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STAFFORDSHIRE COUNTY COUNCIL.



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

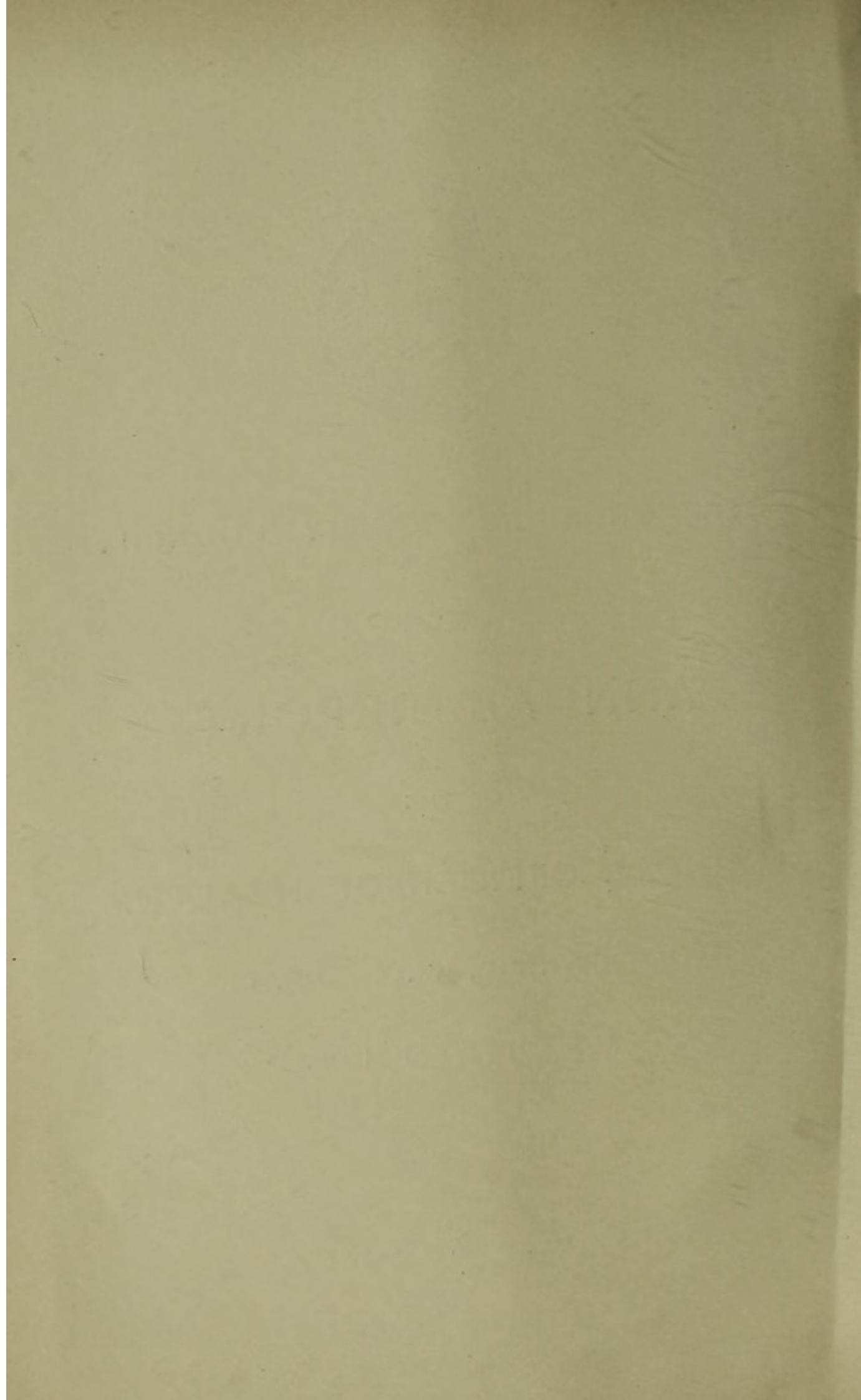
GEORGE REID, M.D., D.P.H.,

FOR THE YEAR 1908.



STAFFORD :

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1909.



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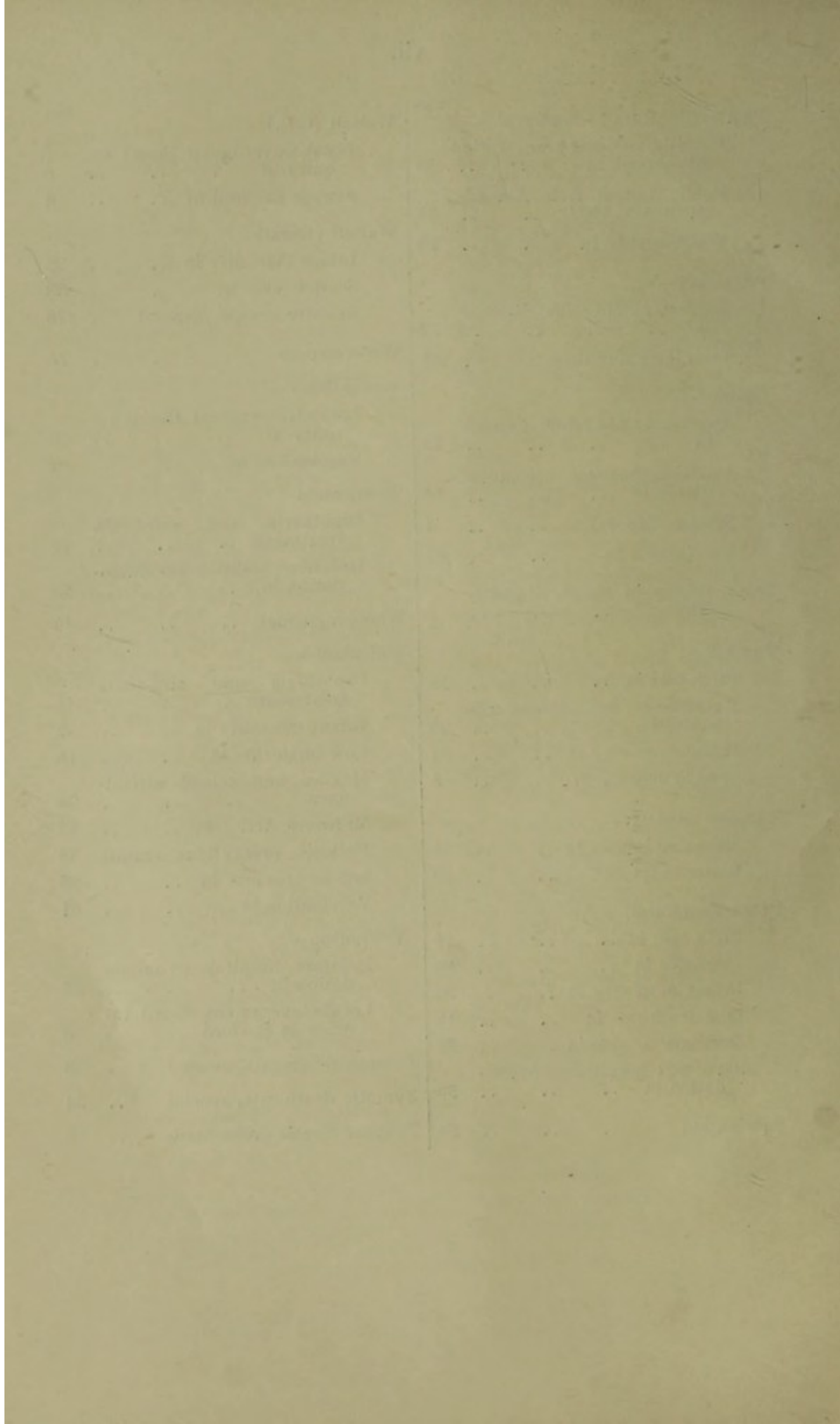
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STAFFORDSHIRE COUNTY COUNCIL.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH,

Presented to the Council at the Quarterly Meeting,
November 2nd, 1909.

In this, my Twentieth 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 Sanitary 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.

Under the Education (Administrative Provisions) Act, 1907, I have been appointed School Medical Officer, the duties of which office consist in generally supervising the work of the Medical Staff, the number of which has recently been increased from four to five, and in advising the Education Committee upon all matters relating to school health work. 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 SANITARY COMMITTEE
OF THE COUNTY COUNCIL, WITH GENERAL COMMENTS ON
PUBLIC HEALTH ADMINISTRATION.

As regards the summary of the work of the Sanitary Committee, I would point out that the year embraces a period of twelve months ending June 30th, 1909, as the last summary covered the ground up to the end of June, 1908. 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 1908 only.

The routine work under the Rivers Pollution Prevention Acts has proceeded on former lines. The systematic work of inspecting existing sewage disposal works, and the collection of samples of sewage effluents and of river water at fixed points on streams, has been conducted uninterruptedly as far as possible. This year, 247 analyses have been made, comprising the following:—Sewage effluents, 167; river waters, 73; and trade wastes, 7.

It is customary to call the Sanitary 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 Sanitary 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 more pronounced, 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 the sewage disposal works of that Authority. Year by year the wisdom of the policy adopted by that Board of

extending the area of the biological filters becomes more and more apparent. This work has been in rapid progress throughout the year.

At last, after considerable delay, I am pleased to be able to record that real progress is now being made by certain Authorities higher up on the watershed of the Tame in the direction of improving their sewage disposal works, the result of strong pressure being brought to bear upon them by the County Council.

As regards the County Borough of Walsall, a scheme which has been under consideration for a considerable time has now been approved by the Local Government Board, and I hope to be in a position to record in my next year's summary that satisfactory progress has been made in constructing the extensive new works.

As regards Tipton, another polluting district in South Staffordshire, the scheme, which I mentioned in my last year's summary as having been submitted to the Local Government Board, has been approved, and the work is now in progress.

As regards Oldbury, the extensive new works referred to last year as having been started have now advanced to a stage which will allow of their being brought partly into use in the immediate future, and I hope to be in a position next year to report that the complete works are in full operation.

At Kinver the position is unchanged as regards pollution, some delay having been caused by an effort on the part of the Parish Council to induce the County Council to sanction the postponement of the work of sewerage and sewage disposal. This the Council declined to agree to, and the Seisdon Rural District Council are now pledged to proceed with the scheme without further delay.

The new works at Bilston have now been in operation for more than a year, and I am pleased to be able to report that the effluents are highly satisfactory.

In the north of the County satisfactory progress has been made, and here, also, the improved condition of the river Trent testifies to the good which has resulted from

the bringing into operation of the various new works. The improvement, however, is not so apparent as it otherwise would have been had not an unfortunate new element in the problem been introduced, owing to the recent establishment of practically a new industry in the shape of sulphate of ammonia plants at a number of collieries. The waste liquor from such works is at present discharged into the streams after only very partial treatment, and this has the effect of obscuring the improvement which otherwise would have been strikingly apparent. I have lately devoted considerable attention to this matter, and, in the hope of arriving at a solution of the difficulty, it is the intention of the Sanitary Committee to invite the various manufacturers to attend a conference to discuss the situation, in order, if possible, to come to some understanding and so avoid having to resort to stronger measures.

The new works at Hanley and Newcastle continue to yield satisfactory results, but at Burslem difficulty has arisen, owing to errors in construction, which will have to be remedied; the matter is now under consideration.

During the year the new works at Fenton have been completed and brought into use.

The new works at Longton are practically completed and will soon be in use; they are designed on the lines of the works at Hanley and Fenton.

The progress in constructing the new works at Tunstall has been very slow, and the Sanitary Committee have had occasion to remonstrate with the Authority, who have promised to urge the contractor to employ a larger staff of men and push on with the construction of the filters—the tanks having now been completed.

As regards the proposed new works at Stone and at Hanford, the respective Authorities now appear to be awake to the fact that the County Council have determined that no further delay will be permitted, and I am hopeful that I shall be able to report next year that the works are in progress.

During the year Local Government Board Inquiries relating to matters of sewage disposal have been held at Walsall (C.B.), Wednesbury, Wolstanton (Basford), and Stone Rural (Hanford).

Arising out of my Annual Report for last year, many matters have been dealt with, affecting 12 districts, as follows :—Brownhills, Darlaston, Heath Town, Leek, Smallthorne Tamworth, Wednesbury, Wednesfield, and Willenhall Urban Districts, and Leek, Mayfield, and Tamworth Rural Districts.

During the year I have presented eleven special reports, four of which had reference to general sanitary matters affecting the following districts, namely, Biddulph and Stafford Urban Districts and Cheadle and Gnosall Rural Districts ; six had reference to sewage disposal in the following districts, namely, Darlaston, Stoke-on-Trent, and Willenhall Urban Districts, and Cheadle and Seisdon Rural Districts ; and one had reference to trade pollutions in the following districts, namely, Audley, Kidsgrove, Wolstanton, Hanley (C.B.), Longton, Stoke-on-Trent, Fenton, and Newcastle Urban Districts, and Leek Rural District.

Besides the annual reports of Medical Officers of Health, I have received 53 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 Sanitary Committee of the County Council, I have been consulted on 117 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
Totals from commencement of Scheme to June 30, 1909	3485	5057	84	8626	419	916	...	1335	137	415	17	569

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

† 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 practice.

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	725	497
County Boroughs ..	309	176
	—	—
Total ..	1034	673
	—	—

During the period covered by this report (July 1st, 1908, to June 30th, 1909), in compliance with the rules of the Central Midwives' Board, 946 notifications have been received from certified midwives.

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

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

As regards the increase in the notifications of sending for medical help, the figures are highly satisfactory, as we may fairly conclude from the 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 which present abnormal features.

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 275 such enquiries were made, the total number of still births reported being 294.

Besides such enquiries, reported irregularities to the number of 52 were specially investigated, as well as 19 cases of puerperal fever occurring in women attended by midwives.

During the year 62 cases of irregular conduct were reported to the Local Supervising Authority. Forty-one of these had already been dealt with by letters of caution from the County Medical Officer of Health ; 12 were formally censured by the Local Supervising Authority ; and nine were reported to the Central Midwives' Board. Of these nine, four were censured by the Board, and the cases of the remaining five are still pending. As regards three cases which had been reported to the Board and which stood over from last year, two were censured (to be reported upon again in three months), and the other was removed from the roll of midwives.

During the year eight 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, 1908, TO JUNE 30TH, 1909.

AREA.	No. of Midwives who have notified intention to practice.	Visits during Period.			Actual No. of interviews.
		Single.	Duplicate or more.	Total.	
NORTH ...	285	911	165	1049	799
SOUTH* ...	212	405	42	448	346
TOTAL ...	497	1316	207	1497	1145

* The inspection of the South area was undertaken as far as possible by the Inspector for the North during the seven months when the question of the appointment of an Inspector for the South remained in abeyance.

PARTICULARS AS TO EQUIPMENT AND EFFICIENCY OF MIDWIVES VISITED.

Division.	No. of Midwives who have notified intention to practise.	Requirements.						No. who can read and write.	No. who can		No. with reasonable knowledge as to	
		Washing Dresses and Aprons.	Bags Equipped (as far as ascertained).			Books, &c.			Read Thermometer.	Pass Catheter.	Infant feeding and management.	After treatment of mother.
			Fully.	Partially.	Nil.	Case Books.	Forms.					
NORTH..	285	279	250	29	4	277	277	181	226	49	267	264
SOUTH ..	212	204	101	95	6	210	210	119	111	54	154	156

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 visiting inspectors and providing courses of lectures on health subjects, with the assistance, in some cases, of the County Education Committee ; 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 four years in conducting excellent classes on Practical Hygiene for school teachers, and the result of this work will, no doubt, soon show itself. In my report two years ago I embodied an interesting account of Miss Curwen's

work, which she had kindly prepared for me, and I understand from her that the scheme has been continued since with increasing success. Miss Curwen has kindly promised me a further report upon her work, which I hope to embody in my next annual report.

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.

Further, if the Act be adopted by the County Council any constituent authority may apply to the Local Government Board to transfer its powers to them, and, *vice versa*, if adopted by any constituent authority the County Council may make an application for the transference of the powers from the District Council to the County Council.

Having regard to the enormously high infantile mortality rate in this County, I conclude that the County Council will desire that, through their initiative or that of the District Councils, the Act shall be brought into operation in many if not in all the districts in the Administrative County.

Personally, I think the Act would be more conveniently administered locally, providing Authorities are prepared to give their Medical Officers of Health every facility for

utilizing it to the best advantage. At any rate, this policy might be adopted in the first instance in view of the fact that the County Council may subsequently make an application for the transference of the powers.

The Act, I am glad to say, has been adopted by a good many Authorities in the County, and its adoption is still being considered by others. Meanwhile, special efforts are being made to secure its general adoption, and I hope to be in a position to report favourably regarding the result in my next Annual Report.

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 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 any re-adjustment or alteration of districts.

In the following table the census figures for 1901 of the Administrative County as now constituted, and the estimated population up to the middle of 1908, are set forth, the urban being distinguished from the rural districts:—

	Census, 1901.	Estimated to middle of 1908.	Increase.
Urban	627,964	699,745	71,781
Rural	193,446	200,664	7,218
Total.....	821,410	900,409	78,999

BIRTHS.

The births registered in the Administrative County numbered 27,368, the number in the urban districts being 21,999, and in the rural districts 5,369.

The mean birth-rates in the whole Administrative County, and in the urban and rural districts respectively, for three quinquennial periods, and for 1904, 1905, 1906, 1907, and 1908 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.	1904.	1905.	1906.	1907.	1908.
Staffordshire	Combined Urban & Rural	34.4	34.0	33.1	32.5	31.0	30.9	29.7	30.3
	Urban	36.0	35.4	34.2	33.7	32.0	31.9	30.9	31.4
	Rural	30.8	30.5	30.2	28.4	27.1	27.2	25.7	26.7
England and Wales.....		30.8	29.7	28.7	27.9	27.2	27.0	26.3	26.5
Large Towns in England		31.5	30.7	29.7	29.1	28.2	27.9	27.0	26.9

It will be noticed that the serious decline in the birth-rate, which had steadily taken place for some years previously, is to some extent interrupted. Although the increased rate this year in both urban and rural districts is not very material, strange to say, it is more marked in the latter than the former.

In some of the reports, however, attention is directed to the fact that the rates were the lowest yet recorded, for example, Fenton, Sedgley, and Willenhall Urban Districts. In other cases, for example, Heath Town, Leek and Tunstall Urban Districts, and Lichfield, Mayfield, and Uttoxeter Rural Districts, attention is called to the fact that the rates this year are below the mean rates for the previous ten years. In the Cannock Urban District, on the other hand, the rate is said to be the highest recorded since 1902, and higher than the mean for the past ten years, and in Rugeley Urban District a rate of 28.2 is referred to as being higher by 2.0 than the mean rate for the previous ten years.

DEATHS.

The number of deaths registered among persons belonging to the Administrative County amounted to 13,169, the number in the urban districts being 10,528, and in the rural districts 2,641.

In the following table comparative figures for the past 20 years are given, together with the corresponding figures for the country as a whole, and for town and country districts throughout England:—

DEATH-RATE PER 1000 OF POPULATION.

STAFFORDSHIRE.				ENGLAND.		
YEAR.	*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

* 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 thus be seen that the general death-rate for the Administrative County as a whole is the lowest recorded in the history of the Council, and a glance at the figures will show that the decline has been a steady one.

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 1908.	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.	
Darlaston ..	19·7	15,852	19·3	2·39	Working class.	..	Slight.	Considerable.	Considerable.	21·6
Longton ..	19·0	38,082	19·6	2·62	do.	..	..	Considerable.	Considerable.	22·8
Tunstall ...	18·8	28,600	16·3	1·85	do.	..	..	Slight.	Slight.	21·8
Bilston ..	18·6	25,000	13·3	2·40	do.	..	Slight.	Slight.	Considerable.	20·4

Considering the fact that the general urban death-rate of the County is a low one, namely 15·0, 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 four districts in question 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. From my personal knowledge of the four districts, I am satisfied that there is room for greater activity in that direction, and while fully realising the difficulties which have to be overcome, many of which are the direct outcome of lax sanitary administration in the past, it does not appear that very determined efforts have yet been made to bring about any material improvement in the conditions which undoubtedly are largely responsible for the high death-rates. The authorities in question ought to be aware of what these conditions are, as time after time their medical officers have called attention to them, but a descriptive report is far inferior from the point of view of enlightenment than an actual inspection, and I would strongly recommend the authorities 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.

Strictly speaking, Perry Barr, with a death-rate of 25·7, should have been included in the above table, but as this exceptionally high rate, to an extent of more than one-half, resulted from a fatal mining accident, it could not justly be included in the "black list."

Among the districts whose medical officers comment upon exceptionally low death-rates compared with previous years may be mentioned Biddulph (12.0), Brownhills (12.6), Fenton (16.8), Quarry Bank (13.6), Sedgley (15.6), and Short Heath (15.6) Urban Districts, and Blore Heath (10.0) and Uttoxeter (11.4) Rural Districts.

