."

In the City of Lichfield it is said that the work of abolishing privies is progressing.

The Medical Officer of Health of the Borough of Newcastle states that "gradually the old offensive privy system is being superseded."

The Medical Officer of Health of Quarry Bank writes:—"The outstanding evil in your district is the presence of so many privy middens, and no efforts should be spared to effect their extinction."

Later, in the same report, under the heading "Sanitary Notes," the following appears:—"The number of w.c.'s is steadily increasing. The privy middens are, generally speaking, covered in, but scarcely any of them are free from risk to health, and many are a positive scandal. It is useless to talk to the rising generation on matters relating to health, when at their very doors such vile collections of putrid and noxious materials are allowed. The finest object lesson that the Council could provide would be to sweep away these abominations, and to substitute the w.c.'s and covered bins which were contemplated when your costly and efficient main drainage was laid down. Part III. of the Public Health Acts Amendment Act, 1907, has not yet been adopted. It gives power to insist on w.c.'s being substituted for the privy midden, and it might be well in some cases to be able to use this power, although with a poor and prejudiced class of property owners, diplomacy and patience seem to accomplish almost as much as can be effected by law."

In Rowley Regis 46 privies have been converted into water-closets during the year, and 176 ash bins have been provided. In the case of new property the provision of water-closets is compulsory.

I quote the following from the report of the Medical Officer of Health of the Borough of Stafford as a warning to other Authorities who may be tempted to introduce slop-water closets:—"Excrement disposal is carried out entirely by the water-carriage system, some houses being fitted with fresh-water closets and others with slop-water closets. Unfor-



tunately, the latter type of closet was adopted by the Corporation when the pail system was abolished. After many years experience I can only express my sincere regret that it was ever introduced into Stafford. Slop-water closets were adopted by reason of their supposed economy of water and of their being less liable to become frozen in winter. The latter contention is certainly true, and is, in my opinion, their sole recommendation. They are, however, the reverse of being economical, and for two different reasons. In the *careful* household the sink tap is frequently left running to ensure the periodical flushing of the tipper, and so much water is wasted instead of being saved. In the *careless* household, on the other hand, all sorts of oddments are thrown into them, with the result that they become repeatedly blocked, and have to be unstopped, the Corporation bearing the expense. They are, moreover, dirty and unwholesome, and their further adoption is now discountenanced."

The Medical Officer of Health of Stone Urban District, where a unique and highly objectionable system of tipping night-soil into the sewer manholes is still in operation, writes:—"This is still most unsatisfactory, as the collecting of and subsequent emptying of the contents of the tubs down the manholes is a frequent source of nuisance to the inhabitants of the town.

"By the adoption of the Public Health Act, 1907, your Council have now power to compel property owners to adopt the water-carriage system, and I understand that plans are now being prepared with this object for your consideration, which will, I hope, result in the water-carriage system entirely replacing the present tubs."

It would appear from the following extract from the report of the Medical Officer of Health of Tipton that he is not very hopeful on the subject of the abolition of the privy system in the district, notwithstanding the fact that his Authority are now armed with the needful powers and the new sewerage scheme is approaching completion. He writes, regarding excrement disposal, as follows:—"This is under the old plan of privy, with ventilated cesspit. These are emptied periodically by gangs of men at night, who are



paid by the Council and are under the direct supervision of the Sanitary Inspector. A portion of this is used as a manure on land situated in the parish, and some is carried away in closed boats by canal to farms at a distance. We have a few water-closets, and are advising a more general use of them, but prejudices are hard to die out, and it will be many years before anything like a general water sewage can be instituted. Part III. of the Public Health Acts Amendment Act, 1907, is in force in the district, but no action (compulsory) has as yet been taken under its provisions."

The Medical Officer of Health of Wednesfield writes:—  
 "During a systematic examination of the district I found a large number of houses in an insanitary condition.

"This, in the majority of cases, was due to the old-fashioned privies, which were found to be in a dilapidated condition, overflowing with sewage, with liquid sewage leaking through into the back courts.

"In many cases these privies were insufficient in number with regard to the number of people using them.

"Another very prevalent nuisance was the over-filled condition of the ashpits, in fact, in some places there was more refuse outside the pits than inside; especially was this the case where it was left to the owners to have them cleaned out."

Later, in the same report, the following paragraph appears:—"I would again strongly suggest that the Council should finish the good work it has commenced by taking over the removal of the ashes, refuse, and night-soil, as the nuisance with regard to the ashes and refuse still exist in many places, and our Sanitary Inspector has to be repeatedly notifying owners to have the pits and courts attended to."

The Medical Officer of Health of Willenhall writes:—  
 "The advice given last year about the adoption of the Public Health Acts Amendment Act, 1907, has not been acted on by the Council—but for many years past efforts have been made, and with considerable success, to substitute the water-carriage system for dry methods of disposal."

The Medical Officer of Health of Newcastle Rural District



writes:—"Numerous ashpits have been abolished in the district, and dust-bins substituted, especially in the Parish of Madeley, where the work of removal of night-soil and house refuse is done by scavenger, under the supervision of the Sanitary Inspector. Numerous privies have also been abolished during the year, and water-closets substituted, in the Parish of Madeley, where the water-carriage system exists. In other parts of the district pans have been substituted for privy middens."

#### SEWERAGE AND SEWAGE DISPOSAL.

The large expenditure by many of the authorities, either in providing new sewage disposal works or in improving existing ones, is already yielding obvious results, as is evident from the improved state of most of the streams in the County, and when certain works which are now in course of construction are completed and in operation the improvement will become still more apparent.

Reference is made in several of the reports to this question.

The Medical Officer of Health of Brownhills writes:—"The sewage is dealt with, so far as the Central and Walsall Wood Wards are concerned, on the sewage farm at Walsall Wood, both by treatment in bacterial beds and filtration on the land.

"In Norton there is no sewage scheme proper, and it is a district that should be dealt with in the future. As it at present stands, it is a public nuisance, especially in the summer season, in front of my own house here, the sewage of Watling Street is frequently stagnant and very visible to sight and horrible to the sense of smell. This is only a small portion of the Norton area."

The Medical Officer of Health of Coseley writes:—"Your Council received a report from a deputation which you appointed to investigate the various nuisances which I drew attention to on the properties at Parkfield last year. These have not yet been remedied, as the sewerage works which were recommended have not yet been carried out. This is an urgent matter and should have early attention."



The Medical Officer of Health of Heath Town writes :—  
 “ The houses in the central part of Deans Road I have frequently referred to. They are still unconnected to the sewer, and during the year the drainage has again been most unsatisfactory. A sewer to them was included in the original plans, and there should be no difficulty with the fall in the case of the majority of the houses. It is roughly a square patch in shape, on one side of the road, about  $3\frac{1}{2}$  acres in area, the houses numbering about thirty scattered about irregularly, and of low rateable value. The distance from the nearest sewer to the nearest house is 1,100 feet, and to the furthest house 1,900 feet. In most cases the drainage has to find its own foul way where it can, and often the drains are blocked and the yards contain large pools of drainage, or the cesspits fill up or leak. I still urgently advocate the connection to the sewer as the most fitting solution. But if on grounds of the relation of the cost to the rateable value, this is found impracticable, the owners should be required to make adequate provision in every case. I do not think that this question should be delayed.”

In reply to a remonstrance in my last year's report regarding the unsewered state of Sedgley and the consequent maintenance of the privy midden system, the Medical Officer of Health writes as follows :—“ No one can uphold the privy midden system as satisfying modern sanitary requirements, but the difficulties of providing efficient sewerage and sewage disposal works in Sedgley are *quite exceptional* and bear no comparison with Tipton, as quoted by Dr. Reid. I take the following figures from the Dudley Union Year Book, 1909-1910 :—

Parish.	Acres.	Gross Estimated Rental.	Rateable value of		Assessable value Agricultural Rates Act.
			Agricultural Land.	Buildings and other Hereditaments.	
Sedgley ..	3854	44960	3997	34141	36139
Tipton ..	2171	123914	500	98847	99096



“ From these figures it appears that the area of Sedgley is fully  $1\frac{3}{4}$  times that of Tipton, while the assessable value of Tipton is almost  $2\frac{3}{4}$  times that of Sedgley. Tipton is a compact town on level surface, Sedgley is a hilly district of widely scattered villages, with much greater mining subsidies. ‘Tipton is essentially a manufacturing district,’ says Dr. Underhill, in his Annual Report for 1908, p. 1. Besides, in Sedgley, the main outfall for sewage disposal works is at Bob’s Brook.