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." Two 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 last year to 170, and I adhere to that figure this year. To what extent, if any, 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 diarrhoea. It must be remembered, however, that an infantile mortality of 170 is a high one, and, notwithstanding that fact, there are five 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.	Longton.	Tunstall.
5 years 1889-93...	193	214	186	225	213
" 1894-98...	204	212	220	247	224
" 1899-1903	198	204	185	227	200
1904...	195	196	185	194	245
1905...	202	219	186	196	200
1906...	185	187	157	234	184
1907...	147	181	167	170	188
1908...	183	200	179	183	209

It will be noticed that the districts in this year's table may all be classed as high infantile death-rate districts, therefore a great responsibility rests upon the respective authorities to make every possible effort in the direction of correcting the defective sanitary conditions which conduce to fatality among infants, and in adopting such preventive measures as may be specially applicable, under the advice of the respective medical officers of health. In this connection, authorities are to be congratulated upon the fact that they are now in a far better position to deal with this grave question than formerly, providing they take advantage of the provisions of the new Notification of Births Act, comments upon which should be read in connection with this subject.

The following are a few extracts relating to infantile mortality from the reports under review :—

In Biddulph the question of the adoption of the Notification of Births Act is to be considered early in 1909.

In Bilston the Notification of Births Act has been adopted and came into operation on October 1st, 1908. A Health Visitor, who is a trained nurse, has been appointed, and she also undertakes the duties of school nurse in connection with the medical inspection of school children under the Medical Officer of Health.

The Medical Officer of Health of Brierley Hill, where the infant mortality rate this year was 117, writes :—" In view of the fact that we have the lowest recorded infantile mortality for the district for the year 1908, it might appear unnecessary for me to repeat the advice I have always urged as aids to the reduction of the high infantile mortality which has hitherto prevailed. It would be very unwise to base our future action upon this single instance of a good record. We can hardly expect to have the same satisfactory result every year.

" You will note that there are ten deaths under one year of age from zymotic enteritis (diarrhœa). All of these ten deaths occurred in the early autumn months—from the middle of September to the end of October—following upon a rapid swarming of the common house fly. Whether this

was merely a coincidence may be open to question, but it follows, I think, that, if nuisances did not prevail in and about the courts and dwellings, the flies would not be so likely to carry about the germs of disease and deposit them on food. Foul privy-middens, collections of dirt and manure (especially stable manure), and unpaved back yards are most important factors, all matters of detail, the abatement of which ought not to be a serious difficulty. My experience, however, is that these things are very much neglected, most of them are recurring nuisances, which should be subject to a limit of a very definite character.

“ As regards death from diarrhœa amongst older children, in my October report I mentioned the possibility of the ice-cream vendor having assisted the outbreak. I had no proof, but it was something more than a suspicion. He was very busy during the hot days immediately preceding the outbreak. I would like to see this useless luxury abolished altogether. These men generally come from outside the district and one does not know what their circumstances or surroundings are like. They may be using polluted water, and they usually live in the poorer class of houses—the slums in fact, where there are any.

“ Amongst the cheap luxuries which the working population allow their children to indulge in, I regard the ice-cream as one of the most dangerous. A bye-law should be passed making it an offence for these men to parade the streets with their barrows, and especially to prohibit their waiting outside the schools to tempt the children. If they are to sell this stuff at all, it should be in some fixed place, such as a shop, where samples can be taken and some supervision exercised.”

The Medical Officer of Health of the Borough of Burslem, one of the “ black list ” districts, where the infant death-rate was 183, attributes the mortality largely to infantile diarrhœa. The Notification of Births Act has been adopted in this district and came into force in May, 1908.

The Medical Officer of Health of Cannock Urban District writes:—“ With regard to the Notification of Births Act, which is adoptive, it is deferred for the present. But if the

members of the Council will study the infantile mortality table for the past year, and note the percentage (nearly 30 per cent.) dying under one week old—four deaths being uncertified, I think they will reconsider the question. This new Act provides that all births be notified to the Medical Officer of Health within 36 hours, the father or the person in attendance on the mother being held responsible for notification. The tardy registration limit of six weeks under the present Act affords a loop-hole for the children to be dead and buried before their births are brought to the knowledge of the Sanitary Authority. Of course, if the new Act be adopted, it means the appointment of a district nurse or health visitor, who, after being duly informed by the Medical Officer, would forthwith visit the parents' home and instruct and help accordingly. I do not think that the Local Government Board would sanction the adoption of the Act unless the Council undertake the responsibility of providing nursing advice and help. Of course, now that the Medical Inspection of Schools Act is in force, an arrangement could be made of combining the duties of a nurse within the meaning of the two Acts."

□ The Medical Officer of Health of Coseley writes:—"Of the deaths amongst infants, 33 were due to premature births, injury at birth, debility, or congenital defect. Of the remainder, no doubt fully 50 per cent. may be looked upon as distinctly preventable and arising from want of care and improper clothing and feeding. The Notification of Births Act, 1907, is designed, by obtaining an earlier intimation of births than at present, to remedy this, and your Council will do well to seriously consider its adoption in conjunction with your scheme for the amelioration of defects in school children.

"I recommend that the practice of giving printed instructions on the feeding and management of infants to the parents when the birth is registered be continued, as the cards have been much appreciated by certain of the parents. I consider that the teaching of the elementary rules of health, including infant feeding, should be carried out in every school."

As regards Darlaston, one of the "black list" towns, where the infant mortality is disgracefully high, the Medical Officer of Health writes:—"The increase which I have to report this year in the number of infant deaths provides food for serious reflection.

"For so many years has our infant mortality been excessive that there is a risk lest we regard it as an unavoidable tradition instead of viewing it as a feature of our public health administration that calls loudly for remedy, at any rate, as far as the causes operating in our own district are concerned.

"In these days when so much is heard of a declining birth-rate and race deterioration the subject should claim our special attention, for it is one that possesses not merely local, but national significance. While there can be no question that year by year we can note real progress in our public health work, yet it is, to say the least of it, very disappointing that with all our efforts and good intentions no impression is made upon the mortality of our infants.

"Of the factors combining to produce this unsatisfactory state of things maternal ignorance in the feeding of children, coupled with insanitary environment, are the most powerful.

"The organism of a child within the first year of its existence is so fragile and its power of resistance to evil influences so feeble that under favouring conditions it readily falls a victim to disease and death.

"Recent legislation has provided in the Notification of Births Act, what will doubtless prove to be most beneficial in dealing with this question, enabling, as it does, Health Authorities to keep in touch with the infant from within a few hours of its birth. This measure would be invaluable to us in this district.

"Its adoption, of course, implies the necessity for a lady health visitor, whose duty it would be to instruct mothers in the feeding and management of their children.

"Other points that should be considered in the endeavour to minimise the evil are the advisability of teaching hygiene to the senior girls of our schools; the safeguarding of our

milk supplies ; and what is of the most vital importance to us as a community, the adoption of an attitude of relentless hostility towards all that is embodied in the term " insanitary conditions," without a due appreciation of the importance of which all other considerations will be valueless.

" With a view to throwing some light upon the causes that operate in this district enquiries have again been made regarding each death that occurred within the first year. The effect of faulty feeding and unhealthy surroundings is strikingly demonstrated in the case of the deaths from diarrhoea (infective enteritis), for the investigation goes to show that the percentage of total deaths from diarrhoea in children breast-fed is 26·0 and in bottle-fed children 73·9, and the percentage of houses having privies being 73·9, while at houses having water-closets it is 26·0."

In this connection I quote from the same report, under the heading Excrement and Refuse Removal, the following :—
" I am glad to be able to report a marked improvement in this work during the year, at the same time there is ample scope for still greater effort, especially as affecting privy conversion."

In view of the above, it will be a standing disgrace to the County if the Darlaston District Council does not carry out to the full the recommendations of their Medical Officer of Health, particularly as regards the more energetic and systematic abolition of privies and the adoption of the Notification of Births Act. Darlaston is one of our worst privy midden towns, and relatively slow progress is being made in substituting the water-carriage system, which is the only permissible system for urban communities. Also, as regards the Notification of Births Act, it was framed with the intention of providing a means of combating infant mortality, and, in view of the gravity of the situation, unless the Darlaston District Council determine to adopt the Act it will become a question whether the County Council should not take the initiative and bring the Act into operation in the district, as they are empowered to do.

The Medical Officer of Health of Fenton, one of the towns in the " black list," enumerates the steps taken to

diminish infantile mortality, as follows :—“(1) Modifications of ‘Huddersfield Cards’ circulated throughout the district, through heads of religious denominations and others engaged in philanthropic work.

“(2) Instruction on domestic hygiene and the care, feeding, and management of infants, given to senior girls in all the public elementary schools in the district.

“(3) Course on preparation of infant foods, and on ‘food values,’ given at the cookery school.

“An attempt, made in the spring of 1906, to form a band of voluntary lady health visitors failed through want of support.

“An attempt to found a day nursery some years back, by one of the philanthropic institutions of the town, failed through lack of patronage.”

As additional local measures, the same Medical Officer of Health suggests :—

“(1) The adoption of the Notification of Births Act, 1907.

“(2) The appointment of a qualified lady health visitor.

“(3) Courses of open lectures to be given to mothers on the care, feeding, and management of babies.”

He adds, however, “It would probably be difficult to obtain sanction for the adoption of the Notification of Births Act at the present stage of affairs, owing to the short time left before the Federation of the Pottery Towns will become an accomplished fact. The whole question of infantile mortality will doubtless receive the early attention of the new County Borough.”

As regards general measures, he suggests :—

“(1) Improved legislation regulating the employment of mothers.

“(2) Legislation prohibiting the sending out of infants to nurse, except to authorised places and persons.

“(3) These should be registered, and systematic and frequent inspections made of premises, milk, bottles, and utensils.”

The Medical Officer of Health of Handsworth, writing with reference to the Notification of Births Act, says:—

“ The Act was adopted in Handsworth in May, 1908, and every effort, short of prosecution of defaulters, has since been made to ensure compliance with its requirements. All doctors, midwives, and monthly nurses known to practise in the district have been supplied with stamped and addressed notification forms which reduce the labour of notifying to a minimum. The returns of births *registered* in the district have been regularly compared with the lists of those *notified*, and, in cases of omission to notify, letters of enquiry and reminder have been despatched to the persons in default. Up to the end of the year 90 per cent. of the live-births had been duly notified, a fairly satisfactory result for the first seven months’ working of the Act; and, in addition, 13 still-births, amounting to 1·4 per cent. of the total births, were reported. Still-births not being registrable, their notification cannot be checked by means of the Registrar’s returns as in the case of live-births. It is to be regretted that the new Act did not go a step further and compel registration as well as notification of still-births, as for many reasons it is extremely important that accurate knowledge of their occurrence should be available.

“ From June, 1908, the district has been fortunate in possessing the voluntary services as health visitor of a lady qualified for the work both by training and experience. This lady has visited the homes from which all births, unattended by doctors, were notified, and has given practical advice and assistance to the mothers when such was found to be needful.

“ Up to the end of the year 286 infants were visited and re-visited, and advice on the following matters was given in 105 instances:—

“ (1) The advantages of breast over bottle feeding.

“ (2) The proper kind of bottle to use and the most suitable food.

“ (3) The use of a cot for the baby instead of placing it in bed with its parents (risk of overlaying).

- “ (4) The necessity of seeking medical treatment in cases of purulent discharge from the baby's eyes.
- “ (5) The harmfulness of dummy teats, soothing syrups, &c.
- “ (6) The proper clothing for infants.
- “ (7) The advantages of personal cleanliness and of keeping the home clean.

“ The advice was generally gratefully received and faithfully followed, and it is probable that the results are in some measure reflected in the satisfactory infantile mortality figure for the year. There is little doubt that the practical teachings of sympathetic and tactful women, thoroughly trained in all that appertains to the care of infants, afford the most effectual means at present at our command of coping with maternal ignorance and neglect ; and as the voluntary services of the lady who has carried on this work here will not be much longer available the permanent appointment of a health visitor for the district is greatly to be desired.”

A footnote to this report records that the District Council have followed the advice of their Medical Officer of Health and appointed a health visitor, combining with her duties in that capacity that of school nurse.

Having regard to the fact that the infant mortality of Handsworth is only 90, compared with 200 at Darlaston, the above quotation is interesting as showing how differently the local Sanitary Authorities view their responsibilities as guardians of the public health.

The Medical Officer of Health of Heath Town writes, regarding the Notification of Births Act, as follows :—“ I described this Act last year and pointed out that it was a very valuable measure if it was supplemented by the appointment of a health visitor, but that your district is too small to justify the appointment of one health visitor for that district only. But this difficulty might be obviated by arranging with some other adjacent district or districts, for a joint appointment, or for the County to appoint a health visitor by arrangement with the districts concerned, who should undertake the duties in the area arranged for. Until some

arrangement of this nature can be made, I do not advise the adoption of this Act, though it would be quite open for the County to adopt it for your district either as a unit or as one district among a number of adjacent ones. But though there appear to be difficulties at present, the eventful adoption of the Act and the appointment of a health visitor for work (in part) in your district should be carefully considered and anticipated."

The Medical Officer of Health of Leek Urban District, where the Notification of Births Act has been adopted, writes:—"Since the appointment of Nurse Hall as Health Visitor in March last, much valuable work has been done by her: she has been well received, and I have heard many expressions of gratitude showing how highly her services have been appreciated.

"It must, however, be remembered that all educational work is slow in yielding results, and there is no need to lose heart because an immediate impression is not made as shown in a rapid reduction of the infant mortality, this reduction will come about very gradually.

"I give below Nurse Hall's report, and though the total number of cases is too small from which to draw any definite conclusions, it is interesting to note that out of 118 breast fed babies there were 6 deaths=5 per cent., of 73 breast and bottle fed there were 3 deaths=4 per cent., while of 68 entirely bottle fed babies there were 11 deaths or 16 per cent."

The report of the Medical Officer of Health of Longton, one of the "black list" towns, embodies in it a report from the lady Sanitary Inspector, from which the following is an extract:—"I have heard a great deal attributed to the ignorance of the young mother, but I find, as a rule, that the young mother can be fairly easily influenced. There is more opposition from the mother of the large family (though she may perhaps have buried most of them) or the ignorant grandmother. It is very difficult to overcome their prejudices, and they have a great deal of influence with the younger mothers. For instance, when visiting a baby suffering from diarrhoea, I was assured by the mother that she was carrying

out the doctor's instructions implicitly, though she afterwards admitted, when the baby died, that she had been all along, on the advice of the grandmother, surreptitiously giving it unsuitable food because she 'thought the doctor was starving it.' This is just one of many such instances.

"On the whole, however, I think mothers are beginning to understand the simple laws of health, and what is required by an infant if it is to develop into a healthy adult. Among the poorer classes it is one continued struggle against adverse conditions. Unwholesome dwellings, and poverty, which necessitates the mother leaving her baby to the care of others, has to be taken into account as well as ignorance, carelessness, and want of management.

"Notification of Births Act, 1907. This Act came into operation in the Borough on January 6th, 1908. During the year 19 births were found from the Registrar's returns which had not been notified in accordance with the Act. All these were reported to you as they were discovered, and in respect of five of them, summonses were taken out by the Corporation early in April, three of the defendants being ordered to pay the costs of the prosecution in each case. The defence of each was ignorance, and the effect of the prosecution has been to call the attention of the public to the Act, which may now be said to be working smoothly. I am now enabled to make a visit to each mother at least a month earlier than was the case when we depended upon the Registrar's returns for the first intimation of a birth. It is early yet to expect to see the result of the change, but I hope next year, by a systematic following up of each case, to be able to report more fully on its efficiency."

As regards Quarry Bank, where an infant death-rate of 88 is referred to as being far below anything hitherto recorded, the Medical Officer of Health writes:—"Here, again, the cold autumn has been favourable, but one cannot refrain from hoping that the amelioration may be permanent, and that it is a realisation of the opinions which were formed when, in 1902, you decided to encourage the teaching of infant hygiene to the elder girls in your Council schools. Every year since then the headmasters have written most sanguine

reports as to its efficacy. The teachers enter thoroughly into the spirit of the subject, and before leaving school, to each girl is presented by the Council a copy of the booklet which has been the basis of her instruction on the subject. It is possible that this work is bearing fruit, and that the prediction in the report of 1902 as to the saving of infant life and health is being in a measure fulfilled.

“Further efforts have often been suggested, especially the appointment of a health missionary to visit and advise the poor and the establishment of a crèche where mothers who are compelled to leave their children all day may do so in competent hands. I am not, however, satisfied that there is any great need of the latter, as in my opinion few mothers in Quarry Bank work away from home. The Midwives Act has probably had a good effect on the infant mortality. Among recent enactments the Notification of Births Act is intended to assist those specially anxious to guard infant life. It is an adoptive Act, not yet accepted in your district, and makes it obligatory on those in charge of the mother to notify the birth of a child within 36 hours. In some towns and districts there is no doubt that some such measure is much needed, and perhaps even more so an Act enforcing the immediate notification and registration of all reputed still births. How far such steps are necessary in your district is open to debate, although so far as my judgment goes, very little hardship could follow its adoption.”

The Medical Officer of Health of Sedgley writes :—“Of our 75 infant deaths no fewer than 20 occurred under one week and 23 under one month. The infant mortality is undoubtedly largely increased by foolish feeding and careless management of babies. I am glad to know that the Education Committee of our County Council has introduced the teaching of senior pupils in every-day 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 Red Hall Schools, and found they understood the instructions in the card very well indeed, and that they were much interested in the subject.

“I understand that the County Education Committee have also started training classes for school teachers in these subjects, and that in many of the training colleges they form part of the ordinary curriculum, so that in time to come efficient instruction may be given in all schools in these most important subjects. Already I have several times noted that children have induced their parents to adopt the policy of the ‘open window.’ The lessening of our infant mortality is of national importance, especially in relation to the continuously decreasing birth-rate.”

The Medical Officer of Health of Smallthorne writes, regarding an infant death-rate of 163, as follows:—“This high rate is deplorable, and whilst recognising the difficulties to be contended with, I feel that more might be done towards diminishing this infantile mortality. Your population is a working-class one, and many mothers go to work, some from necessity but some from choice, and infant mortality is known to be greatest amongst this class of women. The work is continued almost to the time of the birth of the child and again as soon as possible afterwards. Bottle feeding, with its attendant evils, replaces the natural method, improper articles of food are given to the babies, with the result that they suffer from indigestion almost from birth. Ignorance is the great thing to be overcome, and I ask you again to engage the services of a trained nurse, whose duties will be to visit every house in which there are children and to instruct the mothers and nurses in the proper care and management of children. A ‘Mothers’ Guild’ might be formed, the members of which might do much good by visiting the houses and teaching the mothers not only the proper care of infants but also of themselves. I sincerely hope that this question of infantile mortality may receive your earnest consideration, and I believe the solution of the difficulty lies in educating the mothers.”

The Medical Officer of Health of the Borough of Stoke-on-Trent writes :—" Most towns are giving special attention to measures for reducing their infantile death-rate. I am afraid that unless some effort is made in Stoke the rate will be comparatively worse each year. The rate in Stoke ought not to be greater than that of the 76 large towns ; there is only one conclusion to be drawn, and that is—that we are not doing all that ought to be done in the matter."

The Medical Officer of Health of Stone Urban District writes, regarding the Notification of Births Act, as follows :—" This Act in the early part of the year was not adopted by your Authority, as it seemed impracticable to carry out the working of the Act satisfactorily. Now, however, an arrangement is being arrived at with the Nursing Association that Mrs. Cope, the trained certificated midwife and nurse, should devote her spare time as health visitor in calling at the houses of the newly-born infants and offering such advice as may be needed. I trust that the Local Government Board will consent to your adoption of the Act."

The Medical Officer of Health of Tunstall, one of the " black list " towns, writes :—" In commenting upon the causes productive of the excessive mortality, it has to be borne in mind that female factory labour is very much in evidence in Tunstall, and although much has been and is being done to lessen the injurious influences of such upon the constitutions of young women adopting factory work, it cannot be denied that these injurious influences are too often reflected upon the offspring of such as become mothers. The neglect of home life involved in the system must also be conceded as a baneful factor in the production of excessive infant mortality. Improvement in the conditions surrounding factory labour can only be done by legislation, so that our efforts must be chiefly directed to improve the home surroundings of the child.

" Your Sanitary Committee have given the subject much earnest attention, and by the distribution of leaflets of instruction through the Registrar to the mothers of new-born infants, and the vigorous methods adopted in cleansing the surroundings

of the homes of the people have endeavoured to solve the problem.

“ In my opinion, we must take further steps to carry sanitation *into the home* by the appointment of a lady health visitor, to visit the homes of the poor where births have occurred and give advice as to the rearing of children. 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. You have adopted the Act and I would respectfully urge the sequence of your action by the appointment of a lady health visitor.”

The Medical Officer of Health of Willenhall writes :—“ At present every health authority is handicapped in its endeavours to diminish infantile mortality, because of the prevailing ignorance of many parents in the management of their offspring.”