“ Mr. John T. Eayrs, consulting engineer, who reported to you in 1901 on sewerage and sewage disposal in Sedgley, states (*re* Bob’s Brook outfall) : ‘ It is the largest and most important area to be drained to one outfall, and comprises the whole of Upper Gornal, Lower Gornal, Straits Green, and about two-thirds of Gornal Wood.’

“ About two years ago a shaft was sunk about 40 yards from Bob’s Brook, and coal working is going on there daily, and is likely to continue. In a report submitted to you in 1903 by Mr. Herbert W. Hughes and the late Mr. James A. Fullwood, mining engineers, *re* the scheme proposed by Mr. Eayrs, they state ‘ from this point (Gas Works) to the outfall (Bob’s Brook) the construction would be impracticable ’ ; and again, they state ‘ for many years to come this particular area is about as unsuitable a site as it is possible to select to lay sewers through, and is, in our opinion, out of the question as the site for outfall works.’

“ This same Bob’s Brook outfall is the only natural spot where sewage disposal works could be constructed for this large portion of your district.

“ It has, however, been argued that engineering skill can overcome such difficulties, provided the extra expense can be faced. The estimate by Mr. Eayrs was £37,800, but the ravages of the surface by mining operations since his inspection would materially add to this sum.

“ Besides, I would refer to my report for 1908, which gives a description by your Surveyor, Mr. Turton, of the then newly installed sewage disposal works at Turl’s Hill, which continue to act efficiently. In 1909 all the new houses erected on the Turl’s Hill drainage area were required to adopt



a water-carriage system, and steps have been taken to convert some of the privy middens in that area into water-closets. At the present time (March, 1910) this work is in hand.

“ A Sub-Committee of this Council is at present considering the whole question of sewerage and drainage.”

The Medical Officer of Health of the Borough of Tamworth writes :—“ Great progress has been made during the year in the carrying out of the new scheme of sewerage for the Borough, and the work of connecting the house drains with the new sewers is well advanced.

“ As regards the joint sewage disposal scheme in conjunction with the Rural District Council, nearly all the work of construction has been carried out, the outfall sewer has been completed, the rising main laid, the pumping station built, the machinery is in course of erection, the outfall works, tanks, and filters are constructed, and the filling up of the filter beds will be commenced at an early date.

“ It is anticipated that these works will be in full working order in the course of the next few months.”

The Medical Officer of Health of Tipton writes :—“ The sewerage and drainage of the district is in many places very unsatisfactory, but within the next few months the sewerage scheme will be in full working order, and landlords will then be compelled to make suitable connections from their properties. The present filter beds at Toll End are inadequate to deal with the volume of sewage that they have to deal with, and arrangements have been made (with the consent of the Local Government Board) to thoroughly sewer the whole district. The work has been under hand for some time now, and I hope that soon the present system of open channels and surface drains will only be used for carrying away rain water, all drainage and polluted water being carried by the deep sewers to be treated in the filter beds.

“ Complaints were made by the inhabitants of Great Bridge during the summer of the foul and polluted condition of the river Rea. This had arisen from causes not very easy of abatement under the present conditions. Several of the surrounding districts had helped, besides ourselves, to pollute the stream. Arrangements have, however, now been made



which will make it practically impossible for any of our sewerage to contaminate the stream, and I think that this annual nuisance will now be a matter of past history."

Regarding sewerage and sewage disposal works lately completed at Cheslyn Hay, the Medical Officer of Health of Cannock Rural District writes:—"The parish has an up-to-date scheme, thoroughly and economically carried through, and I may also report that, in spite of adverse weather conditions, the house connections are being made as speedily as practicable."

In the same report the Medical Officer of Health points out that there is need of sewerage schemes for Penkridge, Great Wyrley, and Upper and Lower Landywood.

The Medical Officer of Health of Kingswinford Rural District states that the new sewerage scheme is now completed and that the work of connecting the various houses is being pushed on.

The Medical Officer of Health of Seisdon Rural District writes:—"Early in the year sewers were laid in the Finchfield part of Upper Penn, a low-lying part that could not be drained into the Penn system, and these have been connected with the Tettenhall Local Board system. A most satisfactory solution of a difficulty." Later, in the same report, the Medical Officer of Health writes:—"As regards the Kinver sewerage, though much time and thought have been bestowed, many opinions taken, and meetings held to consider that matter, no definite scheme, I believe, has yet been decided upon."

In view of the undertaking given to the County Council by the District Council, in return for withdrawal of proceedings for pollution, the continued delay in proceeding with a sewerage scheme for the village is quite inexplicable, and immediate steps should be taken to compel the Authority to carry out their undertaking.

The Medical Officer of Health of Tutbury Rural District states that there is need of a sewerage scheme for Branston, and that the matter is still under consideration. The sewerage of Rolleston is said to be rapidly approaching completion, and it will soon be possible to correct the drainage defects by



connecting the houses with the new sewers.

The Medical Officer of Health of Uttoxeter Rural District writes :—“ Your Council have decided on a sewerage scheme for Rocester, and have accepted the plans and recommendations of Mr. Pickles, Sanitary Engineer, of Nottingham. The scheme is to be paid for out of current rates, and should be completed during the coming year.”

#### WATER-SUPPLY.

The following is a summary of the remarks with reference to water-supply in those districts where the subject receives most notice in the reports. The Sanitary Committee of the County Council have frequently had occasion to spur on Authorities in districts where good public supplies are available, but where many old local wells, liable to pollution, are in use.

The Medical Officer of Health of Kidsgrove writes regarding the water-supply of the Newchapel Ward as follows :—“ This part of the district is supplied in the upper area by a well at Mow Cop. This well is about 81 feet deep, and is sunk through sandstone rock. The water is pumped by an engine at the rate of about 14,000 gallons per day. The water-supply from this well was augmented in November, 1908, by the sinking of another well, a short distance away, to the depth of 75 feet. The new well is lined with bricks to a depth of 30 feet. The present supply from the new well is about 7,000 gallons per 24 hours. It is hoped to soon get more than this, as at present sinking is still going on and is now at a depth of 112 feet, from this level a crut is being driven.

“ About 622 houses are supplied by these two wells, reckoning at the rate of five persons each house supplied works out at the rate of six to seven gallons per person per day. This amount is inadequate for the district, considering that the population is mostly of the mining class, where a lot of water is or ought to be used for both body and ordinary washing purposes. The supply ought to be at least twelve gallons per day per person ; in most places the amount per head reaches from twenty to thirty gallons per person per day.



“ Farm houses supplied by the main water, when this runs short, wash their milk utensils with pump water which is usually more or less contaminated, and the risk is run of spreading such diseases as typhoid fever.

“ The people at The Rookery, Dales Green, and part of Mow Cop get their water from wells in their garden, yard, or adjoining fields. These wells are more or less contaminated, and the water is not fit to drink. A very deficient supply takes place in dry weather.”

The Medical Officer of Health of Cheadle Rural District writes :—“ The Kingsley water main has been extended from Kingsley to the Woodhouse by way of Kingsley Holt, a very important extension. At present the great majority of the houses at Kingsley Holt derive their supplies from shallow wells, and some of the houses have to carry their drinking water a considerable distance. Not one of these wells is free from more or less serious risk of pollution from surface drainage, and steps are being taken to deal with this matter, so as to procure a proper supply from the above-mentioned main which passes right through this district.”

The Medical Officer of Health of the Eccleshall Division of the Stone Rural District writes :—“ Water-supply has received attention in several parts of the district with satisfactory results. At Bowers Bent it is still bad, the public well being liable to pollution ; the hamlet might very easily be supplied from the Hatton Waterworks, as their main runs through it to supply parts of Standon.”

The Medical Officer of Health of Gnosall Rural District anticipates that the public water supply now available will in course of time be substituted for private wells.

From the report of the Medical Officer of Health of Leek Rural District, it would appear that, notwithstanding his previous report, referred to in my last annual report, the District Council are still endeavouring to meet the difficulty of providing a proper water-supply for Jack Haye Lane by utilising a supply which the Medical Officer of Health has pronounced to be unfit both as regards quality and quantity, an opinion which is further substantiated in this year's report.



The Medical Officer of Health of Mayfield Rural District writes:—"The Council having considered the question of providing a supply of water for Upper Mayfield by means of boring, and being satisfied that a suitable and sufficient supply can be obtained at a site near to Slack Lane, Mayfield, they have entered into a provisional agreement for the necessary easements, and for the purchase of the land required for the engine-house and reservoir. Application has been made to the Local Government Board for sanction to borrow £300 for carrying out experimental works with a view to providing a supply of water, and the Board have intimated that a Local Inquiry will be held on the subject by one of their Inspectors."

The Medical Officer of Health of Seisdon Rural District writes:—"The Wolverhampton Corporation water has been laid on to 54 houses in Codsall, Bilbrook, and Kingswood.

"The new Kinver water-supply has already been laid on to 224 houses, which is exceedingly satisfactory so soon after the supply. Out of 40 samples of water analysed, only two were found to be free from pollution, which emphasises still more the urgency of the case."

The Medical Officer of Health of Stone Rural District calls attention to the fact that the village of Oulton is still without a proper water-supply, and urges his Authority to make further efforts to provide an adequate supply.

The Medical Officer of Health of Tutbury Rural District writes regarding the new supply which has been provided for Tutbury, as follows:—"The scheme was completed in the early autumn, and is now a going concern. Unfortunately, it requires a great deal of persuasion to induce owners to connect up to the new supply, and the policy of the Council to submit samples of water from every well in the town to the County Analyst seems to be the only reasonable one if the scheme is eventually to be self-supporting. Up to date, six samples have been analysed, representing the supply to 38 houses, and all were shown to be badly polluted with sewage or animal matter."



## DAIRIES, COWSHEDS, AND MILKSHOPS.

The work under the Dairies, Cowsheds, and Milkshops Order receives attention in most of the reports, but not that attention, I think, which the importance of the subject demands. Probably this arises from the fact that Medical Officers of Health are discouraged by the meagre results of their previous representations, at any rate the fact remains that little advance has been made in this branch of public health work.

In view of the reports of the Royal Commission on Tuberculosis, the question of the milk supply, the importance of which has long been recognised by health officers, has come still more prominently to the front, and some means must be found of effecting a radical change in the present methods of production and distribution of milk in this County. Apart from the question of tuberculosis, it is an undoubted fact that milk, which should be the cleanest article of food consumed, is at present probably the dirtiest. There is no reason why this should be the case, but reform means increased cost of production, and if the public are to be supplied with a wholesome clean article they must be prepared to pay a higher price for it.

There is no need for incurring a large expenditure upon existing cowsheds in order to vastly improve their condition ; but in the first place it is essential that milk-producers should be induced to believe that there is no truth in the old tradition that cows should be kept in close stuffy sheds in order that they may yield a liberal supply of milk.

Under this heading, the Medical Officer of Health of Tipton writes :—“ At present we have 45 dairies and 50 cowsheds on the register. These are regularly and systematically inspected. Our two great difficulties are that a cowshed will be registered for a certain number of cows, very soon, however, a visit will show that the number of cows has been increased beyond what is allowed by the bye-laws ; and, secondly, that the cow-keepers will not use the ventilators. I have made many inspections during the year with the Sanitary Inspector, and found the stench from several of the sheds to be unbearable. This is most unwholesome to the



cows, and deteriorates the milk that they produce. As a rule they have a good water supply and their sanitary surroundings are fair. We are trying to get, in many of the sheds, a more frequent removal of the excreta, but it is very difficult to do much with the older cow-houses ; prejudice and tradition seem to me to be more rampant with milk-dealers than with any other class of men."

#### SLAUGHTER-HOUSES.

Among the reports under review in which special attention is directed to slaughter-houses may be mentioned the following :—

Under the heading " Unsound Food " the Medical Officer of Health of Rowley Regis writes :—" During the year six carcasses of beef, one carcase and two hind-quarters of mutton were surrendered and destroyed as unfit for human food.

" It is impossible to keep a close inspection on all the slaughter-houses in this parish. I should be very pleased to see the whole of them abolished and a public abattoir substituted, then a wholesome supply of meat could be assured, and the intolerable nuisance which must of necessity arise from a private slaughter-house to the immediate neighbours would be done away with. It appears to me that in the fight against consumption which is now engaging the attention of all classes of the community we are neglecting one of the most important points, viz., to check at the source one of the chief causes of the disease. It is admitted that the flesh of tuberculous beasts and the milk from similarly affected cows are very potent factors in propagating tuberculosis ; why, then, not take steps to ensure that the meat that is sold in this district shall be free from the suspicion of disease ? I feel convinced that a well-regulated and adequately inspected public slaughter-house would be of as much use in preventing tuberculosis as a sanatorium would be as a curative agency. It would also have a distinct tendency to raise the standard quality of meat in this neighbourhood.

" The chief points against private slaughter-houses, in my opinion, are—(1) The structures in many cases are not up to present-day sanitary requirements ; (2) their scattered



positions rendering adequate inspection impracticable ; (3) their proximity to dwelling-houses which of necessity must be a source of annoyance to the inhabitants ; (4) the facilities afforded to unscrupulous butchers to traffic in diseased and unsound meat.

“ From a humanitarian point of view, the humane slaughtering of cattle would be much more likely to be observed in a public slaughter-house than in the privacy of the present slaughter-houses, also the demoralising effect of children witnessing the sight of cattle being slaughtered would be avoided.”

The Medical Officer of Health of Tutbury Rural District writes :—“ The whole of the slaughter-houses in the district were inspected by a Committee of the Council early in the year, and, as a result, many improvements, structurally, and in connection with the disposal of slaughter-house refuse were carried out. The question of public slaughter-houses also received attention, but as an application to the Local Government Board to provide public slaughter-houses proved abortive, the efforts of the Council were confined to the improvement of those already existing, which may now be said to be in very fair sanitary condition.”

#### BAKEHOUSES.

Most of the reports mention the fact that the bakehouses are regularly inspected, but few contain any observations under this heading which call for special notice.

As regards underground bakehouses, there appear to be very few in any of the districts of the Administrative County.

#### LODGING-HOUSES.

The remarks under this heading in the reports do not call for special notice.

#### FACTORIES AND WORKSHOPS.

Under this heading there is nothing which calls for special mention.

#### OFFENSIVE TRADES.

This question does not receive very prominent notice in the reports under review.



## SMOKE NUISANCES.

In the reports under review the question of smoke prevention receives little mention. I am quite certain this does not arise from indifference on the part of Medical Officers of Health, the explanation is probably to be found in the tendency of local authorities in industrial centres to look upon smoke as being inevitable.

## CANAL BOATS.

In a few instances only does the question of canal-boat inspection receive notice in the reports under review, and in none of these are there any remarks which call for special attention.

## MORTUARIES.

Judging from the absence of any mention of the subject in most of the reports, I conclude that the districts, as a rule, are now provided with mortuaries, and one may hope that we shall no longer see, in accounts of inquests in the press, severe comments by coroners upon the absence of such provision.

## BYE-LAWS AND ADOPTIVE ACTS.

In a good many districts the Bye-laws in force are out of date, and in some of the districts no Bye-laws have been adopted. It is most desirable that Bye-laws in accordance with modern ideas should be in force in all districts.

As regards adoptive Acts, I have already given considerable space to the comments of Medical Officers of Health regarding the Notification of Births Act in dealing with the question of infant mortality; and as regards the Public Health Acts Amendment Act, 1907, it has similarly been referred to under the heading Excrement and Refuse Disposal.