The Medical Officer of Health of Walsall Rural District writes :—“ Considering all the factors, I am still dubious whether this pleasing reduction in the number of deaths of children under one year of age will be permanent.”

Among districts where specially low infant death-rates are commented upon may be mentioned :—Rowley Regis Urban District (110), and Lichfield (85), Seisdon (78), and Uttoxeter (77) Rural Districts.

I have devoted more space than usual to this important subject under its special heading because I thought it desirable to incorporate comments relating to the Notification of Births Act, the two matters being so closely allied, rather than devote separate headings to each as I did last year.

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 28 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	1901-1908
I.—12% and over	5	132,299	195	212	187
II.—Under 12% and over 6%	13	263,868	165	175	153
III.—Under 6% ...	8	131,508	156	168	140

It will be seen from these figures that, while the mean rate for the past eight years has been lower in each group than in the previous two decennial periods, the same relative proportion has been maintained in the three groups.

ZYMOTIC DEATH-RATE.

The death-rate from zymotic diseases, including under this heading, according to the Registrar-General's classification, the seven principal ones—viz., small-pox, measles, scarlatina, diphtheria, fevers, whooping cough, and diarrhœa—is the lowest recorded since the Council came into existence, and this is the case both in urban and rural districts, the cause being a reduction in the deaths from epidemic diarrhœa.

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

Zymotic Mortality per 1000 of Population.

	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

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, 139 deaths occurred from measles, as compared with 438 in 1907, equal to a rate per 1,000 of the population of 0·15, as against 0·49. Of these deaths, 102 occurred in the urban districts, or 0·15 per 1,000, and 37 in the rural districts, producing a rate of 0·18 per thousand.

In the following table corresponding figures are given for three quinquennial periods, and for the past five years:—

MEASLES.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	1904.	1905.	1906.	1907.	1908.
Urban	{ Number of Deaths...	281	356	260	316	459	145	381	102
	{ Rate per 1000.....	0·51	0·59	0·38	0·44	0·62	0·19	0·55	0·15
Rural	{ Number of Deaths...	68	69	40	41	52	10	57	37
	{ Rate per 1000.....	0·29	0·30	0·17	0·20	0·26	0·05	0·28	0·18

With reference to the influence of school attendance upon the spread of measles, the Medical Officer of Health of Cannock Urban District writes:—"The question of school closure lessening an epidemic is still a bone of contention in the public mind. From my personal experience of the measure advised and adopted during the last twelve years in our district, I certainly think that it has been beneficial; if this course had not been adopted the case mortality would have been higher, and an epidemic would be not only more prolonged but severer in type."

Regarding assistance afforded by school teachers, the Medical Officer of Health of Coseley writes:—"The system of notification by the teacher of absent children which is now carried out is of great service, and should be continued. Careful records should be kept in the schools of the diseases from which a child has suffered. Children coming from

houses in which measles exists are admitted to school if they have previously suffered from the disease."

Under this heading, the Medical Officer of Health of Lichfield Rural District writes:—"The most noticeable feature in the zymotic mortality is the large number of deaths from measles. During the latter part of the year this disease was widely epidemic in the Lichfield Sub-district, and five deaths occurred at Burntwood, three at Chasetown, three at Chase Terrace, three at Hammerwich, and one at Boney Hay, while in Rugeley Sub-district there were two deaths at Yoxall. Measles is one of the most difficult diseases to take precautions against because it is very infectious in the early stage before the rash appears. It spreads very rapidly and affects a large number of children in a short time, and if these cases are not well protected from chills a heavy mortality always ensues. Most of the deaths were due to the fact that the parents do not take sufficient care of their children when they are afflicted with the disease."

This may be the most convenient section under which reference may be made to certain comments in the report of the Medical Officer of Health of Willenhall regarding the regulations for the guidance of school teachers and attendance officers issued by the County Education Authority. In his report considerable space is devoted to the question of procedure in dealing with outbreaks of infectious disease from the point of view of school attendance, and I gather that the Medical Officer objects to the regulation that "children who have previously suffered from either measles or whooping cough, but who are then free from the disease, may attend school, although they may come from houses in which cases exist." Without entering into a discussion regarding the wisdom or otherwise of following the practice set forth in the regulations of the Education Authority, I would point out that it is in accordance with the advice tendered to medical officers of health by the Local Government Board, and I believe this advice is very generally acted upon throughout England.

With one suggestion in the report in question, however, I am in full agreement, namely, "that school attendance

officers, teachers, or their emissaries should be absolutely prohibited from sending for children to come to school from houses where there is infectious disease, contrary to the advice of the local medical officer of health." The authority of the local medical officer of health should be supreme as regards the measures to be adopted for safeguarding the public health of his district, and any action on the part of an outside Authority which conflicts with his procedure is strongly to be deprecated. No school teacher, or school attendance officer, therefore, should endeavour to get children to attend school in opposition to the directions of the local medical officer of health, and if this has taken place in the past it must be prevented from happening in the future. The County Education Authority accept this view of the situation, and have taken steps to prevent any such occurrence as has been complained of being repeated.

Scarlet Fever.—In the Administrative County, 76 deaths occurred from scarlet fever, as compared with 74 in 1907, equal to a rate per 1,000 of the population in each year of 0·08. Of these deaths, 63 occurred in the urban districts, or 0·09 per 1,000, and 13 in the rural districts, producing a rate of 0·06 per 1,000. In the following table corresponding figures are given for three quinquennial periods, and for the past five years :—

SCARLET FEVER.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	1904.	1905.	1906.	1907.	1908.
Urban	{ Number of Deaths...	124	133	134	136	77	82	66	63
	{ Rate per 1000.....	0·22	0·22	0·20	0·18	0·10	0·11	0·09	0·09
Rural	{ Number of Deaths...	40	37	36	25	25	12	8	13
	{ Rate per 1000.....	0·17	0·16	0·15	0·12	0·12	0·06	0·04	0·06

Under this heading, the Medical Officer of Health of Bilston writes :—"Scarlet fever is a disease that prevails more than ever throughout the country, especially in populous districts where carelessness on the part of parents in heedlessly exposing children to the risks of infection adds greatly to its extension. The type of the disease has changed in

recent years, being much milder and less fatal, though its prevalence has not diminished."

The Medical Officer of Health of the Borough of Newcastle, where only 11 cases were notified, says that it is far the best record in the history of the Borough.

The Medical Officer of Health of Walsall Rural District writes:—"I regret that scarlet fever has been more prevalent during the past year than has been the case for several of the preceding years; 48 cases have come to my knowledge, as compared with 21 cases last year. No less than 27 cases were at Rushall, eight each at Pelsall and Aldridge, two at Great Barr, and three at Bentley. Only one case proved fatal, however, this being at Rushall. Eleven of the Rushall cases occurred in New Street, in two houses, four members of each family were attacked, and next door to one of these three children contracted the disease.

"Such a record as this shows how impossible it is to satisfactorily isolate cases of scarlet fever in rows of cottage property, as intercommunication cannot be prevented. As an example of this, I found, on paying a visit to an infected house in this street, children from the next house in the downstairs room talking to the mother who was nursing her sick children.

"If it were possible to remove to hospital the first child attacked, outbreaks would, I am convinced, in many cases be prevented. In a paper on 'Scarlet Fever from the Public Health Point of View,' Dr. Nash, the County Medical Officer of Health for Norfolk, says that he holds the view that properly administered fever hospitals have proved of very great assistance in checking outbreaks of scarlet fever, perhaps chiefly through limiting the number of secondary cases occurring in individual families.

"I should like to see scarlet fever hospitals established throughout the county, which would serve for combined districts in the same way as the present hospitals do for cases of small-pox."

Diphtheria and Membranous Croup.—

In the Administrative County, 144 deaths occurred from diphtheria and membranous croup, as compared with 143 in 1907, equal to a rate per 1,000 of the population of 0·16 in each year. Of these deaths, 122 occurred in the urban districts, or 0·17 per 1,000, and 22 in the rural districts, producing a rate of 0·11 per 1,000. In the following table corresponding figures are given for three quinquennial periods, and for the past five years :—

DIPHTHERIA.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for† 5 years. 1899-1903.	1904†	1905†	1906†	1907†	1908†
Urban	{ Number of Deaths...	28	132	230	175	125	120	118	122
	{ Rate per 1000.....	0·05	0·22	0·34	0·24	0·17	0·16	0·17	0·17
Rural	{ Number of Deaths...	21	39	72	28	44	23	25	22
	{ Rate per 1000.....	0·09	0·17	0·31	0·14	0·22	0·11	0·12	0·11

† Including Membranous Croup.

With reference to the 18 cases of diphtheria and membranous croup which were notified in Bilston, the Medical Officer of Health writes :—" These cases must have been of an exceptionally mild character, for only three ended fatally—all in young children under five years of age. The arrangement between the County Council and the Birmingham University for the bacteriological examination of these and similar cases free of charge is still in force, but was not used, and in one case the suggestion to secure this was contemptuously refused. This disease will never be controlled until bacteriological examination is freely adopted, not only of those affected but also of ' contacts,' and the isolation of all cases, and of those who, though possibly showing no signs of the disease, yet are found with diphtheria bacilli in their throats."

The Medical Officer of Health of Brownhills writes :—" Eight cases of diphtheria were reported to me, and most of these were verified by bacteriological examination at Queen's College, Birmingham. Only one case proved fatal, and this I attribute to the efficacy of the serum treatment now at my disposal, and that of my colleagues practising in the district, by the courtesy of the Brownhills District

Council. I feel sure that the slight cost to the Council is amply repaid in the recovery from this dread disease."

The Medical Officer of Health of Handsworth writes:—
 "On August 1st, 1906, the Health Committee decided to supply anti-toxin to medical men for treatment of local cases of diphtheria. This represents a most important step, and a still further decrease in the death-rate may be expected if this treatment is generally adopted.

"It is now universally recognised that the value of anti-toxin treatment is inversely proportionate to the length of time which elapses between the onset of the disease and the administration of the remedy. It is desirable, therefore, that the public should sufficiently appreciate this fact to request this form of treatment. It is gratifying to be able to report that the prejudice that used to exist, through ignorance, appears to be rapidly dying away."

The Medical Officer of Health of the Borough of Tamworth writes:—"As an aid to accuracy of diagnosis, the bacteriological examinations in suspected cases of diphtheria, pulmonary tuberculosis, and enteric fever, conducted by the University of Birmingham, have proved of great value, and been much appreciated by the medical practitioners in this district."

The same Medical Officer of Health writes in similar terms regarding bacteriological examinations in his report for the Tamworth Rural District.

The Medical Officer of Health of Wednesfield writes:—
 "Forty-one cases of diphtheria were notified during the year, of which number only five had a fatal termination. The disease was generally of a mild type, most of the cases being those of tonsillitis, with diphtheritic patches; comparatively few being of the more severe variety in which the larynx is implicated, and which are especially fatal to life. Great advantage has been taken of the wise provision of the Council in supplying anti-toxin for the poorer patients of local practitioners, and there can be no reasonable doubt that many lives have been saved by the timely use of this powerful and efficacious remedy.

" It is common to hear the statement that diphtheria is a disease which has lost its terrors, this would practically be true if the anti-toxin treatment was universally adopted. The complaint, unfortunately, appears to have become extremely common in towns during the last 15 to 20 years. Its present tendency appears to be, to occur suddenly and to spread widely in the shape of an epidemic of a mild type, with few virulent cases ; at any time, however, its virulence may increase. Anti-toxin appears not only to act as a curative agent but probably confers immunity for a limited time, usually about four weeks, and in the future no doubt it will be extensively used as a preventive measure."

As regards Willenhall, where the cases appear to have been numerous and of a severe type, the Medical Officer of Health writes:—" In response to my repeated representations, that in certain cases anti-diphtheritic serum should be provided free of cost, the Clerk, after conference with me, wrote on November 6th: ' My Council have decided that in future they will pay to medical practitioners a sum not exceeding 10s. to cover the cost of anti-diphtheritic serum used for patients whose circumstances do not enable them to provide such serum for themselves. It must be understood that the Council accept no responsibility beyond that of making the payment in suitable cases, and that this undertaking is to extend only to patients residing in houses of not more than 6s. per week gross rental value ; and that the medical man in attendance must be reasonably satisfied that the case is one in which, having regard to the pecuniary position of the patient or his friends, the serum may be fairly and properly supplied free. Please note that 10s. per patient only will be paid, notwithstanding the fact that two or more injections might be necessary in every particular case.' "

The Medical Officer of Health of Cheadle Rural District writes:—" The medical men in the district continue to make free use of the opportunity of having the aid of bacteriological examination in doubtful cases of diphtheria and enteric fever. This is carried out at Birmingham University by arrangement with the Staffordshire County Council, no charge being made to the medical men sending specimens for examination.

"The District Council has arranged to refund to medical men the cost of anti-toxin used in the case of poor patients who are unable to pay for it themselves. By this means the anti-toxin treatment of diphtheria has been placed within the reach of the very poorest patients, and, seeing that it has proved the means of effecting a marked reduction in the number of deaths from this disease, especially when administered early, this should prove a great boon to many of the poor."

The Medical Officer of Health of Kingswinford Rural District, where eight cases were notified, writes:—"The Council still offer to supply anti-toxin free of charge for use in cases where the patients are quite unable to afford the expense of this preparation themselves. To avoid any unnecessary delay in the use of this remedy, they have decided to permit medical men in their district to make use of their own supply of anti-toxin and to recover the expense from the Council."

In Seisdon Rural District, where 45 cases were notified, six of which proved fatal, the Medical Officer of Health says:—"The deaths occurred in cases either not injected with anti-toxin or not injected early enough."

Among other districts where anti-toxin is supplied by the authorities free of charge and with beneficial results may be mentioned Cannock, Coseley, and Smallthorne Urban Districts.

Whooping Cough.—In the Administrative County, 216 deaths occurred from whooping cough, as compared with 225 in 1907, equal to a rate per 1,000 of the population of 0.24, as against 0.25. Of these deaths, 180 occurred in urban districts, or 0.26 per 1,000, and 36 in rural districts, producing a rate of 0.18 per 1,000. In the following table corresponding figures are given for three quinquennial periods, and for the past five years:—

WHOOPING COUGH.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	1904.	1905.	1906.	1907.	1908.
Urban	{ Number of deaths.	257	240	223	306	238	305	197	180
	{ Rate per 1000.....	0.46	0.40	0.33	0.42	0.32	0.41	0.28	0.26
Rural	{ Number of deaths.	54	54	44	81	29	35	28	36
	{ Rate per 1000.....	0.23	0.23	0.19	0.41	0.14	0.17	0.14	0.18

Enteric Fever.—This disease, which must be looked upon as being entirely preventable, caused 68 deaths, as against 56 in 1907, equal to a rate of 0.07, as compared with 0.06. Of these, 65 occurred in urban and three in rural districts, equalling a rate respectively per 1,000 of the population of 0.09 and 0.01. In the following table corresponding figures are given for three quinquennial periods, and for the past five years:—

ENTERIC FEVER.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	1904.	1905.	1906.	1907.	1908.
Urban	{ Number of deaths.	98	124	118	86	87	90	50	65
	{ Rate per 1000.....	0.17	0.20	0.17	0.12	0.12	0.12	0.07	0.09
Rural	{ Number of deaths.	30	19	22	8	4	11	6	3
	{ Rate per 1000.....	0.12	0.08	0.09	0.04	0.02	0.05	0.03	0.01

Under this heading, the Medical Officer of Health of Coseley writes:—"Some few years ago, when portions of the district were unsupplied with 'tap' water, a greater incidence of the disease was noted in these localities than in those where the public water-supply was general. By degrees, however, the Water Company have been induced to extend their mains, so that very few houses now remain which are unsupplied with 'tap' water. . . . There is no disease the outcome of which depends so much on nursing as enteric fever, and this is one strong reason for advocating isolation in a proper hospital. The District Nurse, who is privately supported, has been of great service in these cases, and the Nursing Association should be strongly supported in the interests of the public health."

Diarrhœa.—In the Administrative County, 545 deaths occurred from diarrhœa, as compared with 321 in 1907, equal to a rate per 1,000 of the population of 0·60, as compared with 0·36. Of these, 513 occurred in urban and 32 in rural districts, equalling a rate respectively of 0·73 and 0·16. In the following table corresponding figures are given for three quinquennial periods, and for the past five years :—

DIARRHŒA.		Mean for 5 years. 1889-1893.	Mean for 5 years. 1894-1898.	Mean for 5 years. 1899-1903.	1904.	1905.	1906.	1907.	1908.
Urban	{ Number of deaths	405	581	569	713*	485†	860	297	513
	{ Rate per 1000.....	0·73	0·97	0·84	0·98	0·66	1·16	0·43	0·73
Rural	{ Number of deaths	89	93	81	45	27	72	24	32
	{ Rate per 1000.....	0·38	0·41	0·35	0·22	0·13	0·36	0·12	0·16

* Including 34 deaths from "enteritis."

† " 9 " " "

Under this heading, the Medical Officer of Health of Handsworth writes:—"The remarkable annual variations in the death-rate from diarrhœal diseases are chiefly to be accounted for by the variations in the summer and autumn climatic conditions—hot and dry seasons coinciding with high mortality and *vice versa*.

"The causation and prevention of this 'preventable' disease cannot be too strongly or too often brought before your notice, seeing that the mortality from diarrhœa is by many considered to be a test of the health of a district.

"Although the proximate cause of the disease has not yet been identified with certainty, there is no doubt that it is bacterial in nature, and that it gains access to the body of its victims chiefly by means of the food which it contaminates.

"The bacteria are now thought to be conveyed to food to some extent by means of dust, but largely through the agency of the common house fly. A mass of circumstantial evidence to this effect has gradually been accumulated against the latter, whose well-known habit of feeding impartially and often alternately on garbage and on human food had justly 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 the larval stage in its breeding places, which are principally manure heaps and the contents of middens, and these should be removed from the vicinity of dwellings as frequently as they accumulate.

“ 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 the great bulk of the houses in this district the food pantry is in the closest connection with the warmest room in the house, namely, the cooking kitchen. Without any great addition to the cost of building, a suitable pantry could surely be provided, and it should be regarded as one of the most important public health duties of any sanitary authority to insist upon adequate provision of this kind in every new building. Plans should not be accepted unless they show a properly-placed and well-ventilated pantry for storing food.

“ The question of the disposal of horse manure has been discussed in previous reports, but it is necessary again to urge the adoption of a bye-law compelling the weekly removal of accumulations of this nature.

“ Another matter intimately associated with general sanitary conditions and surroundings is the erection of stables and small buildings in the district. The constant erection of stables and small buildings is a serious evil and a source of nuisance and danger to the surrounding inhabitants.

“ Increased powers to insist upon adequate provision of well-ventilated pantries and storage for coal, as well as proper receptacles for ashes, in all new houses, are also advisable in the interests of the public health.

“ 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 the district and the results have been very satisfactory from the points of view of wear and tear and of immunity from dust."

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, 18 deaths were attributed to puerperal fever, as against 22 in 1907. In only a few of the reports is any special reference made to the circumstances attending the cases.

It is convenient here to call attention to what appears in certain of the reports under review with reference to the effect of the administration of the Midwives Act, 1902.

The Medical Officer of Health of Darlaston writes:—
"The services of a thoroughly trained midwife are greatly needed in this district, and I hope it will be possible, by arrangement with the County Nursing Association or the Queen's Jubilee Institute, to acquire one at an early date.

"Although most of our present nurse-midwives do their best, their standard of efficiency is not high. They have yet to learn that cleanliness in its general sense falls much below that which ought to be observed when attending a lying-in patient. Lack of training and education are the chief obstacles to their work.

"Without adequate training it is not to be expected that a midwife can really appreciate how specially open to septic influences her patient is, and that even with the most scrupulous attention to hands, forearms, nails, and person, cases of puerperal fever will occasionally result. It is disheartening to see how frequently the nail-brush and antiseptic are forgotten, and how rarely the nails receive the attention they require.

“ Another point which calls for notice, and one of vital interest to the child, is the infrequency with which the eyes of the newly-born are cleansed.

“ While I am anxious not to be too exacting, I am of the opinion that until more consideration is given to these instructions (all of which are contained in the ‘ Directions to Midwives ’ issued by the Central Midwives’ Board) the life of every parturient woman will be in danger.”

The Medical Officer of Health of Stone Urban District writes :—“ Steps have been taken by the local Nursing Association, which has for more than 30 years provided an efficient nurse for the sick poor, to add to their staff a certificated trained midwife, whose services will be very acceptable to the poor women of the district. For the first few years, until the old-fashioned untrained midwives have disappeared, considerable help will have to be given from the funds of the Association, as her time will not be fully occupied.”

The Medical Officer of Health of Willenhall writes :—“ By the Midwives Act no woman will be permitted to attend women in childbirth for gain, except under the direction of a doctor, unless certified as a midwife, after April 1st, 1910 ; and by the same Act every midwife is bound to send for a doctor in certain circumstances, and there, her legal responsibility ends. The Act, however, does not provide for the payment of the doctor, and no doctor is obliged to go unpaid to any case ; and it is already a matter of common experience that if doctors do go to the midwife’s assistance, they frequently do not get paid. The Privy Council issued a Circular in February, 1908, 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 difficulty.’ The Wolverhampton Guardians have so far declined to act on the advice of the Privy Council ; and beyond that, it seems fairly certain that even should there be a sufficiency of certified midwives in this town by April 1st, 1910, to replace the women who have acted as such in the past, there is no reasonable probability that they will be able to support themselves on such fees as the replaced women have hitherto

been paid, nor that the poor will be able to pay more than they have hitherto done either to midwife or doctor. The remedy seems to lie in an amended Act to be passed and become law as soon as possible.

“ A meeting has been held to ventilate the subject, and expert nurses have addressed the local Nursing Association, at which several Councillors and Guardians were present, and I was asked to indicate the needs of the town. It is too early yet to speak with confidence, but it seems probable that before long a trained certified midwife will be provided for such cases as have hitherto been attended by the women about to be replaced, and should she be experienced and possess tact, such a woman might be a potent factor in educating mothers, especially young mothers, in the management of their infants.”

The Medical Officer of Health of Lichfield Rural District writes :—“ No one who has any knowledge of midwifery can doubt that this Act, with all its imperfections, will prove of very great advantage to the country. By sec. 1 (2) of this Act it is enacted that from and after April 1st, 1910, no woman shall habitually or for gain attend women in child-birth, otherwise than under the direction of a qualified medical practitioner, unless she has been certified under this Act. The old-fashioned ignorant women who have hitherto done duty as midwives among the poor will thus be gradually replaced by women trained and educated in their work, and fitted to carry out the usual sanitary precautions which are so essentially necessary both for the mother and child. Undoubtedly the influence of the midwives in the prevention of infant mortality is very great ; but it does seem a question how long it may take for a sufficient number of women to be found to replace the old ones, who are able and willing to submit themselves to the training necessary to gain a certificate.”

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.

Diseases of the Respiratory Organs.—

Under this heading, which does not include phthisis, 2,322 deaths occurred, as compared with 2,529 in 1907. 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 769 deaths have resulted during the year.

The Medical Officer of Health of Biddulph states that a system of voluntary notification which has been in operation for some time has proved to be a failure.

The Medical Officer of Health of Brierley Hill writes:—
“The routine practice is to obtain permission to fumigate and spray the sick rooms after death. There is usually no opposition.

“This disease is now notifiable so far as pauper patients are concerned, it being compulsory on the District Medical Officer under the Poor Law to notify the Medical Officer of Health.

“In anticipation of this change, I asked you to sanction the purchase of spitting cups for the use of these patients, and the Sanitary Inspector was authorised to obtain them. With the exception of giving advice as to conduct, and enquiry into the sanitary conditions, especially overcrowded and damp houses, there is little else we can do. The question of sending suitable cases to a sanatorium is most important, but I suppose this is a question for the Poor Law Guardians to deal with; at least so far as it may be necessary to send any of the cases that may be notified.

“I imagine, however, that notification will not remain confined to Poor Law cases, but compulsory notification will become general, and then the local authorities will have to consider the question of providing sanatorium treatment; but this is a large question which the County Council will probably deal with. In many of the large towns voluntary notification is encouraged, the Authority paying the usual 2s. 6d. fee for notification. I think it would be advisable

for us to adopt this plan, as it would enable us to offer assistance and enquire into the circumstances and sanitary conditions affecting all the cases in our district.

“ There is no available hospital accommodation for these cases, but at the Union House there is a modern and well-equipped infirmary, where they could be treated.”

The Medical Officer of Health of Fenton writes :—“ The question of voluntary notification of cases of phthisis was discussed some four or five years ago with a negative result. One’s knowledge of the results of voluntary notification in other places leads one to think it would be of little or no value.”

The Medical Officer of Health of Handsworth writes :—“ In connection with consumption there has now been issued by the Local Government Board the Public Health (Tuberculosis) Regulations, 1908. These have been followed by the issue of a Memorandum by Dr. Newsholme, Chief Medical Officer of the Local Government Board. The issue of these two documents will probably mark a most important step in the history of the crusade against consumption in this country, and if the advice contained in the Memorandum, powers for carrying out which are given in the Regulations, is followed, it will be possible for many districts to bring about a very considerable diminution in the death-rate from consumption. The more important recommendations are :—

“ (a) The adoption of a system of voluntary notification of all cases of tuberculosis. Reasonable fees may be paid by all sanitary authorities to medical men for these duties. This matter was referred to in the report for 1906, and although it is probable that the only really satisfactory method would be a system of compulsory notification, yet the adoption of voluntary notification may be urged in the meantime.

“ (b) The disinfection of infected rooms and infected articles. If a patient has kept the same room for some time it is extremely likely that he has surrounded himself with a mass of infected material. Proper disinfection will give such a patient a fresh start. The further disinfection of

the rooms and articles on change of address or death of the patient will serve to protect the public against such infection.

“(c) The provision of bye-laws prohibiting all spitting in public carriages, halls, waiting-rooms, places of public entertainment, &c. The provision and the vigorous enforcement of such bye-laws should do much to prevent the spread of infection.

“(d) Educational measures. The education of the public concerning the manner of spread of consumption is urged. The educational measures that are advocated include teaching in schools, the teaching of nurses, mothers, trades unions, friendly societies, and various social groups, and the issue of posters.

“(e) Provision of sanatorium treatment. All sanitary authorities have power to provide such treatment in all cases, and it is suggested in the Memorandum that empty rooms or wards of isolation hospitals may well be used for such purposes. If it is decided, therefore, to provide this district with an isolation hospital, such a building could be kept in continuous use by tuberculous cases, when the building was not required otherwise. Extended sanatorium treatment is not at all necessary. In most cases a month's treatment would be quite sufficient, because it is now recognised that the great value of sanatorium treatment lies in the fact that the patient is educated in the proper means to prevent him being a danger to himself and the general public. After proper treatment and education for a month in a sanatorium the tuberculous patient may be regarded as non-infectious.”

The Medical Officer of Health of Heath Town writes :—
 “The Regulations of the Local Government Board on notification of tuberculosis by Poor Law Medical Officers and Workhouse Medical Officers will be of signal service in preventing the spread of this most deadly and prevalent disease. It will be, I hope, but the advance guard of other more general measures for the prevention and perhaps eventually stamping out this fell malady. How it will work, experience alone

can tell, and it is doubtless intended that this experience will be a guide to the framing of measures of general compulsory notification."

The Medical Officer of Health of the City of Lichfield writes:—"I have to express my gratification that your Council has acceded to my request to have bacteriological examinations made of the milk, as may be required. This step will aid materially in the discovery of the origin of tuberculosis, and should prove valuable in keeping in check the spread of this fell disease.

"Several samples of milk have been sent up for bacteriological examination and have been found generally satisfactory. There was a *suspicion* of tubercle bacillus in one specimen, through which attention was called to the supply, and one cow was found to be in an unhealthy condition. All necessary steps were taken to prevent the milk of this cow being sold for consumption.

"Unfortunately, you have not the power to *insist* on the tuberculin test being made in such a case, and although it was offered free of all cost to the owner of the cow, he declined to allow the test to be made."

The Medical Officer of Health of Quarry Bank writes:—"The death-rate from this disease exceeds that of the previous year (0.99) and that of the average of the preceding ten years (1.0). Nine deaths were recorded, occurring in the following streets:—High Street, 2; Bower Lane, 1; Hill Street, 1; Birch Coppice, 3; Thorns Road, 1; New Street, 1.

"The Sanitary Inspector, acting on my instruction, calls and offers to disinfect the bedroom and clothing where any death from phthisis has occurred. A terrible object-lesson on the infectiousness of this disease has been given in your district recently, and although such instances are not rare, the facts are not sufficiently often emphasised to impress the non-medical mind. The following extract is taken from my monthly report for June, 1908, on this point:—The remarkable feature in the returns (of that month) is the number of deaths from consumption. The two cases in Birch Coppice occurred in one house, and I have made special enquiries and investigations in relation to them. I examined the

house, and although not particularly well-built, the site was apparently well chosen, and the home conditions much the same as many in the locality. The district is rural in character, so that overcrowding of dwellings is out of the question. During the last two and a half years the family record was as follows:—

2½ years ago baby died, 9 months old, at 20, New Street.

Two years ago son died, 20 years old, at 76, Birch Coppice.

Next daughter died, three years old, at 76, Birch Coppice.

Three months ago mother died, 41 years old, at 76, Birch Coppice.

Fourteen days ago daughter died, four years old, at 76, Birch Coppice.

Since then daughter died, 13 years old, at 76, Birch Coppice.

(July 24th, another daughter died, 18 years old, at Work-house.)

(No known case of consumption *among relatives* except one cousin.)

“The baby, nine months old, was said to have died of teething, the others of consumption. There is another seriously ill with the latter disease (since dead). The father and two or three young children were apparently well. On the death of each of the children and the mother I have advised disinfection of the house, and this has been carried out several times by your Inspector. It is obvious, however, that this is only a half-measure whilst there are survivors suffering from the disease who immediately re-infect it. The control of consumption does not fall directly in the province of the Sanitary Authority owing to the absence of compulsory notification and power to isolate, and I have, through your Chairman, approached the Poor Law Authorities, who have, I believe, now certain powers to deal with such cases. This series of cases goes to prove the infectious nature of the disease among persons habitually living together, and the only way to deal satisfactorily with them is to separate the sick from the sound, remove the latter at least from the infected home, have a periodical examination of them for a

long term of years, and treat by isolation and sanatorium methods any fresh case arising. This is self-evident when applied to such infectious diseases as small-pox, with a short and critical course, but is none the less true in relation to the more slowly developing but equally virulent infectious disease, tuberculosis.

"The Chairman of the Council made representation to the Guardians, and the surviving patient was taken to the Workhouse, where she died. The remaining children and the father removed to another house, the infected dwelling was thoroughly disinfected and cleansed, a double wall and damp course put in, and the house kept thoroughly aired for some weeks before re-occupation. I have not heard of any further case in the family. These measures taken earlier might have saved most of the victims.

"On January 1st, 1909, the 'Notification of Pulmonary Tuberculosis Order' becomes operative, and enforces compulsory notification of pulmonary tuberculosis by the Poor Law Medical Officer to the Medical Officer of Health, of all patients attended by him on the instruction of the Poor Law Authorities, whether in the Workhouse or in his district. It is specially framed so as to interfere as little as possible with the movements of the patient, but to facilitate his cure, and to protect his companions. This is a step in the right direction, and the provision of sanatoria and other methods of treatment should follow speedily to the advantage of all concerned. The Sanitary Inspector is providing sputum cups and disinfectants to patients notified, and I give such advice as they are able to carry out."

The Medical Officer of Health of Rowley Regis writes:—
 "Notification of this disease is not at present in operation. The Dudley Board of Guardians provide special accommodation for the treatment of paupers notified to them in the Dudley Union in which this district is incorporated. Twenty-three deaths have been recorded in the district, and two of inhabitants who have died outside the district. As soon as notice of a death is received, the house in which the death occurred is visited, and as soon as practical is disinfected. When the friends consent, all textile articles are removed

to the disinfector and disinfected. All articles hopelessly infected are destroyed at the disinfector. This practice when first introduced was very much resented by those concerned, but now after seeing it in operation for several years, the public are appreciating the benefit of it, and offer little or no opposition."

The Medical Officer of Health of the Borough of Stoke-on-Trent writes:—"Tuberculosis caused during the year more deaths than the total from all the notifiable diseases. Active measures to combat this disease are needed. Compulsory notification, disinfection, sanatorium treatment—a pure milk supply—are among the requirements. At present practically nothing is being done."

"A Special Order of the Local Government Board came into force at the beginning of 1909. Under this Order, all Poor Law cases are notified directly to the Medical Officer of Health. The Committee have considered the matter, but have postponed the adoption of any particular measures in the meantime. The necessity of dealing with this disease is urgent."

The Medical Officer of Health of Stone Urban District writes:—"I would strongly urge the voluntary notification of phthisis as a preventive measure, which is one, I feel sure, would be willingly complied with by the local medical men, and which would enable instruction to be given as to suitable food, ventilation, the disposal of sputum, and the precautions to be taken against infection. At present, disinfection is only possible in many cases through the death returns. In the earlier stages of the disease, specialized treatment in a sanatorium is very desirable, and a fund has been started in the town to assist suitable patients being sent to such institutions. The proposal to erect or rent a small building of the kind in the neighbourhood is, I am afraid, too ambitious a project."

The Medical Officer of Health of Willenhall writes:—"The main requirements for the prevention of consumption are a plentiful supply of pure, fresh air, sunlight, and avoidance of the dried expectoration of consumptive persons, and as far as possible of infected milk and meat. On January

1st the 'Public Health (Tuberculosis) Regulations, 1908,' came into force in the district. The Regulations provide, at the expense of the Council, for the certification to the Medical Officer of Health of cases of pulmonary consumption amongst the inmates of Poor Law institutions, or amongst persons under the care of (Poor Law) District Medical Officers, and it will be the duty of the Medical Officer of Health to consider—within certain limits—whether anything can be done to prevent other persons catching the complaint. If the Council desire it, I shall be pleased to draw up a hand-bill or poster for general circulation on the subject."

The Medical Officer of Health of Blore Heath Rural District writes:—"In cases of death from consumption notice of the disinfection necessary is sent to the representatives of the deceased. In all cases of infectious disease printed instructions are sent to the occupiers of infected houses, suggesting the precautions to be taken in order to check the spread of the contagion. At the termination of all cases disinfection and efficient cleansing of the infected rooms have been carried out under the direction of your Sanitary Inspector."

The Medical Officer of Health of Tamworth Rural District writes:—"Voluntary notification of pulmonary tuberculosis has been in operation in the district for the last two years and has been fairly satisfactory in its working. It is possible in these cases to exercise some supervision, parchment sputum cups have been supplied free of charge to sufferers, and hints on the prevention of the disease and the best ways of fighting it have been distributed. The houses and cottages in which deaths from this disease have resulted were disinfected and the walls lime-washed and renovated, and the premises thoroughly cleansed, the cost being divided between the owner of the property and your Council in each case."

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 Brownhills, Cannock, Darlaston, Sedgley, Short Heath, Stone, Uttoxeter, Wednesbury, and Wednesfield Urban Districts, and Mayfield Rural District, to 89·8 in Leek Urban District and 91·2 in Cannock Rural District.

It would appear from the report of the Medical Officer of Health of the Borough of Burslem that the new isolation hospital there is too small for the districts it serves, as cases, at times, have to be refused admission.

The Medical Officer of Health of Cannock Urban District states that it is the intention of his Authority to unite with the Rural District Council in providing joint accommodation for small-pox cases.

The Medical Officer of Health of Coseley writes :—" There is no provision for isolation of this or other general infectious diseases, and when a case occurs in connection with a milk-shop or on outworkers' premises its absence is a great drawback.

" I remember one case where bailiffs were in possession and wanted to remove the furniture from a house where a domestic servant suffering from scarlet fever was—she being temporarily lodging on the premises.

" The Inspector uses a Mackenzie spray for disinfection, but thorough disinfection in the majority of cases is impracticable without a steam disinfecter."

The Medical Officer of Health of Darlaston congratulates his Authority on the fact that " at last " they are considering the question of providing an efficient disinfecting apparatus.

The Medical Officer of Health of the Borough of Newcastle calls attention to the risk involved in the present method of discharging patients from the isolation hospital, and urges the provision of a discharging block.

The Medical Officer of Health of Rugeley again calls attention to the need for a disinfecting apparatus for the district.

The Medical Officer of Health of the Borough of Stafford calls attention to the fact that 96·7 per cent. of cases of scarlet fever (31 in number) were isolated in hospital, and that there were no return cases. Regarding the hospital, he says:—“Needless to say, the new hospital is such an improvement upon the old condition of things that one wonders now however we dragged on for so long in the old temporary premises.”

The Medical Officer of Health of Tipton writes:—“The hospital for infectious diseases plays an important part in our means for stamping out disease. No one is refused admission. If very poor and receiving relief, the Guardians pay for their treatment, if better off but not able to pay they are admitted and no charge is made, if really well to do, they are expected to contribute something towards their maintenance when in the hospital. For very many years I have been Medical Superintendent, and visit the hospital daily when there are in-patients which require such attention. We have accommodation for 20 beds, which gives an air space of 1,500 cubic feet per bed. This accommodation is ample for the requirements of the district. Our great difficulty is to provide separate accommodation for scarlatina and typhoid fever for males and females when under treatment at the same time. There are, however, two large and two small wards, and hitherto we have managed without much inconvenience. We find but little difficulty in persuading patients to consent to removal, and all seem to be well satisfied. During the year the wards have been renovated, and at present the hospital is in a high state of efficiency.”

The Medical Officer of Health of Wednesfield urges his Authority to provide an isolation hospital for the district.

The Medical Officer of Health of Wolstanton writes :—
 “ As mentioned in my previous reports, many alterations and improvements at the sanatorium are very urgently required. One bath has to supply all cases, there is no hot water supply in the wards, lighting is by oil lamps, the privies consist of earth closets, the laundry accommodation is insufficient, and the only means of disinfection available is fumigation with sulphur.

“ I understand that nothing can be done until the amount of compensation payable by Tunstall is settled. As this has already been under consideration for over a year, it is earnestly to be hoped that some conclusion will soon be arrived at so that alterations may be commenced.”

The Medical Officer of Health of Cannock Rural District writes :—“ In a year when scarlet fever has been somewhat prolific, the isolation hospital has abundantly justified its existence, and the treatment of many of the cases of a severe and serious character during the last year would have been most difficult and probably disastrous in a private home, where the advantage of skilled nursing would not have been forthcoming.”

The Medical Officer of Health of Uttoxeter Rural District calls his Authority's attention to the fact that no provision exists for dealing with cases of small-pox should they arise.

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 Cannock Urban District calls attention to the fact that the "conscientious objectors" this year number 128, compared with 11 the previous year, and he says:—"The great increase of exemption certificates in this district is potent evidence of the less difficulty there is in obtaining them under the new Act. It reads like the thin end of the wedge for an un-vaccinated district, and at the present rate of progression a future invasion of small-pox into an unprotected district would give the residents a very rude awakening. The disease would rage and kill, especially amongst infants and young children, until checked and extinguished again by vaccination—but the life and pocket penalty incurred would be a high one."

The Medical Officer of Health of Darlaston writes:—"The ease with which exemption certificates can be obtained is responsible for the addition to the community of an increasingly large unprotected element, which, together with the existence of a considerable number of children in whom the operation has been imperfectly performed, will lead to disastrous developments in the future should an outbreak of small-pox occur."

"One mark vaccination outside the district still continues, but is not as much sought after as formerly; this is doubtless due to the advantages taken by parents of the Exemption Clause."

The Medical Officer of Health of the Borough of Stoke-on-Trent writes:—"The number of children remaining unvaccinated through conscientious objection on the part of the parents is increasing, and can only be contemplated with anxiety as to future outbreaks of small-pox, both on the score of risk of life and expense."

"During the year there has been considerable activity on the part of the anti-vaccinators in this district, and I should like to warn the inhabitants of the Borough against being misled by any of their arguments. If vaccination is neglected, sooner or later the inhabitants of the district must reap sad consequences."

"Those who are well vaccinated and re-vaccinated need have no dread of small-pox."

The Medical Officer of Health of Tipton writes :—" The new Vaccination Act has been very detrimental to vaccination. It is so easy for exemption orders to be obtained I think, however, that a small-pox scare would frighten many mothers, and that some who are careless now would then have their children properly protected by vaccination.

In commenting upon the recent Act, the Medical Officer of Health of the Borough of Wednesbury writes :—" 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, as in 1907—with 6·8 per cent. of exemptions, we have in 1908 rates respectively of 72·6 and 22·6—and the probability is that my next report will contain figures of a still more unfavourable character. 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 of the past twelve months will, if persisted in, leave the country in a state of very imperfect protection, and in the near future we shall have to deal with fresh outbreaks of small-pox, together with all the expense and danger which such outbreaks involve."

The Medical Officer of Health of Willenhall writes :—" Two hundred and fifty-four children were successfully vaccinated ; 175 exemption certificates were obtained under the new law ; two persons were re-vaccinated successfully ; three certificates of insusceptibility of vaccination were given ; the vaccination of six was postponed ; and 65 died without having been vaccinated. These figures seem to indicate a desire on the part of the people to face the horrors of another epidemic of small-pox."

In the reports of the Medical Officers of Health of Cannock and Eccleshall Rural Districts attention is directed to the fact that the number of " conscientious objectors " is increasing.