The following further references to Bye-laws and Adoptive Acts in the reports under review call for mention:—

The Medical Officer of Health of Tamworth Rural District states that the present Bye-laws require revision, and includes this among the matters which should engage the attention of the Authority during the current year.

The Medical Officer of Health of Brierley Hill writes:—  
“With regard to the Public Health Act Amendment Act,



1907, in view of the completion of the sewerage scheme, and the facilities which this Act affords for expediting house connections, and the substitution of w.c.'s for the present system, I think we should put ourselves in a position to make the best use of its powers.

“The question of the revision of the Bye-laws has been before the Council for several years. It is important that this question should also be settled so as to be prepared with such alterations as the sewerage scheme may entail.”

It appears that in Handsworth the Public Health Acts Amendment Act, with the omission of a few clauses, was adopted during the year.

With reference to the Notification of Births Act, the Medical Officer of Health of Heath Town writes:—“I have pointed out the great value of this Act, if supplemented by adequate machinery to carry out the intentions of the Act. For it to be of any value, it is necessary for the district to have the services of a health visitor. But it has always appeared to me that the district is too small to monopolise the attentions of one health visitor. My suggestion has been from the first for your district to join with another district or districts in a health visitor for the joint districts, or for the County to formulate a scheme somewhat on the same lines as that of the medical inspection of children. No such schemes have so far been forthcoming, and so the Act has not been adopted. But I should hopefully look to the County for a lead in this matter.”

The Medical Officer of Health of the Borough of Stafford devotes considerable space to this question, and writes as follows:—“A Conference of Representatives of Public Health Authorities of the Northern Division of Staffordshire was held at Stoke-on-Trent in July. It was thereat unanimously resolved to recommend the adoption by Public Health Authorities of the Notification of Births Act, and the addition of the disease known as ophthalmia neonatorum to the list of diseases compulsorily notifiable under the powers of the Infectious Disease (Notification) Act, 1889. Speaking of the Notification of Births Act in my report for 1907, I pointed out that the Act is a permissive one, that its specific provision



is that in the case of every child born within an area in which the Act is in force notification thereof shall be sent within 36 hours to the Medical Officer of Health of the Authority. Its object is to lessen, if possible, the high rate of mortality among infants. The steady and progressive decline in the birth-rate is a question intimately associated with the consideration of this matter. In 1886, when I first undertook the responsibilities of my office, the birth-rate of Stafford stood at 35·54 per 1,000. To-day it is down to 26·68. In other words, if the rate of 1886 had obtained last year, there would have been 791 children born instead of only 594. The experience of Stafford is also that of the rest of the country. Can any community regard such a state of things with indifference? Can any community afford to regard with indifference the advancing shadow of that time when its population may become stationary? The only way to counteract the effects of the decreasing birth-rate in this country is to use every possible means to diminish also the death-rate among children, so that a greater number may grow up to maturity. The high rate of mortality among infants is a crying evil, and is a disgrace to present-day civilisation. In Stafford, where the conditions of life are so favourable compared with those obtaining in the large manufacturing towns, 124 out of every 1,000 children die during their first year of life. Notification of births in Huddersfield, worked at first voluntarily, and afterwards compulsorily, has had the effect of reducing very considerably the number of deaths of infants, and I do not think there can be any doubt of the benefits likely to result from the careful and systematic carrying out of a similar scheme here. But the district that adopts the Act must necessarily provide a competent and tactful female inspector, whose duty it will be to visit the homes of the newly-born infants, and, if her good offices are acceptable, to tender such advice as may be called for in the several cases. In fact, the Local Government Board will not consent to the adoption of the Act unless some such arrangement is made. The adoption of the Act is, in my opinion, desirable; but the expediency of that course depends upon the appointment of a trained female inspector. In



recent years much additional work has been thrown upon Local Sanitary Authorities by fresh legislation and by Local Government Board Orders. Last year the 'Public Health (Tuberculosis) Regulations' provide for the compulsory notification of pulmonary tuberculosis occurring amongst Poor Law patients. But little or no advantage is likely to accrue from these regulations without regular visitation of the cases by some nurse or inspector with some special knowledge or training in the work. Then, again, the Factory and Workshop Act has opened up a wide field for regular work by an inspector. I need only mention that there are 300 workshops on the Register to give an idea of the work the *efficient* carrying out of this Act would entail. As in many of the workshops only female labour is employed, it would be of great benefit to them if the supervision were carried out by a female inspector. We have, then, a three-fold work at least in which a skilled female inspector could with advantage be employed by us:—

- (a) Visitation of newly-born infants.
- (b) Visitation of patients under the Tuberculosis Regulations.
- (c) Factory and Workshop Inspection.

There is enough work here enumerated to keep a female inspector fully employed all the year round. Special care would have to be taken in regard to the peculiar qualifications required of such an inspector, due weight being given to education, social status, power of management, and tact."

With reference to the same Act, the Medical Officer of Health of Stone Urban District writes:—"This Act which has been adopted by your Council came into operation in October, and the District Nurse has been appointed to carry out the duties of 'health visitor' under my supervision.

"The time is as yet too short for any opinion to be formed as to its value—but I think it is a hopeful sign that the infantile mortality is less this year than it has been for the last ten years."

GEO. REID,

Stafford,

County Medical Officer of Health.

October, 1910.



**GENERAL MORTALITY TABLES.**

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**TABLES SHEWING THE RESULT OF WORKING  
OF THE NOTIFICATION ACT.**

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**SUMMARY OF  
SANITARY INSPECTORS' WORK.**



NOTE.—In the following tables the individual zymotic mortality is given in order to indicate readily the class of disease that has mostly contributed to the gross rate. Apart from this, no accurate deductions can be drawn from such figures for one year only.

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, Phthisis, Diseases of the Respiratory Organs, &c.

**URBAN.**

District.	Population at all ages.		Number of persons per acre.	Birth-rate per 1000 of population.	General mortality per 1000 of population.	Mortality in children under one year per 1000 registered births.	General zymotic mortality per 1000 of population.	Individual zymotic mortality per 1000 of population.																										
	Census, 1901.	Estimated to middle of 1909.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria, including Membranous Croup.	Typhus.	Enteric.	Other Continued.	Diarrhoea.	Phthisis.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism, Cirrhosis of Liver.	Premature Birth.										
Amblecote ..	3128	3329	5.0	24.9	13.5	108	0.60	0.30	0.30	0.21	0.21	0.28	0.14	0.14	0.26	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60
Audley .....	13683	13900	1.7	31.8	15.3	101	1.79	0.93	0.21	0.21	0.28	0.28	0.14	0.28	0.26	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60
Biddulph .....	6247	7575	1.5	33.1	15.9	127	1.05	0.13	..	0.39	0.26	0.26	0.26	0.26	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Bilston .....	24034	25200	13.4	32.7	19.4	146	3.65	1.82	0.19	0.55	0.08	0.08	0.08	0.08	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Brierley Hill..	12042	13000	12.6	27.3	15.3	121	2.15	1.30	..	..	0.54	0.54	0.54	0.54	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Brownhills ..	15252	18000	2.8	31.7	15.1	160	2.11	0.55	..	1.05	0.05	0.05	0.05	0.05	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Burslem.....	38766	44310	23.7	31.5	19.1	180	3.34	1.19	0.09	0.72	0.45	0.45	0.45	0.45	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Cannock.....	23974	26000	3.2	35.3	15.3	131	1.69	0.80	0.07	0.27	0.15	0.15	0.15	0.15	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Coseley .....	22219	22250	5.6	33.2	17.5	114	2.20	0.67	..	0.58	0.04	0.04	0.04	0.04	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Darlaston .....	15395	15916	19.4	37.2	20.6	182	4.83	2.57	0.62	0.50	0.06	0.06	0.06	0.06	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Fenton .....	22742	26789	15.2	32.9	18.1	175	2.35	0.67	0.22	0.48	0.26	0.26	0.26	0.26	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	
Handsworth ..	52921	71935	19.6	20.1	10.2	83	1.05	0.25	0.14	0.19	0.16	0.16	0.16	0.16	0.04	0.15	0.05	0.05	0.11	0.11	0.08	0.54	0.69	2.00	1.00	1.15	0.90	1.80	0.90	0.14	0.13	0.30	0.60	







**URBAN—continued.**

DISTRICT.	Population at all ages.		Number of persons per acre.	Birth-rate per 1000 of population.	General mortality per 1000 of population.	Mortality in children under one year per 1000 registered births.	General zymotic mortality per 1000 of population.	Individual zymotic mortality per 1000 of population														
	Census, 1901.	Estimated to middle of 1909.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria, including Membranous Croup.	Typhus.	Enteric.	Other Continued.	Diarrhoea.	Phthisis.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.
Heath Town..	9441	12395	16.7	31.7	15.3	119	2.50	..	1.21	..	..	0.32	..	0.08	0.32	0.80	1.77	2.09	0.08	0.08	0.16	0.56
Kidsgrove....	8412	9322	3.2	31.0	17.4	128	2.46	..	2.03	..	..	0.32	..	0.10	0.75	0.32	2.03	0.85	..	..	0.32	0.42
Leek .....	15484	16610	11.3	24.2	18.6	143	1.44	0.60	0.60	..	0.06	0.12	..	0.06	1.62	1.38	1.62	0.84	0.06	0.12	0.12	0.84
Lichfield.....	7902	7902	2.3	26.5	16.4	109	1.01	0.63	..	..	..	..	..	0.37	0.50	0.88	1.77	1.50	..	..	0.25	0.50
Longton.....	35815	38287	19.7	33.7	19.6	156	2.89	0.36	0.91	0.36	0.13	0.13	..	0.94	1.35	0.49	2.74	0.80	0.05	0.99	0.18	0.57
Newcastle....	19914	20700	33.3	27.9	17.7	145	1.69	0.24	1.20	0.04	..	..	..	0.14	1.01	0.48	2.07	1.06	0.04	1.06	0.14	0.53
Perry Barr....	2348	2370	0.5	26.5	17.7	174	3.37	..	2.53	..	..	..	..	0.84	0.84	0.84	0.42	0.84	..	0.42	..	1.26
Quarry Bank..	6912	7075	10.6	32.5	17.8	139	3.25	0.56	2.26	0.28	0.14	0.14	..	..	1.41	0.14	2.12	1.27	..	..	0.56	0.84
Rowley Regis.	34670	38470	10.4	30.3	14.5	126	1.87	0.44	0.85	0.15	0.05	0.05	..	0.23	0.54	0.72	1.66	1.11	..	0.05	0.13	0.57
Rugeley.....	4447	4500	7.5	25.5	16.2	86	1.77	0.22	0.66	0.44	..	..	..	0.44	0.88	0.88	1.11	1.11	..	..	..	0.22
Sedgley.....	15951	16150	4.2	28.0	15.2	136	1.79	0.55	0.55	0.18	0.06	0.06	..	0.30	0.74	0.49	1.17	1.48	..	0.06	0.06	0.86
Short Heath..	3531	3989	3.7	32.8	15.2	122	0.75	0.50	0.25	..	..	..	..	..	0.25	0.75	1.50	0.75	0.25	0.25	..	1.00
Smallthorne..	11970	13041	5.0	37.4	17.2	163	2.45	0.15	1.07	0.23	0.15	0.15	..	0.84	0.76	0.92	1.38	2.91	0.07	0.07	..	0.69
Stafford.....	119495	122261	21.9	26.6	13.0	107	0.89	0.44	..	..	..	..	..	0.40	1.43	0.98	1.34	1.03	0.04	..	0.13	0.44

† Excluding Public Institutions.







## URBAN—continued.

District.	Population at all ages.		Number of persons per acre.	Birth-rate per 1000 of population.	General mortality per 1000 of population.	Mortality in children under one year per 1000 registered births.	General zymotic mortality per 1000 of population.	Individual zymotic mortality per 1000 of population.																	
	Census, 1901.	Estimated to middle of 1909.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria, including Membranous Group.	Typhus.	Enteric.	Other Continued.	Diarrhoea.	Phtisis.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Premature Birth.	
Stoke-on-Trent }	30458	37040	20.2	27.2	13.9	128	1.97	..	0.99	0.08	0.10	0.05	..	0.13	..	0.59	1.13	0.59	1.18	1.67	0.08	0.05	0.18	0.64	
Stone .....	5680	5720	5.3	22.9	15.9	61	0.17	..	..	..	0.17	..	..	..	..	..	2.09	1.04	1.74	0.34	..	..	0.17	0.34	
Tamworth.....	7271	7813	27.4	26.2	14.0	136	2.17	..	0.51	0.38	0.76	..	..	0.25	..	0.25	0.76	1.28	1.28	0.64	..	..	0.12	1.02	
Tettenhall.....	5337	5545	4.5	20.7	8.4	78	Ni.	..	..	..	..	..	..	..	..	..	0.54	0.90	0.90	1.08	..	..	..	0.54	
Tipton .....	30543	33000	15.2	32.3	13.6	115	1.54	..	0.63	0.12	0.06	0.15	..	0.03	..	0.39	0.57	0.54	1.66	0.81	..	0.09	0.06	0.39	
Tunstall .....	24250	29230	16.7	31.5	21.3	205	2.56	..	0.82	0.06	0.92	0.47	..	..	..	0.27	0.95	0.75	2.15	2.87	0.03	0.10	0.03	0.54	
Uttoxeter .....	5133	5475	5.2	25.9	11.5	77	0.54	..	..	..	0.36	0.18	..	..	..	..	0.54	0.36	1.82	..	..	0.54	0.36	0.36	
Wednesbury..	26554	27000	11.8	32.8	15.2	146	2.22	..	0.48	0.33	0.59	0.03	..	..	..	0.66	0.81	0.66	1.44	1.55	..	..	0.18	0.88	
Wednesfield ..	4883	6954	2.4	29.9	12.7	96	2.44	..	1.29	0.14	0.43	0.28	..	..	..	0.28	0.28	0.43	1.15	1.00	0.14	..	0.14	1.58	
Willenhall.....	18515	19730	15.7	28.5	19.3	179	3.19	..	0.86	0.05	1.36	0.10	..	..	..	0.81	1.36	0.76	2.02	1.36	0.05	0.15	0.20	0.65	
Wolstanton } United }	22645	29825	5.4	27.5	11.7	113	1.27	..	0.87	..	0.10	0.03	..	..	..	0.23	0.40	0.73	1.50	0.77	0.03	0.23	0.03	0.67	
Totals and Averages: }	627964	708603	7.7	29.6	15.8	138	2.08	..	0.83	0.13	0.43	0.15	..	0.08	..	0.44	0.87	0.71	1.70	1.32	0.02	0.14	0.13	0.59	
76 large towns in England, average population.	..	216385	†	25.7	14.7	118	1.42	..	0.48	0.11	0.24	0.15	..	0.06	..	0.38	†	†	†	†	†	†	†	†	†

\* Including 25 deaths from Enteritis. † Not given in Registrar General's Returns.