The Medical Officer of Health of Kingswinford Rural District writes :—" The district is still fairly well vaccinated, though there are still a number of parents who take their

children outside the district and have only one vesicle put on. A more serious fact, however, is that considerably more parents are taking advantage of the conscience clause in the Vaccination Act, since it has been permissible for them to take oath before any J.P. In my opinion, this is a most retrograde step, and will, at any rate in this district, in the course of a few years, raise up a considerable number of people unprotected against small-pox."

The Medical Officer of Health of Lichfield Rural District writes :—" The unfortunate disregard of vaccination, through the facility afforded of obtaining certificates of exemption, has, I regret to say, been very considerable, and is still going on, and there being no Re-vaccination Act in force, it is impossible to conceive what a terrible penalty the community some day will have to pay when the present period of freedom from small-pox shall have passed and the disease again breaks out. This preventible calamity may or may not be far off, but that it will come there cannot be a doubt."

In Newcastle Rural District it is said that fewer children were vaccinated this year than formerly, and the Medical Officer of Health anticipates that " when the knowledge that it is not legally necessary to have their children vaccinated becomes more widely known, parents, with very few exceptions, will obtain the necessary certificates."

The Medical Officer of Health of Seisdon Rural District writes :—" Now exemptions are so easily obtained it is little wonder that so much advantage is taken of it, especially by the ignorant, and that 36 exemptions were obtained in the Wombourne district alone."

INSANITARY DWELLINGS AND OVERCROWDING.

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

The Medical Officer of Health of Coseley writes :—" The chief defects met with are dampness of houses, due to absence

of damp courses, defective spouting, decayed mortar and brickwork, and absence of paving ; defective walls and roofs, dilapidated outbuildings and defective drains.

“ Owing to the large number of old houses this work necessitates a great deal of time, but your Council are to be congratulated on the results of the steady work which has been done in this direction during recent years. Overcrowding is prevalent and difficult to deal with, as in the majority of instances in which it has apparently been abated it seems probable that the nuisance has simply been transferred to another house. The difficulty is that the lower paid working classes, who have often large families, are unable to pay the rents demanded for the accommodation a sanitarian would deem necessary. On the other hand, many of the better paid artisans should be well able to provide their families with more sanitary dwellings than they occupy. The worst cases of overcrowding, however, are due to more than one family occupying one small house, which is usually foul and insanitary. Every effort is made to suppress such cases.”

The Medical Officer of Health of Heath Town, in referring to this question, says :—“ This is always a matter of great difficulty. There have been some houses in which the condition, dilapidated state, cubic space, ventilation, and other conditions have been so extreme that there have not been many difficulties in closing them. There are others, very little better, and which the Medical Officer may have no doubt about their insanitary state, yet the evidence may not be sufficiently tangible to convince a magistrate, and so secure a closing order.

“ The adoption of the Public Health Amendment Act, 1907, would afford many advantages that would secure the removal of nuisances and the supply of suitable sanitary conveniences. There are many slum areas overcrowded and insanitary, and altogether very undesirable places to live in, but yet such that cannot be condemned in the absence of better dwellings at the same rent. There are some people that say they cannot afford more than two shillings a week rent, and if this is so, it is difficult to provide them with any reasonable dwelling at this rent under present conditions.

It is only by a change in the mental and moral calibre of these tenants that any improvement can result. Possibly improved and cheaper methods of building and design may effect a more sanitary dwelling at these low rentals. But until some of these happen, we shall have to tolerate conditions that are revolting, and which we would gladly see swept off the face of the earth. But it is possible to show too much weakness towards the 'submerged,' and there still remain houses that ought to be closed and obstructive buildings that ought to be demolished.

"It must, however, be remembered that unhealthy and unlovely surroundings often produce a low state of morals as well as of physique. I am sufficiently optimistic to believe that the complete destruction of the slum, if it could be effected, and the placing of this class in better conditions of living, would result in many cases in a better moral spirit, and greater earning power, increased wages, and more cleanly, sanitary, and æsthetic habits. Sanitary and æsthetic improvement in house and surroundings would be bound to react on the individual, just as a vicious surrounding and filthy dilapidated house produces a degenerating effect and a vicious circle on the individual. Drink often causes poverty, but poverty often causes drink and similar evils, and they react on one another, deepening the degradation. By reversing the process, the social ascent can be attained—not always, but very often."

I quote the following satisfactory paragraph from the report of the Medical Officer of Health of Leek Urban District:—"I am pleased to report that since the commencement of the house-to-house inspection by the inspector no less than 326 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. If free ventilation and cleanliness were more generally practised we should have fewer and fewer cases of phthisis, and less money would be required from the rates to build and keep up sanatoria for the treatment of consumptives. If preventive measures are ignored, sanatoria are bound to be

required, and it seems to me such a foolish policy and waste of money to begin at the wrong end of the business."

The Medical Officer of Health of the Borough of Newcastle writes:—"No houses were closed in 1908, but several will be closed in 1909. The most urgent at the present time, in my opinion, are those in the vicinity of Stackyard and the lower end of Penkhull Street. If a scheme for completely dealing with this area could be carried through, a great improvement will be made, and an area, which at the present time is far from ideal, would be abolished and a similar improvement to the one carried out in the Lower Green would result."

The Medical Officer of Health of the Borough of Tamworth, in a summary of work of importance which is pressing and calls for attention during the coming year, writes:—"The provision of much-needed additional house accommodation for persons of the working-class 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 Tetterhall writes:—"A clean sweep has been made of some very dilapidated property at Compton and an improvement effected, but there are still many houses structurally decayed and sanitarily defective. They are occupied by the very poor, and during these bad times are apt to be overcrowded by men out of work seeking shelter with relations. The overcrowding is easily dealt with when discovered and the old houses gradually disappearing as they fall under the ban of the Council."

It may be convenient here to quote from the report of the Medical Officer of Health of Cannock Rural District with reference to the need for an increase in the sanitary staff, as follows:—"I have reported to the Council upon the desirability of extra help in the Sanitary Inspector's department. That in such a wide area it is utterly impossible for one man to cover the ground satisfactorily, considering the variety of duties and the time necessarily taken in performing them. The drainage schemes in their carrying out

require much time and attention. Water supplies, ordinary sanitary inspections, and infectious disease control are all big matters, and can never be efficiently supervised by one pair of hands."

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 of many districts. This subject has received considerable attention in my previous 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 states that considerable progress has been made in substituting water-closets for privies, 81 conversions having been made, compared with 67 the previous year, according to the report of the Sanitary Inspector. The hope is expressed that in all cases where sewers are available privies will be entirely abolished by the end of 1909.

The Medical Officer of Health of Audley, in discussing the cause of an outbreak of diphtheria at Talke, says:—" I am not sure that the indifferent way in which the night-soil removal has been carried out has not contributed in some measure to keep the disease in the district."

Later on, in the report, under the heading " Scavenging," the same Medical Officer of Health writes:—" The contractor in the Talke district has done the work in a very indifferent way, and constant complaints have been made in consequence of his failure to keep the closets properly emptied. As I have already pointed out to the Council, this matter urgently needs their attention."

The Medical Officer of Health of Bilston writes:—" Now that the sewerage scheme is completed, a steady and continuous effort should be made to extend the water-carriage system throughout the district. During the past year 162 water-closets have been substituted for privy-middens and

vaults, and there are now in use 685 water-closets, 102 waste water-closets, and 20 automatic trough closets; and 406 portable ash bins in place of ash pits.

“ There still remain, however, 1,323 privy-middens, 1,433 privy vaults, and 900 privy pans, and the sooner these abominations are abolished the better. These methods are most injurious to health, for they entail the accumulation of fœcal matter close to dwellings and its dissemination by spillage and soakage, especially in the poorer and more crowded parts of the town, and are potent factors in the causation not only of enteric fever and diarrhœa but of other infectious diseases. The harmful effects of such conditions are greatly intensified in hot and dry weather, and even flies and dust add to this. There is also the moral aspect—the near presence of these filthy receptacles does not encourage ideas of cleanliness and decency—and, further, there is the need of ‘ tips ’ to get rid of the filth.

“ This system of ‘ tipping ’ has led to several complaints during the past year, and was also the subject of investigation in August last by Dr. Darra Mair, one of His Majesty’s Inspectors from the Local Government Board. Every attempt is made to minimise the nuisance that must necessarily be caused at times, by taking the matter as far from dwellings as possible, and by covering it up with dry ashes, but the difficulty increases naturally as places for tipping become more scarce. The extension of the water-carrying system—and fortunately the Council owns its own water-works, with an abundant supply of good water—together with the erection of a dust-destroyer is the only possible remedy here.

“ The removal and disposal of house refuse is done by contract, under the supervision of a foreman scavenger appointed by the Council. Houses and courts are visited at different periods according to the size of the ash pits or dust bins—some of the former are still too large, though every opportunity is taken to reduce the size.”

With reference to the above quotation, I would point out that the difficulty of water charges, which is so often raised as a reason for not abolishing privies, does not apply in the

case of Bilston, and it would probably be found to be economical from the point of view of the District Council to adopt an active policy as regards the systematic introduction of the water-carriage system, apart from the great good which would result from a health point of view.

The Medical Officer of Health of Brierley Hill writes :—
“The scavenging of excrement and house refuse is done by contract, and is satisfactory in the sense that there are no complaints. The only defect is that it is not done sufficiently often. It depends upon notice being given by the owners or occupiers.”

The Medical Officer of Health of Cannock Urban District writes :—“A thorough conscientious dealing with this most important matter will go far towards establishing a clean bill of health in this district. The mode of disposal is chiefly the midden and ash pit system, and the scavenging has been undertaken by local contractors. But the Council resolved last December to carry this work out under the supervision of Mr. Turton, our energetic Sanitary Inspector, and no doubt great improvement will ensue in the method of work. The conversion, however, of the midden into the w.c. and the ash pit into a closed galvanized bin, wherever possible, and especially in connection with new houses, is the true ideal to be aimed at in every community as well as our own.”

The Medical Officer of Health of Coseley points out that more frequent removal of refuse is desirable.

The Medical Officer of Health of Darlaston, where, it will be remembered, the infant mortality rate is disgracefully high, writes :—“Too much latitude is allowed in the matter of manure deposits. Most of the receptacles are too large and deep. They should be much smaller, and emptied more frequently than they are at present. They provide a favourite breeding ground for flies, and in consequence assist in promoting food contamination to an alarming extent.

“The conservancy system as it exists in the old property of this district is most insanitary and is doing more than anything else to retard our progress; and I am convinced that not until it has yielded to the water-carriage system shall we be justified in feeling any real sense of security.”

With reference to the trouble which the introduction of slop-water closets leads to, I quote the following from the report of the Sanitary Inspector of Fenton, which is embodied in the report of the Medical Officer of Health:—"There are at the present time 1,079 slop-water closets in the town, and these are inspected once a month.

"The person inspecting these closets carries with him the grappling rods and the plunger, and whenever the stoppages are found to be slight they are at once removed. Should, however, the stoppages necessitate the opening of the ground, then notices are served in the usual manner on the owner or agent of the property.

"The total number of stoppages found during the year and removed by this person was 510, and the total cost of these monthly inspections and the removal of these stoppages amounted to the sum of £12 16s. 8d."

It is disappointing to find, from the following extract from the report of the Medical Officer of Health of Heath Town, that the District Council disregards the advice he gives regarding the introduction of more cleanly methods:—"All new houses are required to fit water-closets or slop closets, but in most cases it is the latter that are used. Nearly all the old houses have what are known locally as 'ash closets,' that is, a privy of limited capacity, with a concrete floor, and an opening at one side, from which the excreta are removed, and into the closet the household ashes are supposed to be put. This system works fairly well, provided abundance of ashes are used, but ashes are frequently not put into them, and this is especially in the summer, and where the tenant has no ashes to produce, and then the closet becomes a danger to health and a nuisance. Hence, except with the best class of tenant, they can never be satisfactory.

"But it is with the present practice of the removal of night soil that the chief trouble lies. I have commented at length in previous years on the practice of emptying the contents of the privies on the streets, and shovelling it from thence to the carts, and have detailed the proposals that have been made for obviating these nuisances, but nothing so far has been done."

The Medical Officer of Health of Leek Urban District writes :—" 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.

" The want of a ' destructor ' is perhaps more keenly felt for the final disposal of ' trade refuse ' accumulating from butchers', fishmongers', provision dealers', green-grocers', fried fish and tripe shops ; this is not collected with house refuse, and leads occasionally to cases of nuisance. Of all kinds of refuse, this is surely the worst, and requires destruction by fire."

In commenting upon an outbreak of enteric fever in Rowley Regis, the Medical Officer of Health writes :—" With two exceptions (No. 74, Hawes Lane and Holly Bush Street, Cradley Heath) all these houses have privy middens. These at their best are an abomination, but when defective are a positive source of danger. I am glad to see that rapid progress is being made throughout the parish in substituting water-closets for them, and I hope in the near future these relics of an unsanitary age will cease to exist."

The Medical Officer of Health of Rugeley writes :—" I have had only two complaints with regard to these, which are still being improved, and the latter (privies) converted into water-closets. The Council has decided to adopt the weekly collection of ashes, etc., and many householders have already discarded the old ash pits and substituted a sanitary bin, which it is hoped in the course of a year or two will become general. The contract for removal of ashes,

etc., has gone on very satisfactorily throughout the year, no complaints having been made."

The Medical Officer of Health of Sedgley writes:—"The privy system is general throughout the district, the structures providing for the mixture of excreta and house refuse. The excreta mixed with fine ashes are carted to various farms in the district and used for agricultural purposes. The rough coarse refuse is tipped at various suitable places in the district. This work is carried out by the Council's workmen, hired teams being employed. The frequency of removal of excreta and house refuse varies from one to six months. The expense in this department during the past year is rather less per load than last year. Mr. Wane, your Sanitary Inspector, has charge of this department, and now finds, as a rule, property owners willing to amend sanitary defects without the compulsion of legal proceedings."

In view of the above quotation, from which it would appear that no attempt is being made to abolish the privy midden system in Sedgley, the question is whether the time has not now arrived for again pressing the District Council to provide efficient sewerage and sewage disposal works. It does not seem reasonable to require one district, where similar difficulties as regards mining subsidences exist, to provide such works—Tipton, for example—and allow another district to remain in a condition of stagnation as regards one of the most essential health requirements.

The Medical Officer of Health of Short Heath anticipates that most of the privies in that district will be replaced by water-closets within the next few years.

With reference to excrement and refuse removal, the Medical Officer of Health of Smallthorne writes:—"This is done in the Smallthorne Ward by the Council, in the Milton and Chell Wards by contract. No complaints have been received, but I would again suggest that when emptying the ash pits the contents be not left in a heap in the street awaiting the arrival of the contractor's cart, also that tips be found as far removed from dwellings as possible, and that excrement be not scattered broadcast on grass land, which

in my opinion is an offensive and dangerous practice. All fish, vegetable, and animal refuse should be burned.

“During the year many leaking and offensive privies have been done away with and pails with peat moss substituted. These are emptied weekly, and when used properly are inoffensive.”

The Medical Officer of Health of Stone Urban District writes :—“Excrement and refuse removal is still very unsatisfactory, but I fail to see what can be done until the alteration of your sewage works is completed. To empty pails in the public streets through manholes into the sewers (even though it may not commence until 10 p.m.) is a most revolting sight, and it is to be hoped that ere long water-closets will replace the tub system, the more so as power is given in an easier manner to adopt such an improvement by the Public Health Acts Amendment Act of last year.”

The Medical Officer of Health of Tettenhall writes :—“There is at present a dual system of excrement disposal by water carriage and cartage, and at the present rate it will take 28 years before the middens are converted into water-closets. The progress of conversion has not been so satisfactory this year as last. Whereas in 1907, 44 middens were converted into water-closets, in 1908 there were only 24, and we have yet 655 middens to abolish.

“The Council know the difficulty with owners who let cottages at low rentals to the very poor. A rent of three shillings a week leaves no margin for structural alterations, and, rather than incur the expense, owners will close the property, with the result that the home is broken up and the tenants gravitate to the Workhouse or the slums of towns. Often the landlord is as poor as the tenant, for possession of cottage property does not imply affluence, and the pittance from rent is all he depends on, and unless a serious nuisance exists pressure is not applied.

“Beyond this, many people in Tettenhall have a prejudice in favour of the middens, to which they have been accustomed all their lives, and it is difficult to wean them from it. This partly explains the slowness of conversion of middens

to water-closets and hampers the Sub-Committee which has worked so hard for the past two years.

“The cleansing of middens and the removal of house refuse is a severe tax on the present team department. There are now 60 ash bins in the district, and the Surveyor thinks there will be double the number next year. These ash bins are a marked improvement on the old ash pits (which are too large by custom and too small by bye-law) and are emptied more regularly. We have also a settle tip in Henwood Lane for dry refuse instead of relying on temporary arrangements with friendly farmers.”

The Medical Officer of Health of Tipton writes:—“The great objection to many of the more newly-built houses is the too close proximity of the ashpit and midden to the living room. We are trying slowly to introduce the moveable ashpan, and to convert the midden into the water-closet system. When the new sewers are laid down we hope to gradually convert all of the middens so that the air around the living rooms will be much more pure than it is at present.

“The disposal of excrement is a great trouble, the system at present in use is the privy cesspit, separate from ashes, system. The Council have their own carts and men, and the whole removal is under the supervision of the Sanitary Inspector. This is done systematically. Some of the excrement is laid in ‘tips’ situated in suitable places in the parish, and some is exported in boats to the country. We hope, however, to be able to extend the water-carriage system as soon as the deep sewers are in working order.”

The Medical Officer of Health of Tunstall writes:—“I am pleased to say this work is being carried out in a very satisfactory manner, and it is rare to find any accumulations about the town. In some instances, owing to the existence of large ash pits, it is necessary to empty their contents into the street, prior to collection by the dust cart. This is a very objectionable and unsanitary practice, and should be entirely abolished by the substitution of galvanized bins for the existing ash pits.

“Continued progress is being made in the abolition of the privy system, no fewer than 126 having been converted to

water-closets. From the year 1901 to 1908, 1,825 privy middens have been converted to water-closets."

The condition of things at Tunstall is not so satisfactory as it might appear to be from the above reference, as, unfortunately, it is the practice to sanction the introduction of hand-flushed closets, of which there are already 2,552 in the district. This is a highly objectionable type of closet, and steps should be taken to convert those which now exist into closets with proper water flush.

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 Amblecote points out that there are a few houses and factories at Holloway End, a low-lying part of the district, which pollute the river Stour.

The Medical Officer of Health of Biddulph anticipates that the new sewerage and sewage disposal works will be completed by the end of 1909.

The Medical Officer of Health of Heath Town writes:—
"The Wednesfield Brook has been in the past a source of trouble and possible pollution. It first comes into the district at Prestwood Road, near the Vicarage, and forms the boundary between the two districts for some distance. Formerly, several houses in Wednesfield emptied their drains into this brook, and the latter, entering the Smestow near Stratton Street, doubtless poured some of this pollution into the Smestow. I have constantly referred to the danger threatened of pollution of your stream from this source, and urged upon the Wednesfield Council that they should divert

this sewage into some other channel. I am pleased to say that the sewer has been put in, but the property has not been connected.

"There are still the houses in Dean's Road that I have previously referred to that are undrained into the sewer. The drainage in the central portion is very unsatisfactory.

"The houses at the eastern end of Willenhall Road are also without connexion to sewers, and difficulties in doing so still present themselves, but they should not eventually be insurmountable."

The Medical Officer of Health of the Borough of Stafford states that "there is now no known pollution of the water courses."

The Medical Officer of Health of the Borough of Stoke-on-Trent calls attention to the fact that "the clauses of the new Bye-laws with reference to ventilation of drains are not enforced."

The Medical Officer of Health of the Borough of Tamworth states that the work of sewerage and providing sewage disposal works is proceeding satisfactorily.

The Medical Officer of Health of Cannock Rural District refers to the various sewage disposal works which have been provided throughout the district. The Authority are certainly to be congratulated on the energy they have displayed in this direction, but there are still other villages which have to be dealt with—for example, Penkridge—where a scheme of sewerage and sewage disposal is much needed.

The Medical Officer of Health of Kingswinford Rural District states that the new sewerage scheme is completed and the house connections are now being made.

The Medical Officer of Health of Mayfield Rural District states that the scheme of sewerage for Wetton has proved very beneficial to the village.

The Medical Officer of Health of Stafford Rural District states that the sewerage of the parishes of Tillington and Castle Church has been completed and that all the houses have been satisfactorily connected.

The Medical Officer of Health of Walsall Rural District states that a loan has been sanctioned by the Local Government Board for a sewerage and sewage disposal scheme for Streetly, and that the work is progressing satisfactorily.

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 with reference to the water-supply of 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, and it is proposed eventually to sink to a depth of 105 feet.

“ The present supply from the new well is over 7,000 gallons per 24 hours. The water is good, and appears to be free from contamination. About 622 houses are supplied by these two wells, and reckoning at the rate of five persons each house supplied this works out at the rate of six to seven gallons per person per day. This amount is inadequate for the district, and 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 or more gallons per person per day.