**URBAN—continued.**

DISTRICT.	Registered Births.	Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																						Totals.....								
		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria, including Membranous Croup.	Croup.	Typhus.	Enteric.	Other Continued.	Epidemic Influenza.	Diarrhoea.	Enteritis.	Gastritis.	Puerperal Fever.	Erysipelas.	Phtthisis.	Other Tubercular Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.		Alcoholism.	Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.
Stoke-on-Trent }	1011	130	75	24	19	149	121	..	37	3	4	2	..	5	..	4	4	22	7	..	..	..	..	42	12	22	44	62	3	2	7	1	24	..	16	4	4	191
Stone .....	131	8	7	2	2	24	48	..	..	..	1	..	..	..	..	8	..	..	2	..	..	..	..	12	2	6	10	2	..	1	..	2	..	11	..	..	..	34
Tamworth.....	205	28	11	5	3	30	33	..	4	3	6	..	1	2	..	1	2	..	..	..	..	..	..	6	1	10	10	5	..	1	..	8	..	6	2	3	39	
Tettenhall.....	115	9	1	1	2	9	25	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	2	5	5	6	..	..	..	3	..	5	..	..	..	16	
Tipton.....	1068	123	81	23	14	124	87	..	21	4	2	5	..	1	5	3	13	13	13	..	3	3	..	19	18	18	55	27	..	3	2	13	3	33	16	3	172	
Tunstall.....	923	190	126	12	21	180	94	..	24	2	27	14	..	..	..	1	8	..	..	..	..	..	28	13	22	63	84	1	3	1	4	16	3	46	12	2	249	
Uttoxeter.....	142	63	11	8	2	15	26	..	..	..	2	1	1	..	..	..	..	..	..	..	..	..	3	3	2	10	..	..	3	2	2	..	12	..	..	..	22	
Wednesbury..	887	130	64	18	12	103	86	..	13	9	16	1	1	..	3	4	18	5	5	2	2	..	22	13	18	39	42	..	..	5	2	24	..	18	14	3	141	
Wednesfield..	208	20	20	4	2	18	25	..	9	1	3	2	..	..	..	2	2	2	1	..	..	..	2	..	..	3	8	7	1	..	1	11	6	2	..	28		
Willenhall....	563	101	58	12	13	114	83	..	17	1	27	2	3	..	..	5	16	6	6	1	..	..	27	8	15	40	27	1	3	4	1	13	2	28	10	4	120	
Wolstanton } United .....	823	93	58	13	14	91	81	..	26	..	3	1	..	1	..	4	7	1	1	2	1	..	12	10	22	45	23	1	7	1	1	20	2	29	19	3	109	
Totals.....	21012	2903	1788	481	387	3128	2516	..	152	95	306	110	13	1	58	138	289	158	36	14	11	619	316	506	1209	936	18	102	95	27	424	49	787	297	51	3947		



















INFANTILE MORTALITY DURING THE YEAR 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.

URBAN.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
	Small-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Measles ..	..	1	..	..	1	1	2	4	2	6	13	13	16	28	24	27	137
Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	2
Diphtheria : Croup ..	..	..	..	..	..	..	1	..	..	..	..	..	2	1	1	2	7
Whooping Cough ..	..	..	..	5	5	11	14	13	13	7	8	16	14	8	13	10	132
Diarrhoea, all forms ..	1	1	7	7	16	17	29	22	14	18	15	17	20	10	12	9	199
Enteritis, Muco-enteritis, Gastro-Enteritis ..	1	3	2	1	7	14	12	18	13	4	6	7	6	2	3	5	97
Gastritis, Gastro-intestinal Catarrh ..	1	1	1	4	7	7	5	6	5	4	3	3	..	1	3	1	43
Premature Birth..	299	42	26	18	385	25	9	4	1	..	..	..	..	1	..	..	425
Congenital Defects ..	88	19	11	6	124	18	6	2	..	2	..	1	1	1	..	..	155
Injury at Birth ..	5	1	1	..	7	..	..	..	..	..	..	..	..	..	..	..	7
Want of Breast-milk—Starvation ..	..	..	1	..	1	2	1	..	1	..	..	..	..	1	..	..	6
Atrophy, Debility, Marasmus ..	90	24	38	35	187	72	47	59	37	33	23	7	14	13	9	12	513

Common Infectious Diseases.

Diarrhoeal Diseases.

Wasting Diseases.



## URBAN—continued.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
	Tuberculous Diseases. {																
Tuberculous Meningitis .. .. .	..	..	..	..	..	1	1	1	1	2	6	1	6	2	3	3	27
Tuberculous Peritonitis: Tubes } Mesenterica	..	..	..	1	1	2	4	3	7	5	7	2	2	6	2	4	45
Other Tuberculous Diseases .. .. .	2	..	..	..	2	1	1	4	3	6	5	2	1	1	3	1	30
Erysipelas .. .. .	..	..	..	..	..	..	1	2	..	..	..	1	..	..	..	..	4
Syphilis .. .. .	..	1	..	2	3	2	4	4	1	2	..	1	2	..	..	1	20
Rickets .. .. .	..	..	..	..	..	..	..	1	..	..	..	1	..	2	1	1	6
Meningitis (not Tuberculous) .. .. .	1	1	2	..	4	2	0	6	3	8	7	6	4	3	4	3	50
Convulsions .. .. .	48	16	17	10	91	33	19	29	16	7	14	9	13	16	11	4	262
Bronchitis .. .. .	..	8	7	9	24	37	29	29	26	24	22	23	29	22	22	12	299
Laryngitis .. .. .	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	3
Pneumonia .. .. .	..	3	1	3	7	16	15	24	19	15	12	24	38	21	25	17	233
Suffocation, overlaying .. .. .	5	1	..	3	9	9	4	3	..	..	1	1	..	..	..	..	27
Other Causes .. .. .	38	5	12	5	60	13	14	12	13	5	13	4	7	11	4	7	163
Totals .. .. .	579	127	126	109	941	283	216	247	176	148	155	139	176	151	140	121	*2893

\* Including one death not belonging to a district and not including 11 deaths belonging to various districts.



INFANTILE MORTALITY DURING THE YEAR 1909.  
Deaths from stated Causes in Weeks and Months under One Year of Age.

RURAL.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.	
	Common Infectious Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
Diarrhœa, all forms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
Diarrhœal Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
Enteritis, Muco-Enteritis, Gastro-Enteritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	92
Gastritis, Gastro-intestinal Catarrh...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32
Premature Birth...	65	7	6	5	83	5	3	..	1	2	..	..	..	..	..	..	..	3
Congenital Defects	17	4	..	5	26	3	3	..	..	..	..	..	..	..	..	..	..	4
Injury at Birth	2	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	4
Wasting Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54
Want of Breast-milk—Starvation	...	...	1	..	1	..	..	..	1	1	..	..	..	..	..	..	..	4
Atrophy, Debility, Marasmus	10	5	6	3	24	9	5	5	4	2	2	1	..	..	2	..	..	54



RURAL—continued.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
	Tuberculous Diseases. { Tuberculous Meningitis ... ..	..	..	..	..	..	..	..	1	1	..	1	..	2	1	..	1
{ Tuberculous Peritonitis: Tubes Mesenterica	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	1	3
{ Other Tuberculous Diseases ... ..	..	1	..	..	1	2	..	1	..	..	1	2	..	..	..	..	7
Erysipelas ... ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis .. ..	2	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	3
Ricketts .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Meningitis (not Tuberculous) .. ..	..	..	..	1	1	1	..	2	..	1	3	1	3	3	2	1	18
Convulsions .. ..	15	4	3	3	25	9	3	3	4	2	1	..	1	1	2	1	52
Bronchitis .. ..	..	4	2	3	9	7	7	5	4	4	9	9	2	..	2	..	58
Laryngitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Pneumonia .. ..	1	1	1	..	3	3	2	1	2	2	2	1	5	3	5	4	33
Suffocation, overlying .. ..	1	..	1	1	3	..	1	..	..	..	..	..	..	..	..	..	4
Other Causes .. ..	13	6	3	2	24	9	3	4	1	3	..	2	..	..	5	2	53
Totals .. ..	126	33	24	25	208	59	36	32	29	29	32	23	20	11	23	10	512







**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup)	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>BILSTON.*</b> 25,200. 11/7. 58·5.	Cases .....	Under 5 5 & upwards	15 59	9 4	.. ..	7 ..	.. ..	.. ..	1 ..	.. ..	5 17	.. ..	.. ..	.. ..	.. ..
	Deaths .....	Under 5 5 & upwards	4 1	2 ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	2 ..	.. ..	.. ..	46 ..	13 1
	Cases treated in hos- pital .....	Under 5 5 & upwards	.. 55	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
<b>BRIERLEY HILL.*</b> 13,000. 13/7. 4·0.	Cases .....	Under 5 5 & upwards	6 12	9 18	.. ..	5 ..	.. ..	.. ..	3 ..	.. ..	14 4	4 ..	.. ..	.. ..	.. ..
	Deaths .....	Under 5 5 & upwards	.. ..	3 4	.. ..	2 ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	.. ..	17 ..
	Cases treated in hos- pital .....	Under 5 5 & upwards	.. 2	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
<b>BROWNHILLS.*</b> 18,000. 11/1. Nil.	Cases .....	Under 5 5 & upwards	38 ..	9 ..	.. ..	1 ..	.. ..	.. ..	2 ..	.. ..	27 3	3 ..	.. ..	.. ..	.. ..
	Deaths .....	Under 5 5 & upwards	.. ..	1 ..	.. ..	1 ..	.. ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	19 19
	Cases treated in hos- pital .....	Under 5 5 & upwards	.. 49	.. 70	.. 64	.. ..	.. 28	.. 4	.. ..	.. 3	.. 18	1 41	11 ..	.. ..	.. ..
<b>BURSLEM.*</b> 44,310. £1 1s. 10d. 82·4.	Cases .....	Under 5 5 & upwards	4 ..	14 6	.. ..	5 ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. ..	49 ..	31 4
	Deaths .....	Under 5 5 & upwards	.. ..	101 133	.. ..	24 ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
	Cases treated in hos- pital .....	Under 5 5 & upwards	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..



**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Group).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phtisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
CANNOCK.* 26,000. 8/4. Nil.	Cases .....	..	19	4	..	1	..	..	1	..	1	..	..	..	..
	Deaths .....	..	44	5	..	..	..	..	..	..	12	..	..	..	..
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
COSELEY. 22,250. 10/6. Nil.	Cases .....	..	9	3	..	1	..	..	3	..	4	..	..	..	..
	Deaths .....	..	34	4	..	9	..	..	..	..	22	..	..	..	..
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
DARLASTON.* 15,916. £1 4s. 0d. Nil.	Cases .....	..	42	1	..	1	..	..	4	..	2	..	..	..	..
	Deaths .....	..	78	6	..	3	..	..	..	..	16	..	..	..	..
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
FENTON.* 26,789. £1 3s. 1d. 27-0.	Cases .....	..	7	1	..	2	..	..	..	..	..	..	..	40	8
	Deaths .....	..	3	..	..	..	..	..	..	..	..	..	..	1	..
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Cases .....	..	56	11	..	15	..	..	..	..	9	..	5	..	..
	Deaths .....	..	123	24	..	..	..	..	..	..	..	..	..	16	12
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	2	1
	Cases treated in hos- pital .....	..	48	8	..	6	..	..	..	..	..	..	..	..	..



**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.	
																Under 5 5 & upwards
<b>HANDSWORTH.*</b> 71,935. £1 0s. 3d. 21·3.	Cases ...	99	17	..	..	1	..	..	1	..	3	..	..	..	..	
	Deaths .....	333	76	..	..	12	..	..	..	..	42	..	..	..	..	
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Deaths .....	8	6	..	..	3	..	..	..	..	..	..	..	..	16	13
<b>HEATH TOWN.*</b> 12,395. 7/3. 48·1.	Cases treated in hos- pital .....	115	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Cases .....	3	5	..	..	5	..	..	..	..	1	..	..	..	..	
	Deaths .....	8	6	..	..	..	..	..	..	..	6	..	..	..	..	
	Cases treated in hos- pital .....	..	..	..	..	..	..	..	..	..	..	..	..	..	14	11
<b>KIDSGROVE.*</b> 9,322. £1 8s. 11d. 47·9.	Cases treated in hos- pital .....	8	2	..	..	3	..	..	..	..	..	..	..	..	..	
	Cases .....	37	55	..	..	6	..	..	3	..	7	..	..	..	..	
	Deaths .....	..	1	..	..	..	..	..	..	..	..	..	..	..	18	
	Cases treated in hos- pital .....	21	22	..	..	4	..	..	..	..	..	..	..	..	..	
<b>LEEK.*</b> 16,610. 7/10. 88·8.	Cases .....	2	6	..	..	2	..	..	..	..	18	6	..	..	..	
	Deaths .....	4	13	..	..	..	..	..	..	..	..	..	..	..	..	
	Cases treated in hos- pital .....	..	1	..	..	1	..	..	..	..	..	..	..	..	9	10
	Deaths .....	6	16	..	..	2	..	..	..	..	..	..	..	..	..	



**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>LICHFIELD.*</b> 7,902. £1 14s. 9d. 94·4.	Cases .....	11	58	3	..	..	..	..	..	..	14	10	..	..	..
	Deaths .....	..	..	..	..	..	..	..	..	..	1	..	..	..	5
	Cases treated in hos- pital .....	67	..	1	..	..	..	..	..	..	..	..	..	..	..
<b>LONGTON.†</b> 38,287. £1 15s. 0d. 64·9.	Cases .....	123	281	43	..	15	..	..	2	..	1	18	4	..	..
	Deaths .....	..	..	..	..	7	..	..	..	..	1	..	..	..	13
	Cases treated in hos- pital .....	273	..	27	..	7	..	..	..	..	..	..	..	..	2
<b>NEWCASTLE.†</b> 20,700. 11/4. 51·2.	Cases .....	59	..	12	..	7	..	..	1	..	11	..	4	..	..
	Deaths .....	..	1	..	..	1	..	..	..	..	..	..	..	..	5
	Cases treated in hos- pital .....	35	..	3	..	2	..	..	..	..	..	..	..	..	3
<b>PERRY BARR.†</b> 2,370. 5/3. 40·0.	Cases .....	4	..	1	..	..	..	..	..	..	..	..	..	..	..
	Deaths .....	..	..	..	..	..	..	..	..	..	..	..	..	..	5
	Cases treated in hos- pital .....	2	..	..	..	..	..	..	..	..	..	..	..	..	1

† Chicken-pox, 14 Cases.







**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup)	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>SHORT HEATH.*</b> 3,989. 11/3. 6·2.	Cases	Under 5 ..... 5 & upwards ..	5 8	.. ..	.. ..	1 2	.. ..	.. ..	.. ..	.. ..	.. ..	2	..	..	..
	Deaths	Under 5 ..... 5 & upwards ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	1	2
	Cases treated in hos- pital	Under 5 ..... 5 & upwards ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..
<b>SMALLTHORNE.**</b> 13,041. 16/1. 75·9.	Cases	Under 5 ..... 5 & upwards ..	17 41	3 8	.. ..	1 9	.. ..	.. ..	1 1	.. ..	4	..	..	..	..
	Deaths	Under 5 ..... 5 & upwards ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	11	1
	Cases treated in hos- pital	Under 5 ..... 5 & upwards ..	45 ..	7 ..	.. ..	8 ..	.. ..	.. ..	.. ..	.. ..	1 ..	..	..	3	1
<b>STAFFORD.*</b> 23,765. 10/1. 89·1.	Cases	Under 5 ..... 5 & upwards ..	13 64	1 2	.. ..	3 ..	.. ..	.. ..	.. 2	.. ..	1 10	..	..	..	..
	Deaths	Under 5 ..... 5 & upwards ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	10
	Cases treated in hos- pital	Under 5 ..... 5 & upwards ..	73 ..	.. ..	.. ..	1 ..	.. ..	.. ..	.. 1	.. ..	.. ..	..	..	..	..
<b>STOKE-ON-TRENT.*</b> 37,040. 19/4. 62·0.	Cases	Under 5 ..... 5 & upwards ..	22 109	11 50	.. ..	3 16	.. ..	.. ..	.. 1	.. ..	1 24	36	13	..	..
	Deaths	Under 5 ..... 5 & upwards ..	.. ..	2 1	1 1	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	33	4
	Cases treated in hos- pital	Under 5 ..... 5 & upwards ..	90 ..	34 ..	.. ..	7 ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	4	..

\* \* Isolation Hospital for Milton and Chell.