“ I have had frequent complaints from this district of the short water-supply ; in many instances the people have had to go without water for two days, at any rate, there has

been no water in the taps for that length of time. In hot weather, of course, the supply is considerably less than this.

"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 gardens, yards, or adjoining fields. These wells are more or less contaminated and the water is not fit to drink, and a very deficient supply happens in dry weather."

As regards Rowley Regis, which is supplied with water from the mains of the South Staffordshire Water Works Company, the Medical Officer of Health calls attention to the fact that in the case of most of the schools the water is not laid on direct but is connected to tanks which are uncovered and allow dust to enter. He points out that it would be much safer to abolish the tanks and lay on the water in the case of the schools in question direct from the mains.

The Medical Officer of Health of Sedgley states, that including new houses, 91 properties have been connected with the public water-supply during the year, and that there are now very few private wells in use in the district.

The Medical Officer of Health of Smallthorne writes:—"The water supplied to the Smallthorne and Milton portions of your district has throughout the year been ample and of good quality. In the Chell portion the supply was inadequate, and in June water was distributed by cart in Packmoor."

The Medical Officer of Health of the Borough of Stoke-on-Trent points out that with one exception all the houses of the Borough are now connected with the public mains, but he adds:—"There are still some instances in the Borough of very insufficient water-supply.

"On the request of the Committee, a special report was prepared in 1907 by the Borough Surveyor relating to houses without sufficient water-supply, and Notices were served on the owners by the council; some have been complied with, others have not; but no action has been taken to insist on the notices being complied with."

The Medical Officer of Health of Gnosall Rural District writes:—"In connection with the proposed water-supply for Gnosall, a number of samples from various wells have been taken; and, here again, analysis of these has proved that the same state of things is in existence as in Norbury, and that the occupation of houses for a long term of years, with defective drainage, has so polluted the subsoil that the drinking water is, in most instances, unfit for use. That being so, it is only fair to conclude that the water and sewerage schemes now in hand for this village should be carried out as soon as possible, as the present condition of things is endangering the public health, especially should any water-borne disease find its way into the village. . . ."

The Medical Officer of Health of Leek Rural District embodies in his report a special report which he had previously submitted to his Authority regarding the water-supply of Jack Hay Lane, from which the following is an extract:—"The well, which is a properly-protected stone trough by the roadside, is the principal water-supply of the inhabitants, and the water, I am informed, is brought in pipes across the fields from a wood, called Wood-head, a distance of 250 to 300 yards. All is covered in, but I was informed that the pipes used are common drain pipes. I was informed by the Sanitary Inspector that in December, 1906, the flow amounted to no more than a dribble. On the day of my visit, after a fortnight's rain, the flow would probably fill a $\frac{1}{2}$ in. or $\frac{3}{4}$ in. pipe. The water was muddy, and after standing deposited a considerable sediment.

"All the neighbouring householders concurred in saying that the well is dry for three or four months in the year, and that the water is muddy after rain. I have recently been informed by a gentleman, a member both of the Bagnall Parish Council and of the Leek Rural District Council (who lived at the Woodhead Farm for many years) that he was present when the pipes carrying the water from Woodhead to the spout or trough in Jack Hay Lane were put in, that there is no spring at the source in the wood, but that the supply is entirely surface water, which accumulates in the well, where it is conveyed to Jack Hay Lane, partly in socket pipes, and partly in agricultural drain pipes.

“ ‘ In my opinion, therefore, it is not practicable to render the present supply wholesome or sufficient in quantity, and I recommend that a supply of water should be obtained from the North Staffordshire Water Works Company, whose reservoir is situated at a higher level and within a short distance (about 450 yards) of the Jack Hay Lane.

“ ‘ The water could be brought in an iron pipe and distributed to the different houses, or standpipes might be fixed at convenient intervals along the Lane.’ ”

With reference to Mayfield Rural District, the Medical Officer of Health states that the negotiations which had been entered upon with the view of obtaining a proper water-supply for Upper Mayfield have fallen through, and that further efforts are being made to obtain a supply for that village. He further states that negotiations are in progress with the North Staffordshire Railway Company in the hope of obtaining a joint supply for Waterhouses.

The Medical Officer of Health of Tamworth Rural District writes :—“ As regards the endeavour to obtain a sufficient supply of pure and wholesome water for the villages of Edingale and Croxall, as stated in my last annual report, two wells have been sunk at the opposite sides of these villages, but the more central portion still requires to be supplied, and an additional well should be sunk on the selected site, which has been offered by one of the owners of property, in order to meet the requirements of the inhabitants.”

The Medical Officer of Tutbury Rural District states that satisfactory progress is being made with the scheme for providing an adequate water-supply for Tutbury.

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 result 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.

The Medical Officer of Health of Rowley Regis states that overcrowding of cowsheds is common, especially in winter, and that the lighting and ventilation are in some cases inadequate.

In the Borough of Stafford new regulations have been adopted, which came into operation in January, 1909.

The Medical Officer of Health of Cheadle Rural District writes:—"Twenty defects in connection with cowsheds were found by the Inspector during the year, and informal notice was served by him in each case, many of the cowsheds in the district require re-constructing. In most instances the cows have not sufficient room individually, which renders the milk liable to become contaminated with filth at milking time. Unfortunately, it is difficult to get the needed improvements carried out, as by the Act the work falls upon the tenant more than on the landlord, which tends to render the Act inoperative if not unjust."

The Medical Officer of Health of Uttoxeter Rural District states that "in many cases the lighting of the cowsheds is indifferent and the ventilation insufficient."

SLAUGHTER-HOUSES.

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

The Medical Officer of Health of Rowley Regis writes :—
 “ There are twenty-seven slaughter-houses on the register, to which two hundred and eighty-four inspections have been made.

“ During the year a new set of Slaughter-house Regulations for the proper control of slaughter-houses were sanctioned by the Council, and copies of the same have been printed and distributed to each occupier of a slaughter-house within the district. As a result of this, slaughter-houses are now more cleanly, and greater care is exercised in the removal of offal and manure, galvanized tanks being used for this purpose. Concrete floors have been laid in four slaughter-houses where defective brick floors previously existed. Slaughter-houses are systematically inspected and markets regularly visited by the Sanitary Inspector. There is one knacker's yard in the district which is licensed annually.”

The slaughter-houses in the Borough of Stoke-on-Trent are evidently in a very unsatisfactory state, as the following extract from the report of the Medical Officer of Health indicates :—“ There are in the Borough three licensed slaughter-houses and seven registered ones.

“ There are bye-laws for their regulation ; they ought to be brought up to date.

“ Under the present bye-laws dogs may be kept in the slaughter-houses. The slaughter-houses may be used as stables, and the boundaries of the slaughter-houses need not be defined. These deficiencies require attention.

“ One hundred and five inspections of these premises have been made during the year.

“ Some of the slaughter-houses are used as stables, horses being kept in the lairs.”

The Medical Officer of Health of Tutbury Rural District writes :—“ I have had several complaints as to the nuisance arising from some of the slaughter-houses in Tutbury, and I would strongly recommend your Council to provide a public slaughter-house for the town. There is a disused shed close to the sewerage pumping station which might be acquired and converted into a suitable place at a comparatively small

cost. The proximity of slaughter-houses to dwellings is very inadvisable, and, apart from the dangers to health, the sights, sounds, and smells (there is no more vile stench than that of putrefying ox-blood) arising therefrom are a great source of annoyance and discomfort. The local butchers would be quite willing to support the project."

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, apparently there are 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 many of the reports.

As regards an offensive trade which is carried on at Heath Town, the Medical Officer of Health again writes:—"I have every year reported on this business. The proprietors formerly carried on a gut scraping business, and the effects were very offensive. Proceedings have been taken against them some years ago, but they were withdrawn when the proprietors signed an agreement, which was believed to mean that they would evacuate the premises in June, 1905. This was not, however, done, and the agreement only required the discontinuing of 'gut scraping.' It is stated that gut scraping has not been conducted since, but all that has been done has been the bringing in of the guts, cleaning of the mesentric fat, salting them, and removing them to another

place, and this is all I have seen done when I have inspected the place. I have described these matters at length in former reports, and am still of opinion that, with work conducted as I have seen it, with the emanation of the stench as has been described, and surrounded immediately by a large population, such a business is an intolerable nuisance and ought to be stopped."

SMOKE NUISANCES.

In most of 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.

The Medical Officer of Health of Willenhall appears to have devoted considerable attention to this question, as the following quotation from his report will indicate:—"Since the Council issued a letter to manufacturers on smoke nuisance in 1907 one firm has dispensed with its 50 horse-power steam engine and substituted electric power. So far they are satisfied with the results obtained, and the air round their works is much cleaner and purer. There are still, however, many engine stacks and annealing oven chimneys, especially at the east end of the town, from which dense smoke is emitted during a great part of the day, to the great discomfort, injury, and loss of residents in the neighbourhood; and, unless the nuisance should in the near future be abated, children, who will attend the Albion Road Council Schools when erected, will be compelled to breathe much of that smoke, because the schools will be situated in the direct line of one of the two most prevalent winds experienced here.

"I cannot discuss this subject as a scientific engineer; but, having made numerous inquiries, I desire, through the Council, to appeal to the manufacturers to think over the matter and show their public spirit; to put themselves in touch with expert scientific engineers; and to convince themselves that the prevention of unnecessary smoke is a duty they owe to their neighbours. If they will only take

the trouble to do this, and they should still find it necessary to use steam power in their works in preference to gas or electric power ; and I can only induce them to approach the subject from the humanitarian standpoint, I am convinced that they can, by expert mechanical appliances, not only do away with nine-tenths of the nuisance, but in addition secure large profits by savings in the consumption of coal. Before arriving at this conclusion, I have corresponded with Messrs. Vicars', manufacturers of Vicars' Patent Automatic Smokeless Mechanical Stoker, Earlestown, Newton-le-Willows, Lancashire ; Messrs. Meldrum Bros., Limited, Timperley, near Manchester (who say their Koker Stokers are a certain cure for smoke, and that they are willing to guarantee it) ; Mr. J. T. Thornton, manufacturer of Hinchcliffe's Patent, Atlantic Oil Works, Paddock, Huddersfield ; Messrs. Thomas Cass & Co. Limited Cass Stoker Manufacturers, St. George's Street, Bolton ; and Mr. Hope, the inventor of the Eclipse Economiser, a new invention just patented, sold by The Eclipse Boiler Furnace Limited 155, Dashwood House, New Broad Street London, E.C., of which I have read excellent accounts, and which consists of a gas-producer, which delivers at the far end of the furnace and behind the coal fire a volume of gas which, mixed with air delivered by a second pipe, sets up a further combustion, producing incandescence. The smoke from the fire in passing through this intensely hot flame is said to be absolutely burnt up before it can reach the chimney shaft.

" None of the gentlemen referred to are known to me, and any letters or specifications in my possession may be seen by any manufacturer who desires to see them.

" There is a very general movement on foot designed to strengthen the law in the direction of the prevention of nuisance from smoke, and next month there will be a practical conference on the subject at Sheffield, extending over three weeks.

" To press the matter home I append a series of extracts from the writings of Mr. Graham, Principal of Dalton Hall, Manchester ; Mr. A. E. Fletcher, late Chief Inspector under the Alkali Acts ; Bibby's Annual, an unconventional journal

designed 'to give expression to thoughts and ideas which the Editor believes will contribute to social advancement'; and the letters of persons with whom I have corresponded.

"I take as my text, that smoke from engine stacks is almost always due to unintelligent stoking or insufficiency of boiler power.

"Mr. H. E. Fletcher says 'It may with confidence be asserted that consumers of coal in almost all kinds of furnaces have it now in their power to conform with the requirements of the Public Health Act and prevent the discharge of black smoke from their chimneys.'

"Messrs. Crossfields, Warrington, 'have 23 boilers fitted with Vicars' Stoking Cokers . . . they achieve smokelessness nearly all the time, and save a thousand tons of coal per week, or £25,000 a year, compared with their unregenerate days . . . they have a special way of setting their boilers so that the gases travel the length of the boiler three times and then through the super-heating chamber twice before they pass up the chimney.'

"Messrs. Bibby, Liverpool, say that 'with eleven boilers fitted with Vicars' Mechanical Stokers, induced draught and other appliances . . . they have effected a saving of 140 tons of coal a week, although doing more work . . . the cost of labour in feeding the boilers, superintendence, and upkeep has been reduced fully £20 a week' . . . which, with further savings . . . 'figures out at about £5,000 a year.'

"At the Birmingham General Hospital 'Vicars' furnaces are in use, giving quite satisfactory freedom from smoke,' . . . 'and £400 was saved in the first year.'

"Messrs. Vickers, Son, & Maxim, Barrow, 'save 10 per cent. on their coal bill, and at the same time gain 40 per cent. of power' by the use of electrical power.

"'In the Denaby and Cadeby Collieries two boilers suffice for what formerly took six.'

"'Devices which introduce a strong draught of hot air into the furnace all the time' are more thorough—Hinchcliffe's Patent, and as at Mr. Marshall's, Oldham.

“ ‘ Hot air blasts are particularly useful where poor coal is burnt ’—as for instance, here.

“ It is estimated that the cost of smoke and fog in large towns represents £1 per head per year.

“ ‘ Fogs are more rapidly formed and more persistently maintained in the presence of coal smoke than in ordinary country air.’

“ After fog in industrial towns there is always an increase in the number of throat and lung affections, and ‘ a large part of the illness and death is caused by the soot passing into the breathing tubes and producing bronchitis; the delicate membranes of the lungs become clogged and inflamed with sticky soot, and so become diseased.’

“ ‘ Authorities agree that to obtain the best boiler duty and to avoid smoke the fuel should be fed on to the front of fire in small charges frequently, and the fire pushed back preparatory to stoking. This is turning the man into a coking stoker, and is a very hot task and a very hard one. We go on, therefore, by a natural transition to the more drastic machinery by which the firing is done by hands of iron, and the furnace door kept shut.’ ”

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.

The Medical Officer of Health of Uttoxeter Rural District again calls his Authority's attention to the fact that a mortuary is needed.

BYE-LAWS.

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.

The Medical Officer of Health of Sedgley writes:—
“ I repeat my remarks in last year's report. During 1907 the drafting of bye-laws suitable for this district was at last taken in hand, and these, I hope, will soon be completed and sanctioned in the usual legal way. Once this is done, arrangements can be completed for the inspection of new buildings, which has hitherto been overlooked. Many new houses are defective when completed, no certificate of fitness for occupation has been required, defects soon become evident, and statutory notices are served on owners which cause needless annoyance and expense in many cases owing to lack of knowledge of the Council's requirements. Our district, like others, also suffers from builders whose work needs constant supervision. In the near future many new houses will be erected in this district, as Baggeridge Colliery will employ a large number of men, and is nearing the stage of complete working order. To ensure such new houses being in a healthy condition and for other obvious reasons, an 'up-to-date' set of bye-laws is urgently required.”

The Medical Officer of Health of the Borough of Stoke-on-Trent writes:—“ Bye-laws for the prevention of nuisances are needed, and especially those regulating the storage and removal of manure, and the keeping of animals.”

The Medical Officer of Health of the Borough of Tamworth points out that the bye-laws now in force require revision.

The same Medical Officer of Health, in his report to the Tamworth Rural District Council, writes:—“ The draft form of bye-laws as approved by your Committee has been submitted to the Local Government Board, and also the draft form of bye-laws for dealing with the drainage of existing buildings, so that in all cases proper supervision can be exercised.”

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.

With reference to the Public Health Acts Amendment Act, 1907, the Medical Officer of Health of Brierley Hill writes :—" The Council have not adopted this Act. It may be adopted in whole or in part. I think it is a very useful Act, especially Part III. and IV. From my experience in another district of the vexatious difficulties in getting privies converted into water-closets, I think the facilities offered by this Act will be extremely useful when the sewerage scheme is completed. It contains many other advantages also, and I hope the Council will seriously consider the advisability of adopting it."

The Medical Officer of Health of Tamworth Rural District writes :—" Your Committee also considered the provisions of the Public Health Acts Amendment Act, 1907, and have made application for certain portions to be adopted by your Council for the district, and no further development has since taken place."

GEO. REID,

Stafford,

County Medical Officer of Health.

September, 1909.

General Mortality Tables.

**Tables shewing the result of working of
the Notification Act.**

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.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Amblecote ..	3128	3329	5.0	24.6	13.2	146	2.40	..	..	0.30	0.30	..	..	..	..	..	1.80	0.30	0.30	2.40	0.90	..	0.30	0.30	0.60	Alcoholism, Cirrhosis of Liver.	Other Diseases of Respiratory Organs.	Pleurisy.	Pneumonia.	Phthisis.	Cancer, Malignant Disease.	Bronchitis.	..	0.90	2.40	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.

Deaths occurring during the year 1908, classified according to Diseases, Ages, and Localities, together with Births registered during the year.

URBAN.

DISTRICT.	Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Registered Births	Deaths from all causes.	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 and Membranous Croup.	Croup.	Fevers.			Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer. Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism.	Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
			Enteric.	Other Continued.	Typhus.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Amblecote ..	82	54	12 10	1	17 14	1	17 14	65 and upwards.	..	..	1	1	..	..	..	..	..	..	..	6	..	..	..	..	1	1	1	8	3	..	1	..	2	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

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										Phthisis.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Premature Birth.
	Census, 1901.	Estimated to middle of 1908.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Fevers.				Diarrhoea.								

† Excluding Public Institutions.

URBAN—continued.

District.	Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																																
	Registered Births.	Deaths from all causes.	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 and Membranous Croup.	Croup.	Fevers.			Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer. Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism.	Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.
			Typhus.	Enteric.	Other Continued.	Croup.	Typhus.	Enteric.							Other Continued.																								
Heath Town..	381	163	55	21	6	7	38	36	..	1	..	9	3	..	..	..	..	4	3	4	..	2	10	2	2	18	20	..	1	..	..	6	1	10	6	..	53		
Kidsgrove....	290	125	32	11	4	6	38	34	..	..	2	..	5	1	..	..	..	..	3	..	..	7	6	4	12	4	..	..	..	..	11	1	8	6	..	52			
Leek	367	269	52	25	11	13	86	82	..	3	2	3	1	..	6	..	2	1	9	..	1	29	2	2	9	18	11	1	2	..	..	7	1	50	1	..	110		
Lichfield.....	215	105	12	4	3	..	43	43	..	..	..	2	..	..	..	..	2	..	2	..	2	9	2	2	9	6	2	..	..	4	1	5	1	15	4	..	40		
Longton	1340	726	246	82	17	23	244	114	..	11	3	5	3	..	4	..	10	74	21	1	1	54	19	24	124	23	1	33	6	4	23	2	50	13	2	215			
Newcastle....	611	335	92	29	12	9	101	92	..	..	..	11	..	..	1	..	10	19	6	..	..	20	5	10	41	9	..	18	3	1	15	2	32	3	1	128			
Perry Barr....	82	61	11	3	4	6	35	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	2	..	1	..	..	2	..	3	31	2	14			
Quarry Bank..	259	96	23	19	5	2	25	22	..	2	..	3	3	..	..	..	2	2	3	..	..	9	4	4	6	10	7	..	..	1	..	5	1	2	1	..	35		
Rowley Regis.	1236	520	138	69	26	20	129	138	..	..	14	14	3	1	4	..	7	11	4	..	..	25	20	27	49	40	2	1	5	..	..	24	..	27	18	4	220		
Rugeley	127	60	13	2	4	3	23	15	..	..	..	..	1	..	..	..	..	1	8	..	..	3	3	6	4	1	..	..	..	1	..	..	7	..	2	23			
Sedgley	509	252	75	23	7	9	71	68	..	5	..	5	5	..	3	..	8	2	5	..	1	11	7	11	18	46	..	1	1	..	10	3	15	11	2	82			
Short Heath..	152	62	21	9	3	1	13	15	..	..	..	3	..	1	..	..	..	1	1	..	..	4	4	4	3	11	4	..	..	..	2	1	4	1	..	22			
Smallthorne..	507	199	83	30	9	6	44	27	..	3	..	4	2	1	1	..	2	9	4	1	..	10	9	5	16	18	2	2	2	1	1	10	2	8	3	1	84		
Stafford	587	343	73	21	13	9	139	88	..	..	..	..	..	..	1	..	..	5	..	..	1	38	12	19	19	16	..	4	5	..	12	5	38	4	4	160			

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 1908.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and 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.
Stoke-on-Trent {	30458	36172	19.7	30.1	13.9	133	1.24	..	0.41	..	0.27	0.13	..	0.11	..	0.30	0.71	0.22	1.21	0.99	0.05	0.05	0.24	0.63
Stone	5680	5720	5.3	25.1	13.1	97	0.69	..	..	0.52	..	..	..	..	..	0.17	1.57	0.52	1.74	..	..	..	0.17	0.17
Tamworth....	7271	7747	27.1	30.2	13.5	89	0.90	..	0.25	0.12	..	0.12	..	..	..	0.38	1.16	0.64	1.80	0.77	..	..	0.25	0.12
Tettenhall....	5337	5516	4.5	23.0	11.6	133	0.18	..	..	..	..	..	..	..	..	0.18	0.54	0.72	1.03	1.26	..	..	..	0.36
Tipton	30543	33000	15.2	34.8	14.3	119	1.60	..	..	0.09	0.45	0.03	..	0.21	..	0.81	0.45	0.45	1.81	0.69	..	..	0.09	0.66
Tunstall	24250	28600	16.3	33.6	18.8	209	1.85	..	0.03	0.03	0.03	0.52	..	0.24	..	0.98	0.87	0.55	1.88	1.46	..	..	0.06	0.45
Uttoxeter	5133	5425	5.2	29.3	15.3	69	1.10	..	0.36	..	..	..	..	..	..	0.73	1.29	0.73	1.10	0.55	..	0.36	0.73	0.18
Wednesbury..	26554	27000	11.8	33.1	15.2	143	1.85	..	..	0.22	0.29	0.14	..	0.03	..	1.14	0.77	0.81	1.88	1.00	..	..	0.03	0.66
Wednesfield ..	4883	6188	2.4	34.2	16.1	136	2.10	..	1.13	..	..	0.80	..	..	..	0.16	0.48	0.80	0.96	1.93	..	0.16	..	0.48
Willenhall....	18515	19684	15.7	29.2	16.6	159	1.32	..	0.05	0.20	0.25	0.35	..	0.05	..	0.40	1.27	0.86	1.72	0.86	..	0.10	0.25	0.60
Wolstanton } United }	22645	28855	5.2	29.9	12.3	126	1.10	..	..	..	0.06	0.17	..	0.13	..	0.72	0.55	0.45	1.69	0.79	0.03	0.10	0.06	0.65
Totals and Averages. }	627964	699745	7.5	31.4	15.0	139	1.49	..	0.15	0.09	0.26	0.17	..	0.09	..	*0.73	0.37	0.63	1.63	0.92	0.02	0.19	0.15	0.63
76 large towns in England, average population.	..	213618	†	26.9	14.9	129	1.59	..	0.31	0.10	0.29	0.16	..	0.08	..	0.65	†	†	†	†	†	†	†	†

* Including 17 deaths from Enteritis. † Not given in Registrar General's Returns.