**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phtisists.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>STONE.*</b> 5,720. 15/3. 53·1.	Cases . . . . .	Under 5 . . . . . 5 & upwards	14	18	..	..	..	..	..	..	3	..	..	..	..
	Deaths . . . . .	Under 5 . . . . . 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	1
	Cases treated in hos- pital . . . . .	Under 5 . . . . . 5 & upwards	13	4	..	..	..	..	..	..	..	..	..	..	..
<b>TAMWORTH.*</b> 7,813. £1 15s. 6d. 66·9.	Cases . . . . .	Under 5 . . . . . 5 & upwards	27	2	..	1	..	..	..	..	2	..	..	..	..
	Deaths . . . . .	Under 5 . . . . . 5 & upwards	72	4	..	3	..	..	..	..	..	..	..	..	6
	Cases treated in hos- pital . . . . .	Under 5 . . . . . 5 & upwards	69	..	..	4	..	..	..	..	..	..	..	..	..
<b>TETTENHALL.*</b> 5,545. 11/8. 50·0.	Cases † . . . . .	Under 5 . . . . . 5 & upwards	1	5	..	..	..	..	..	..	1	..	..	..	2
	Deaths . . . . .	Under 5 . . . . . 5 & upwards	8	2	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital . . . . .	Under 5 . . . . . 5 & upwards	8	..	..	..	..	..	..	..	..	..	..	..	..
<b>TIPTON.*</b> 33,000. 15/-. 43·7.	Cases . . . . .	Under 5 . . . . . 5 & upwards	34	11	..	19	..	..	5	..	37	13	..	..	..
	Deaths . . . . .	Under 5 . . . . . 5 & upwards	2	4	1	1	..	..	3	..	..	..	..	21	1
	Cases treated in hos- pital . . . . .	Under 5 . . . . . 5 & upwards	63	..	..	..	..	..	..	..	..	..	..	..	6

† Chicken-pox, 5 Cases.







**URBAN—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puertal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.	
WILLENHALL.* 19,730. 13/2. 1·3.	Cases .....	Under 5 ..... 5 & upwards	..	15	6	..	2	..	..	..	..	1	13				
	Deaths .....	Under 5 ..... 5 & upwards	..	42	9	..	..	..	..	..	..	16	..	..	16	27	
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	..	1	..	..	..	..	..	..	..	..	..	..	..	1	
	Cases .....	Under 5 ..... 5 & upwards	..	8	11	..	4	..	..	..	..	1	..	..	..	..	
WOLSTANTON.* 29,825. 7/3. 67·5.	Deaths .....	Under 5 ..... 5 & upwards	..	24	25	..	5	..	..	3	..	8	..	..	..	..	3
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	..	..	1	..	1	..	..	1	..	..	..	..	..	24	3
	Cases .....	Under 5 ..... 5 & upwards	..	22	23	..	7	..	..	..	..	..	..	..	..	2	
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..



**RURAL.**

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria (including Membranous Group).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>BLORE HEATH.*</b> 2,080. 19/2. 37.5.	Cases . . . . .	Under 5 . . . . .	..	5	1											
		5 & upwards	..	7	3											
	Deaths . . . . .	Under 5 . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>CANNOCK.*</b> 19,820. 10/8. 84.3.	Cases treated in hos- pital . . . . .	Under 5 . . . . .	..	3	3											
		5 & upwards	..	12	2	..	1	..	..	..	..	1	..	..	..	..
	Cases . . . . .	Under 5 . . . . .	..	43	6	..	..	..	..	..	..	..	..	..	..	19
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>CHEADLE.*</b> 24,657. 16/2. 59.2.	Deaths . . . . .	Under 5 . . . . .	..	1	2	..	..	..	..	..	..	..	..	..	2	16
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Cases treated in hos- pital . . . . .	Under 5 . . . . .	..	49	5											
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>ECCLESHALL.*</b> 5,629. 3/11. 11.1.	Cases . . . . .	Under 5 . . . . .	..	91	50	..	16	..	..	..	1	..	..	..	2	
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths . . . . .	Under 5 . . . . .	..	1	7	..	..	..	..	..	..	..	..	..	..	14
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>BLORE HEATH.*</b>	Cases treated in hos- pital . . . . .	Under 5 . . . . .	..	50	33	..	10	..	..	..	..	..	..	..	..	..
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Cases . . . . .	Under 5 . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	..	..
		5 & upwards	..	..	7	..	..	..	..	..	..	..	..	..	..	..
<b>CANNOCK.*</b>	Deaths . . . . .	Under 5 . . . . .	..	..	1											
		5 & upwards	..	..	..											
	Cases treated in hos- pital . . . . .	Under 5 . . . . .	..	..	1											
		5 & upwards	..	..	..											







**RURAL—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phtthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.	
<b>MAYFIELD.*</b> 4,150. 4/2. Nil.	Cases .....	Under 5 ..... 5 & upwards	.. 3	1 2	..	..	..	..	..	..	1	..	..	..	..	
	Deaths .....	Under 5 ..... 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	1 1	1 1	
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards														
<b>NEWCASTLE.</b> 7,014. 9/3. 19·0.	Cases .....	Under 5 ..... 5 & upwards	.. 14	1 1	..	1	..	..	1	..	4	..	..	..	..	
	Deaths .....	Under 5 ..... 5 & upwards	.. 1	..	..	..	..	..	..	..	..	..	..	2 1	1 1	
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	.. 3	1												
<b>SEISDON.*</b> 14,861. 12/11. 65·6.	Cases .....	Under 5 ..... 5 & upwards	.. 6	2 8	..	1	..	..	1	..	12	..	..	..	..	
	Deaths .....	Under 5 ..... 5 & upwards	.. 47	..	..	..	..	..	..	..	..	..	..	..	..	4
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	.. 41	1												
<b>STAFFORD.*</b> 11,120. 16/7. 39·1.	Cases .....	Under 5 ..... 5 & upwards	.. 52	13	..	4	..	..	1	..	4	..	..	..	..	
	Deaths .....	Under 5 ..... 5 & upwards	.. 1	..	..	..	..	..	..	..	..	..	..	..	..	1
	Cases treated in hos- pital .....	Under 5 ..... 5 & upwards	.. 26	1												



**RURAL—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.		Smallpox.	Scarlatina.	Diphtheria (including Membranous Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
<b>STOKE-ON-TRENT.*</b> 4,371 £1 7s. 5d. 29·7.	Cases .....	Under 5 .....	6	3	..	1	..	..	1						
	Deaths .....	Under 5 .....	18	9	..	10	..	..	..						
	Cases treated in hos- pital .....	Under 5 .....		1	..	2	..	..	..						
<b>STONE.*</b> 8,650. 19/4. 24·1.	Cases .....	Under 5 .....	10	1	..	3	..	..	..						
	Deaths .....	Under 5 .....	41	20	..	1	..	..	..	5					
	Cases treated in hos- pital .....	Under 5 .....	1	1	..	1	..	..	..	..	1	..	..	1	3
<b>TAMWORTH.*</b> 4,830. 18/7. 62·8.	Cases .....	Under 5 .....	15												
	Deaths .....	Under 5 .....	6	1	..	2	..	..	..	1					
	Cases treated in hos- pital .....	Under 5 .....	25	1	..	1	..	..	..	..	1				2
<b>TUTBURY.*</b> 9,160. 8/8. 88·4.	Cases .....	Under 5 .....	22												
	Deaths .....	Under 5 .....	5	7	..	..	..	..	..	..	6				
	Cases treated in hos- pital .....	Under 5 .....	1	1	..	..	..	..	..	..	1				1
		Under 5 .....	17	6	..	..	..	..	..	..	..				



**RURAL—continued.**

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.	Cases .....		Smallpox.	Scarlatina.	Diphtheria (including Membranous Group).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.	Measles.	Whooping Cough.
	Under 5 .....	5 & upwards .....														
<b>UTTOXETER.</b>																
8,500.	Under 5 .....	19	2		5							3				
8/6.	Deaths .....											1			1	
Nil.	Cases treated in hos- pital .....															
	Under 5 .....	16														
	5 & upwards .....	43	7	2						1		4				
<b>WALSALL.</b>																
11,166.	Under 5 .....	1			1											
16/4.	Deaths .....				3											8
Nil.	Cases treated in hos- pital .....															
	Under 5 .....															
	5 & upwards .....															







































