URBAN—continued.

Deaths from all causes at subjoined ages.

Deaths from subjoined causes.

DISTRICT.	Registered Births.	Deaths from all causes.						Deaths from subjoined ages.																		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 and Membranous Croup.	Croup.	Typhus.	Enteric.	Other Continued.	Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	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.	All other Causes.
Stoke-on-Trent	1089	145	53	16	22	160	108	..	15	..	10	5	..	..	4	..	7	11	12	1	44	36	2	26	26	8	44	36	2	2	9	2	23	1	19	8	4	229
Stone	144	14	6	3	2	24	26	..	..	..	3	..	..	..	..	..	..	1	1	..	10	1	..	3	3	3	10	1	..	..	1	..	12	..	1	..	1	30
Tamworth....	234	21	11	5	3	32	33	..	2	1	..	1	..	..	..	..	1	3	5	..	..	..	9	3	3	14	6	..	..	..	2	..	1	..	14	3	2	33
Tettenhall....	127	17	6	3	..	17	21	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	3	2	4	6	7	..	..	..	..	3	2	5	..	..	..	28
Tipton.....	1150	137	72	20	18	125	103	..	..	3	15	1	1	..	7	..	3	27	20	1	60	23	..	15	18	15	60	23	..	..	3	..	22	2	44	11	1	179
Tunstall.....	963	202	54	18	18	132	114	..	1	1	1	15	2	..	7	..	4	25	3	..	54	42	..	25	26	16	54	42	..	..	2	..	13	7	42	13	..	238
Uttoxeter	159	11	8	4	6	26	28	..	2	..	..	..	..	..	..	..	..	2	2	..	6	3	..	7	3	4	6	3	..	2	4	..	1	9	1	1	36	
Wednesbury..	894	128	52	8	11	114	99	..	..	6	8	4	..	..	1	..	8	31	8	1	51	27	..	21	10	22	51	27	..	..	1	7	18	..	22	5	1	159
Wednesfield..	212	29	5	3	3	25	35	..	..	..	7	5	..	..	..	..	4	1	2	..	6	12	..	3	2	5	6	12	..	1	..	..	3	2	11	3	..	33
Willenhall....	576	92	40	11	15	90	79	..	1	4	5	7	3	..	1	..	9	8	6	..	34	17	..	25	13	17	34	17	..	2	5	1	12	3	14	3	2	135
Wolstanton } United ... }	863	109	30	20	10	104	83	..	..	..	2	5	..	4	..	6	21	8	..	..	49	23	1	16	11	13	49	23	1	3	2	1	19	1	34	6	..	131
Totals.....	21999	3069	1201	392	361	3093	2412	..	18	63	180	122	19	..	65	..	177	496	193	444	1144	648	1513	613	336	444	1144	648	1513	106	32	440	53	770	262	49	4033	

RURAL.

District.	Population at all ages.		Mean area per person 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 1908.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Fevers.				Diarrhoea.							
Blore Heath...	2141	2087	6.5	22.0	10.0	65	Nil.	..	..	..	..	..	..	..	..	..	..	0.47	..	0.95	..	..	..	..
Cannock.....	17861	19675	2.6	27.7	12.6	108	0.45	..	0.15	0.05	0.10	0.05	..	..	..	0.10	0.91	0.71	1.42	0.81	0.05	0.20	0.86	
Cheadle.....	24657	24657	2.1	29.1	12.5	83	0.60	..	0.20	0.04	0.04	0.08	..	..	..	0.24	1.25	0.81	0.85	0.60	..	0.08	0.44	
Eccleshall....	5594	5620	5.8	20.8	15.1	85	0.88	..	0.53	..	0.17	0.17	..	..	..	..	1.06	1.60	0.35	0.88	0.17	0.35	0.35	
Gnosall.....	4697	4700	5.5	23.8	14.2	80	Nil.	..	..	..	..	..	..	..	..	..	1.48	1.48	0.42	0.42	0.42	..	1.06	
Kingswinford.	19536	19990	0.2	31.1	15.1	128	1.05	..	0.05	0.05	0.40	0.05	..	0.05	..	0.45	0.80	0.50	2.45	0.65	0.05	0.30	0.55	
Leek.....	14406	14272	4.8	29.2	13.7	124	0.98	..	..	0.21	0.49	0.14	..	0.07	..	0.07	0.35	0.91	1.05	0.77	..	..	0.84	
Lichfield.....	*25688	*26381	2.3	26.1	13.0	85	1.09	..	0.64	0.07	0.11	0.11	..	..	..	0.15	0.68	0.94	0.87	0.49	0.03	0.07	0.68	
Mayfield.....	4054	4150	5.8	20.0	14.2	120	Nil.	..	..	..	..	..	..	..	..	..	0.96	1.20	0.48	1.44	..	..	..	
Newcastle....	6513	6957	2.8	23.5	10.9	97	0.71	..	..	0.14	0.14	..	..	0.14	..	0.28	0.23	0.57	1.58	0.43	..	..	0.43	

* Not including 1000 Inmates of Burntwood Asylum.

RURAL—continued.

District.	Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																															
	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 and Membranous Croup.	Croup.	Fevers.			Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer. Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs	Alcoholism.	Cirrhosis of Liver.	Venereal Diseases	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.	
													Typhus.	Enteric.	Other Continued.																							
Blore Heath..	3	2	..	2	6	8	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	3	2	..	12		
Cannock.....	59	23	7	6	72	81	..	3	1	2	1	..	..	..	4	2	2	1	1	..	18	6	14	28	16	..	..	..	..	4	..	..	17	..	22	9	3	93
Cheadle.....	60	17	11	12	103	107	..	5	1	1	2	..	..	..	13	6	4	..	..	31	4	20	21	15	..	..	..	..	..	2	..	..	11	1	45	13	..	115
Eccleshall....	10	4	3	2	25	41	..	3	..	1	1	..	..	..	7	..	..	..	..	6	3	9	2	5	..	..	..	2	..	2	..	..	..	10	4	1	28	
Gnosall	9	2	1	4	17	34	..	..	..	..	..	..	..	..	3	..	..	1	..	7	..	7	7	2	..	..	5	1	..	..	..	5	1	4	4	1	23	
Kingswinford.	80	21	4	16	93	88	..	1	1	8	1	..	..	1	..	..	9	2	1	3	..	16	4	10	49	13	1	..	..	6	..	11	7	32	8	5	113	
Leek	52	13	6	10	55	60	..	...	3	7	2	..	..	1	..	4	1	4	..	..	5	11	13	15	11	..	..	..	..	..	..	12	8	30	4	2	63	
Lichfield.....	59	33	14	18	86	133	..	17	2	3	3	..	..	..	7	4	11	2	..	18	6	25	23	13	13	1	1	1	2	1	18	..	45	20	3	118		
Mayfield.....	10	1	..	2	21	25	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	5	2	6	..	..	..	..	..	..	..	4	11	2	..	25		
Newcastle....	16	7	4	3	18	28	..	..	1	1	..	..	..	1	..	..	2	..	..	2	..	..	..	3	..	..	..	..	..	..	..	6	11	4	..	27		
Seisdon	28	12	15	7	58	73	..	1	1	4	6	1	..	..	2	2	3	..	..	12	4	18	17	7	7	1	..	2	..	2	..	22	1	2	82			

RURAL—continued.

DISTRICT.	Population at all ages.		Mean area per person 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.										Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Premature Birth.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Census, 1901.	Estimated to middle of 1908.						Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Fevers.				Diarrhoea.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

RURAL—continued.

DISTRICT.	Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																																
	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Registered Births.	Deaths from all causes.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fevers.			Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer. Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism.	Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.
															Typhus.	Enteric.	Other Continued.																						
Stafford.....	19	2	4	7	45	63	247	140	..	..	..	1	2	..	..	..	..	..	..	..	2	..	..	5	10	7	7	7	7	..	..	..	4	..	18	3	1	73	
Stoke-on-Trent }	7	10	4	3	14	13	144	51	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	5	1	3	1	9	3	..	1	..	8	3	1	15			
Stone.....	27	7	6	4	26	50	219	120	..	1	..	3	2	..	..	..	..	6	..	..	..	..	..	2	2	4	5	9	2	3	..	..	1	19	2	3	55		
Tamworth } Staffs. portion }	15	5	..	4	22	28	130	74	..	4	..	..	..	..	..	..	..	1	..	..	..	1	..	9	4	1	7	5	3	1	1	1	9	3	1	25			
Tutbury.....	24	11	4	3	32	45	230	119	..	1	1	2	1	..	..	..	..	..	1	3	..	..	..	7	3	10	6	6	3	1	2	2	..	4	1	16	3	1	51
Uttoxeter.....	13	7	2	5	24	46	168	97	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	1	1	10	10	8	..	1	2	2	..	4	..	12	3	1	42
Walsall.....	38	11	6	6	37	42	359	140	..	..	1	2	1	..	..	..	..	5	2	..	..	..	8	5	5	13	12	9	..	1	2	..	9	..	19	9	..	46	
Totals.....	529	183	91	114	754	965	5369	2641	..	37	13	36	22	1	..	3	..	48	32	34	5	6	..	156	64	166	224	149	3	8	25	1114	30	336	97	25	1006		

INFANTILE MORTALITY DURING THE YEAR 1908.

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.
Common Infectious Diseases.	Small-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
	Measles ..	..	..	..	1	..	..	..	1	..	1	3	3	5	6	5	4	29
	Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
	Diphtheria : Croup ..	..	..	..	..	..	1	..	..	..	..	1	..	1	2	1	1	7
Diarrhoeal Diseases.	Whooping Cough ..	..	..	..	3	4	8	4	7	11	6	5	8	3	8	5	8	84
	Diarrhoea, all forms ..	..	2	6	8	16	44	52	44	35	47	25	30	28	21	14	10	367
	Enteritis, Muco-enteritis, Gastro-Enteritis ..	1	5	4	8	18	8	21	13	15	14	6	6	9	7	2	4	123
	Gastritis, Gastro-intestinal Catarrh ..	1	..	2	2	5	11	10	4	7	1	3	3	1	2	1	1	49
	Premature Birth ..	330	39	32	14	415	12	7	..	1	..	..	..	..	..	..	..	438
Wasting Diseases.	Congenital Defects ..	77	18	27	10	132	16	6	4	2	4	1	1	2	..	..	..	168
	Injury at Birth ..	12	..	1	..	13	..	..	..	1	..	..	..	..	..	..	..	14
	Want of Breast-milk—Starvation ..	..	1	..	1	2	2	2	..	1	..	2	1	..	..	1	..	11
	Atrophy, Debility, Marasmus ..	117	24	45	24	210	88	60	46	42	30	17	20	11	8	10	11	553

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 Tuberculous Peritonitis : Tabes Mesenterica Other Tuberculous Diseases	..	..	..	1	1	2	1	4	..	7	4	4	3	2	8	4	40
	..	..	..	..	2	..	..	8	5	9	..	1	4	5	2	3	49
	..	..	1	1	3	3	4	9	4	5	4	3	8	3	2	1	51
Erysipelas	..	..	..	2	2	..	..	..	..	..	..	..	1	..	..	..	3
Syphillis	..	2	1	3	8	14	2	2	2	1	1	1	1	..	..	1	33
Rickets	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	3
Meningitis (not Tuberculous)	..	..	..	1	1	2	5	6	8	8	8	7	5	4	7	2	66
Convulsions	..	10	15	9	72	42	34	45	18	21	11	12	13	8	3	7	286
Bronchitis	..	5	11	14	30	41	34	29	24	20	16	22	15	23	9	21	286
Laryngitis	..	..	..	..	..	1	1	..	..	..	1	..	..	1	..	..	4
Pneumonia	..	1	1	3	6	19	16	13	5	16	17	14	17	15	19	16	179
Suffocation, overlaying	..	..	2	2	6	9	7	2	4	1	..	1	..	..	2	..	32
Other Causes	..	11	14	9	80	13	11	14	15	8	9	12	9	5	6	10	197
*Totals	629	119	162	116	1026	342	282	251	201	200	134	149	136	121	101	104	†3076

* 29 deaths under one year which occurred in Heath Town not included in the weeks and months classification.

† Including six deaths registered in Newcastle Borough and one death registered in Tunstall Urban not belonging to the respective districts.

INFANTILE MORTALITY DURING THE YEAR 1908.

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 ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ...	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
	Measles ...	..	..	..	..	..	..	..	..	..	..	1	..	2	2	1	2	8
	Scarlet Fever ...	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	3
	Diphtheria : Croup	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Diarrhoeal Diseases.	Whooping Cough	..	..	..	..	..	2	3	5	2	..	..	5	1	2	1	1	22
	Diarrhoea, all forms	..	..	..	..	..	6	3	1	4	..	1	..	..	..	..	2	17
	Enteritis, Muco-Enteritis, Gastro-Enteritis	..	..	..	3	3	4	2	2	..	2	1	1	..	2	..	1	18
	Gastritis, Gastro-intestinal Catarrh...	..	..	..	1	..	..	1	1	..	1	..	1	..	..	..	1	6
	Premature Birth...	67	13	9	8	97	7	1	1	2	..	..	..	1	..	..	..	109
Wasting Diseases.	Congenital Defects	19	7	8	..	34	2	..	..	1	..	2	..	..	..	..	..	39
	Injury at Birth ...	5	2	..	..	7	..	..	..	..	..	..	..	..	..	..	..	7
	Want of Breast-milk—Starvation	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
	Atrophy, Debility, Marasmus	20	11	12	9	52	9	7	9	9	3	2	3	2	1	..	1	98

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	2	..	3	1	1	1	..	..	..	9
	Tuberculous Peritonitis: Mesenterica	..	..	..	..	..	1	1	..	2	..	1	..	..	..	..	..	5
	Other Tuberculous Diseases	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	3
	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rickets ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis (not Tuberculous)	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	3
Convulsions	..	15	8	3	1	27	2	8	3	1	1	2	..	1	4	..	..	49
Bronchitis	..	..	1	4	..	5	11	5	7	2	2	7	4	3	1	..	5	52
Laryngitis	..	..	..	..	..	..	1	1	..	..	1	..	1	1	..	..	..	5
Pneumonia	..	..	..	..	..	..	5	3	3	2	2	..	4	4	1	1	2	27
Suffocation, overlaying	..	1	1	..	..	2	2	2	1	..	..	..	..	..	..	..	..	7
Other Causes	..	11	..	2	3	16	3	3	3	5	2	..	2	2	2	1	..	39
Totals ..		138	43	38	25	244	56	42	39	32	18	19	22	20	16	4	17	529

Table showing Result of the Working of the Compulsory Notification of Infectious Diseases Act

NOTE.—Cases of Measles and Whooping Cough are only given when these are included in the diseases compulsorily notified. Small-pox, Scarlet Fever, Diphtheria, and Fevers alone are included in the percentage calculation of hospital cases.

Hospitals exist in those districts against which an asterisk is placed.

URBAN.

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.	Measles.	Whooping Cough.
AMBLECOTE.* 3,329. 18/- 20·8	Cases	Under 5 5 & upwards	6 16	2									
	Deaths	Under 5 5 & upwards	1	..	..	..	..	..	..	..	..	..	1
	Cases treated in hos- pital	Under 5 5 & upwards	..	5									
AUDLEY.* 13,800. 10/6. 2·2.	Cases	Under 5 5 & upwards	..	4 18	8 14	..	..	..	1	..	13		
	Deaths	Under 5 5 & upwards	..	..	3 1	..	..	..	..	..	..	..	1
	Cases treated in hos- pital	Under 5 5 & upwards	..	1									
BIDDULPH.* 7,400. 10/1. 46·6	Cases	Under 5 5 & upwards	..	1 3	2 24								
	Deaths	Under 5 5 & upwards	..	..	1 2	..	..	..	..	..	..	7	
	Cases treated in hos- pital	Under 5 5 & upwards	..	..	14								

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.	Measles.	Whooping Cough.
BILSTON.* 25,000. 15/1 58·8.	Cases	Under 5 5 & upwards	..	29 79	12 6	..	10	..	..	..	..	3 12		
	Deaths	Under 5 5 & upwards	..	2 1	3	..	3	..	..	..	..	1 ..	5 ..	16 1
	Cases treated in hos- pital	Under 5 5 & upwards	..	80										
	Cases	Under 5 5 & upwards	..	16	12 27	..	7	..	..	1	..	1 24		
BRIERLEY HILL.* 13,000. 16/11. 1·6.	Deaths	Under 5 5 & upwards	..	..	6 1	..	1	..	..	..	..	..	1 ..	5
	Cases treated in hos- pital	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..		
	Cases	Under 5 5 & upwards	..	39	8	..	3	..	..	..	..	14		
	Deaths	Under 5 5 & upwards	..	3 1	1 ..	..	1	..	..	..	..	1 1	4 1	1
BROWNHILLS.* 17,654. 14/7. Nil.	Cases treated in hos- pital ..	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..		
	Cases	Under 5 5 & upwards	..	39	8	..	3	..	..	..	..	14		
	Deaths	Under 5 5 & upwards	..	3 1	1 ..	..	1	..	..	..	..	1 1	4 1	1
	Cases treated in hos- pital ..	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..		
BURSLEM.* 43,638. 13/8. 85·4.	Cases	Under 5 5 & upwards	..	45 100	21 40	..	19	..	..	4	..	1 8		
	Deaths	Under 5 5 & upwards	..	2 ..	2 7	..	9	..	..	1	..	3	2 ..	8
	Cases treated in hos- pital ..	Under 5 5 & upwards	..	129	49	..	15	..	..	..	..	..		
	Cases	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 Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
CANNOCK.* 26,000. 16/5 Nil.	Cases	Under 5 5 & upwards ..	48 69	2 10	.. ..	13 ..	.. ..	.. ..	8 ..	.. ..	1 20		
	Deaths	Under 5 5 & upwards ..	..	2 1	.. ..	1 ..	.. ..	.. ..	1 ..	.. ..	.. ..	8 1	4
	Cases treated in hos- pital	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards ..	16 24	5 6	.. ..	1 17	.. ..	.. ..	3 ..	.. ..	1 12		
COSELEY. 22,250. 9/6 Nil.	Deaths	Under 5 5 & upwards ..	3	2 1	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	2 ..	17	4
	Cases treated in hos- pital	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards ..	20 45	1 ..	.. ..	4 ..	.. ..	.. ..	4 ..	.. ..	2 11		
	Deaths	Under 5 5 & upwards ..	..	..	.. ..	.. ..	.. ..	.. ..	2 ..	.. ..	.. ..	..	8
DARLASTON.* 15,852. 13/8. Nil.	Cases treated in hos- pital	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards ..	26 68	16 26	.. ..	9 ..	.. ..	1 ..	1 ..	.. ..	1 8		
	Deaths	Under 5 5 & upwards ..	1	5 3	.. ..	4 ..	.. ..	.. ..	1 ..	.. ..	.. ..	8 1	2
	Cases treated in hos- pital	Under 5 5 & upwards ..	19	6	..	3	..	..	..	..	..	..	..
FENTON.* 26,518. 14/9. 19.1.	Cases	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	..
	Cases	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 Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
			Under 5 5 & upwards	102 318	22 73	.. ..	1 12	.. ..	.. ..	.. ..	.. ..	1 41	.. ..	.. ..
HANDSWORTH.* 70,518. £1 0s. 2d. 17·9	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	6 4	3 9	..	..	..	..	..	..	1 2	1 1	19
	Cases treated in hos- pital	Under 5 5 & upwards	..	95	..	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	10 19	3 2	..	3 3	..	..	2	..	9	..	..
HEATH TOWN.* 11,707. 10/8 61·5.	Deaths	Under 5 5 & upwards	..	..	3	..	..	..	..	..	..	..	1	9
	Cases treated in hos- pital	Under 5 5 & upwards	..	19	2	..	3	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	17	38	..	1	..	..	2	..	6	..	..
	Deaths	Under 5 5 & upwards	..	..	2 3	..	..	..	..	2	..	..	..	..
KIDSGROVE.* 9,196. 17/4. 16·0.	Cases treated in hos- pital	Under 5 5 & upwards	..	5	3	..	1	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	5 13	7 15	..	..	..	..	..	..	1 6	..	..
	Deaths	Under 5 5 & upwards	..	2	1	..	1	..	..	..	..	..	3	3
	Cases treated in hos- pital	Under 5 5 & upwards	..	17	18	..	9	..	..	..	..	..	..	..
LEEK.* 16,534. 8/7. 89·8.	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	2	1	..	1	..	..	..	..	..	3	3
	Cases treated in hos- pital	Under 5 5 & upwards	..	17	18	..	9	..	..	..	..	..	..	..
	Cases	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.	Measles.	Whooping Cough.
			Under 5 5 & upwards	.. 5 17	8	..	..	..	..	4	..	10		
LICHFIELD.* 7,902. £1 5s. 7d. 73·3	Cases†	Under 5 5 & upwards	..	5	8	..	..	..	..	4	..	10		
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	1	..	..	..	2
	Cases treated in hos- pital	Under 5 5 & upwards	..	14	8	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	25 76	5 39	.. 15	1 15	..	..	2	..	18		
LONGTON.* 38,082. 11/10. 59·0.	Deaths	Under 5 5 & upwards	..	1 2	2 1	..	4 4	..	..	1 1	..	..	11	5
	Cases treated in hos- pital	Under 5 5 & upwards	..	69	20	..	6	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	11	6	..	9	..	..	..	..	9		
	Deaths	Under 5 5 & upwards	..	..	..	..	1	..	..	..	..	..	..	11
NEWCASTLE.* 20,650. 4/2. 26·9	Cases treated in hos- pital	Under 5 5 & upwards	..	6	1	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	1	2	..	..	..	..	1	..	2		
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
PERRY BARR.* 2,370. 11/7. 12·5	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital	Under 5 5 & upwards	..	1	1	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..

† Chicken-pox, 37 Cases.

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.	Measles.	Whooping Cough.
QUARRY BANK.* 7,054. 9/6. 5·2.	Cases	Under 5 5 & upwards	..	3 10	3 2	..	1	..	..	..	..	8	..	..
	Deaths	Under 5 5 & upwards	..	..	3	..	..	..	..	..	..	..	2	3
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	..	..	..	1	..	..	..	..	..	..	..
ROWLEY REGIS.* 38,000. 16/8. 7·3.	Cases	Under 5 5 & upwards	..	30 91	8 26	..	1 26	..	..	..	..	5 17	..	..
	Deaths	Under 5 5 & upwards	..	10 4	2 1	..	.. 4	..	..	..	..	..	..	13 1
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	..	..	..	17	..	..	..	..	..	..	..
RUGELEY. 4,500. 5/-. Nil.	Cases	Under 5 5 & upwards	..	5	2	..	..	..	..	..	..	1	..	..
	Deaths	Under 5 5 & upwards	..	..	1	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital ..	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
SEDGLEY.* 16,100. 10/8. Nil.	Cases	Under 5 5 & upwards	{ ..	14	20	..	6	..	..	..	..	29	..	..
	Deaths	Under 5 5 & upwards	..	..	5	..	.. 3	..	..	..	..	..	5	5
	Cases treated in hos- pital	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	1	..	..

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.	Measles.	Whooping Cough.
SHORT HEATH.* 3,956. 8/10. Nil.	Cases	Under 5 5 & upwards ..	2 8	..	..	..	..	..	..	..	4		
	Deaths	Under 5 5 & upwards ..	..	..	..	..	..	..	..	..	..	..	3
	Cases treated in hos- pital	Under 5 5 & upwards ..											
	Cases	Under 5 5 & upwards ..	15 26	5 8	..	4	..	..	2	..	11		
SMALLTHORNE.** 12,791. 13/10. 65·5.	Deaths	Under 5 5 & upwards ..	..	2	..	..	..	..	..	..	..	3	3
	Cases treated in hos- pital	Under 5 5 & upwards ..											1
	Cases	Under 5 5 & upwards ..	29 5	6 3	..	3							
	Cases	Under 5 5 & upwards ..	26	..	..	3	..	..	2	..	12		
STAFFORD.* 23,562. 5/4. 83·7.	Deaths	Under 5 5 & upwards ..	..	..	..	1	..	..	..	..	1		
	Cases treated in hos- pital	Under 5 5 & upwards ..	30	1									
	Cases	Under 5 5 & upwards ..	15 27	15 36	..	28	..	..	4	..	18		
	Deaths	Under 5 5 & upwards ..	..	5	..	..	..	..	..	..	..	13	10
STOKE-ON-TRENT.* 36,172. 9/11. 60·6.	Cases treated in hos- pital	Under 5 5 & upwards ..	25	31	..	18						2	
	Cases	Under 5 5 & upwards ..											
	Cases	Under 5 5 & upwards ..											
	Cases	Under 5 5 & upwards ..											

** 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.	Measles.	Whooping Cough.
STONE.* 5,720. 5/8. Nil.	Cases	Under 5 5 & upwards	3	9	..	..	..	..	..	..	1		
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	3
	Cases treated in hos- pital	Under 5 5 & upwards											
	Cases	Under 5 5 & upwards	6 11	1 5	..	2	..	..	1	..	6		
TAMWORTH.* 7,747. 10/4. 88·0.	Deaths	Under 5 5 & upwards	1	1	..	..	..	..	..	..	..	2	
	Cases treated in hos- pital	Under 5 5 & upwards	16	4	..	2							
	Cases	Under 5 5 & upwards	5 14	1 2	..	..	..	..	..	..	1 4	3 1	
	Deaths	Under 5 5 & upwards											
TETTENHALL.* 5,516. 14/-. 63·6.	Cases treated in hos- pital	Under 5 5 & upwards	13	1									
	Cases	Under 5 5 & upwards	16 32	9 36	..	4 40	..	..	3	..	3 37		
	Deaths	Under 5 5 & upwards	3	1	..	7	..	..	1	..	4	13	2
	Cases treated in hos- pital	Under 5 5 & upwards	30	..	..	24							
TIPTON.* 33,000. 13/7. 39·4.	Cases	Under 5 5 & upwards											
	Deaths	Under 5 5 & upwards											
	Cases treated in hos- pital	Under 5 5 & upwards											
	Cases	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 Croup).	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
BLORE HEATH.* 2,087. 17/11. 40·0.	Cases	Under 5 5 & upwards	..	..	15									
	Deaths	Under 5 5 & upwards												
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	..	6									
	Cases	Under 5 5 & upwards	..	36 59	2 1	.. ..	5 ..	.. ..	.. ..	1 ..	.. ..	4 9		
CANNOCK.* 19,675. 14/10. 91·2.	Deaths	Under 5 5 & upwards	..	1 ..	1 ..	.. ..	.. ..	.. ..	.. ..	1 ..	.. ..	1 ..	3 ..	1 1
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	91	1	..	2							
	Cases	Under 5 5 & upwards	{ ..	55	33	..	21	..	..	..	..	14		
	Deaths	Under 5 5 & upwards	..	1	2	..	..	..	..	..	..	..	5 1	1
CHEADLE.* 24,657. 12/5. 57·8.	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	42	14	..	7							
	Cases	Under 5 5 & upwards	..	1 21	2 7	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1		
	Deaths	Under 5 5 & upwards	..	..	1	..	..	..	..	..	..	1 1	2 1	1 1
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	4	..	..	..	..	..	..	..	1		
ECCLESHALL.* 5,620. 14/8. 16·1.	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital	Under 5 5 & upwards	{ ..	4	..	..	..	..	..	..	..	1		
	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..

RURAL—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.	Measles.	Whooping Cough.
STOKE-ON-TRENT.* 4,275. £1 10s. 11d. 2·0.	Cases	Under 5 5 & upwards	..	1 8	2 34	..	5	..	1	..	..	2	..	..
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	1
	Cases treated in hos- pital	Under 5 5 & upwards	..	..	..	..	1	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	17	12	..	4	..	1	..	..	3	..	..
STONE.* 8,650. 10/8. 15·1.	Deaths	Under 5 5 & upwards	..	..	1 1	..	..	..	..	..	..	..	1 2	1
	Cases treated in hos- pital	Under 5 5 & upwards	..	5	..	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	1 1	1 2	..	..	..	..	..	..	4	..	..
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	3 1	..
TAMWORTH.* 4,826. 4/7. 40·0.	Cases treated in hos- pital	Under 5 5 & upwards	..	1 1	1 1	..	..	..	..	..	..	..	..	..
	Cases	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..
	Cases treated in hos- pital	Under 5 5 & upwards	..	1 1	1 1	..	..	..	..	..	..	..	..	..
TUTBURY.* 9,160. 10/4. 65·7.	Cases	Under 5 5 & upwards	..	8 17	1 12	..	..	..	..	..	..	..	..	..
	Deaths	Under 5 5 & upwards	..	1 1	1 1	..	..	..	..	..	..	..	1 2	..
	Cases treated in hos- pital	Under 5 5 & upwards	..	17	8	..	..	..	..	..	..	..	..	..
	Cases	Under 5 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.	Measles.	Whooping Cough.
UTTOXETER. 8,450. 15/11. Nil.	Cases	Under 5 5 & upwards ..	..	42	1	..	..	..	..	1	..	3		
	Deaths	Under 5 5 & upwards ..	..	1	..	..	..	..	..	1	..	..	1	
	Cases treated in hos- pital	Under 5 5 & upwards ..	}											
	Cases	Under 5 5 & upwards ..	..	15 33	6	..	2	..	..	..	..	4		
WALSALL. 11,166. 13/5. Nil.	Deaths	Under 5 5 & upwards ..	..	1	1	..	..	..	..	..	..	..	..	2
	Cases treated in hos- pital	Under 5 5 & upwards ..	}											

District, Population, &c.	Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Refuse and manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals im- properly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.
	Foul conditions	Structural defects.	Overcrowding.	Unit for habitation.										Detective Traps.	No discon- nection.	Other faults.							
AMBLECOTE (3,329).																							
Inspections and observations made																							
Defects found..	36	23	3	2	...	8	24	11	55	...	244	5	185	255	4	1	4	14	...	47	920		
Informal notices by inspector	5	5	1	1	...	...	4	...	3	...	39	4	8	21	1	9	1	...	...	15	113		
Formal notices by authority	1	1	1	1	...	...	...	...	...	...	66	...	2	23	...	4	8	1	...	12	120		
Nuisances abated after notice by inspector	19	19	1	1	...	...	4	...	4	...	59	4	8	18	1	9	1	...	1	21	151		
Ditto by authority ..	13	...	...	1	...	...	...	...	...	6	22	...	2	9	...	4	1	1	...	4	68		
AUDLEY (13,800).																							
Inspections and observations made																							
Defects found..	...	56	6	...	...	6	...	...	...	...	71	8	...	17	...	19	...	13	...	...	198		
Informal notices by inspector	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Formal notices by authority	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Nuisances abated after notice by inspector	...	...	6	...	...	6	...	...	...	...	71	...	...	17	...	19	...	13	...	...	132		
Ditto by authority ..	...	56	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56		
BIDDULPH (7,400).																							
Inspections and observations made																							
Defects found..	106	78	4	3	...	40	9	...	...	...	45	10	1	85	4	20	18	...	...	...	426		
Informal notices by inspector	...	...	3	...	...	20	...	...	...	...	13	10	1	47	...	2	5	...	...	...	101		
Formal notices by authority	...	...	1	3	...	5	...	...	...	...	...	...	...	9	4	...	...	...	...	...	22		
Nuisances abated after notice by inspector	...	...	3	...	...	20	...	...	...	...	13	10	1	47	...	2	5	...	...	...	101		
Ditto by authority ..	...	...	1	3	...	...	...	...	...	...	...	...	...	9	4	...	...	...	...	...	17		
Precutions against infectious disease.																							
Food and Drugs Act.																							
Unwholesome food.																							
Samples taken for analysis.																							
Number found adulterated, &c.																							
Proceedings taken.																							
Number of convictions.																							
Samples of water taken for analysis.																							
Samples of water condemned as unfit for use.																							
Lots of infected bedding disinfected or destroyed.																							
Houses disinfected after infectious disease.																							
Schools disinfected after infectious disease.																							
Prosecutions for not notifying existence of infectious disease.																							
Convictions for not notifying existence of infectious disease.																							
Prosecutions for exposure of infected persons or things.																							
Convictions for exposure of infected persons or things.																							

• Inspected quarterly.

[illegible]

[illegible]

URBAN—continued.

District. Population, &c.	Dwelling-houses and Schools.				House drainage.										Unwholesome food.			Food and Drugs Act.				Precautions against infectious disease.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Foul conditions	Structural defects.	Overcrowding.	Unit for habitation.	Lodging-houses.	Milkshops and dairies.	Cowsheds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse and manure.	Water-closets.	Defective Traps.	No disconnection.	Other faults.	Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	No. of Seizures.	Condemned by Magistrate.	Prosecutions for exposing for sale.	Convictions for exposing for sale.	Samples taken for analysis.	Number found adulterated, &c.	Proceedings taken.	Number of convictions.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding disinfected or destroyed.	Houses disinfected after infectious disease.	Schools disinfected after infectious disease.	Prosecutions for not notifying existence of infectious disease.	Convictions for not notifying existence of infectious disease.	Prosecutions for exposure of infected persons or things.	Convictions for exposure of infected persons or things.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
PERRY BARR (2,370).	Inspections and observations made	313 165 171	52	...	...	...	60	...	6	...	250	73	42 176 176	176 250	42	...	...	...	...	...	...	366 2319	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

URBAN—continued.

District. Population, &c.	Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse and manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals im- properly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Unwholesome food.				Food and Drugs Act.				Precautions against infectious disease.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Foul conditions	Structural defects.	Overcrowding.	Unit for habitation.										Defective traps.	No discon- nection.	Other faults.								No. of Seizures.	Condemned by Magistrate.	Prosecutions for exposing for sale.	Convictions for exposing for sale.	Samples taken for analysis.	&c.	Proceedings taken.	Number of convictions.	Samples of water taken for analysis.	Analysts.	Samples of water condemned as unfit for use.	Lots of infected bedding disinfected or destroyed.	Houses disinfected after infectious disease.	Schools disinfected after infectious disease.	Prosecutions for not notifying existence of infectious disease.	Convictions for not notifying existence of infectious disease.	Prosecutions for exposure of infected persons or things.	Convictions for exposure of infected persons or things.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
TIPTON (33,000).																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

* ‡ cwt. Conger Eel surrendered.

URBAN—continued.

District, Population, &c.	Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse and manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals im- properly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Unwholesome food.										Food and Drugs Act.					Precautions against infectious disease.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective traps.	No dissec- tion.	Other faults.								Condemned by Magistrate.	Prosecutions for exposing for sale.	Convictions for exposing for sale.	Samples taken for analysis.	Number found adulterated, &c.	Proceedings taken.	Number of convictions.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding disinfected or destroyed.	Houses disinfected after infectious disease.	Schools disinfected after infectious disease.	Prosecutions for not notifying existence of infectious disease.	Convictions for not notifying existence of infectious disease.	Prosecutions for exposure of infected persons or things.	Convictions for exposure of infected persons or things.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
WEDNESBURY (27,000).	Inspections and observations made	2610			62	100	50	54	341	10													3227																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

District. Population, &c.	Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse and manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.
	Poor conditions	Structural defects.	Overcrowding.	Unfit for habitation.										Traps.	No disconnection.	Other faults.							
ECLESHELL (5,620).																							
Inspections and observations made	2	2	2	2	2	62	9	6	19	43	...	...	...	...	...	...	...	...	...	...	...	...	143
Defects found.. ..	2	2	5	...	...	14	1	1	19	43	...	...	...	...	...	...	...	...	...	...	...	...	108
Informal notices by inspector	...	1	...	...	...	9	1	1	11	27	...	...	...	...	...	...	...	...	...	...	...	...	61
Formal notices by authority	2	1	5	...	...	5	...	...	8	16	...	...	...	...	...	...	...	...	...	...	...	...	47
Nuisances abated after notice by inspector	...	1	...	...	...	9	1	1	11	27	...	...	...	...	...	...	...	...	...	...	...	...	61
Ditto by authority	2	1	4	...	...	5	...	...	7	16	...	...	...	...	...	...	...	...	...	...	...	...	44
GNOSALL (4,700).																							
Inspections and observations made	2	6	2	...	...	2	63	2	7	26	21	3	...	...	...	143	135	4	...	6	...	...	422
Defects found.. ..	2	3	...	...	...	1	11	...	3	5	11	2	...	...	...	34	48	2	...	3	...	...	125
Informal notices by inspector	2	4	...	...	...	1	11	...	3	...	11	1	...	...	...	34	10	2	...	3	...	...	82
Formal notices by authority	1	1	...	...	...	...	2	...	1	5	1	2	...	...	...	6	28	1	...	...	...	...	48
Nuisances abated after notice by inspector	1	2	...	...	...	1	8	...	2	...	10	...	...	...	...	28	10	1	...	3	...	...	66
Ditto by authority	1	1	...	...	...	...	2	...	1	5	1	2	...	...	...	6	1	1	...	...	...	...	21
KINGSWINFORD (19,990).																							
Inspections and observations made	78	120	8	2	...	113	65	235	21	192	6	4	...	...	...	123	4	10	...	...	...	...	23
Defects found.. ..	200	219	8	23	...	31	8	3	7	201	6	6	...	...	...	179	4	19	...	...	...	...	19
Informal notices by inspector	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	120
Formal notices by authority	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	70
Nuisances abated after notice by inspector	114	104	7	...	...	28	8	3	7	152	6	4	...	...	...	128	1	17	...	...	...	...	19
Ditto by authority	81	61	1	23	...	...	...	...	...	...	18	...	...	...	...	21	2	2	...	...	...	...	209

*Several parcels of fish and fruit have been surrendered by owners in addition.

[illegible]

RURAL—continued.

District, Population, &c.	Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheeds.	Bakehouses.	Slaughterhouses.	Canal Boats.	Ashpits and Privies.	Dumps of refuse and manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.
	Foul conditions.	Structural defects.	Overcrowding.	Unit for habitation.										Defective traps.	No disconnection.	Other faults.							
TUTBURY (9,160).	3	26	2	..	..	86	8	13	..	1450	6	46	135	133	175	169	52	..	..	..	..	..	2304
	3	26	2	..	..	2	..	3	..	166	6	..	135	133	175	21	3	..	..	..	..	..	675
	3	26	1	..	..	2	..	3	..	109	6	..	81	20	84	21	3	..	..	..	..	..	359
	..	..	1	..	..	..	..	..	..	24	..	..	..	..	9	..	..	..	..	..	..	..	34
	3	26	1	..	..	2	..	3	..	94	6	..	81	20	79	21	3	..	..	..	..	..	339
	..	..	1	..	..	..	..	..	..	24	..	..	..	..	9	..	..	..	..	..	..	..	34
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*UTTOXETER (8,450).	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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WALSALL (11,166).	22	18	9	..	..	29	55	21	25	224	715	14	37	22	1	16	2	13	..	..	10	23	1256
	..	11	10	9	..	1	9	4	3	1	194	11	19	13	1	10	2	9	..	..	5	19	331
	..	7	8	9	..	1	9	4	3	1	63	6	9	7	1	7	2	6	..	..	5	11	159
	..	..	..	..	..	..	..	..	..	..	3	..	2	4	..	3	2	6	..	..	5	11	45
	11	10	9	..	..	1	4	2	3	1	194	11	19	13	1	10	2	9	..	..	5	17	322
	..	..	5	..	..	..	..	..	..	..	2	..	2	..	..	7	2	..	..	..	..	11	29
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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* Eight months. † Rooms.

