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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 1898.

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STAFFORDSHIRE COUNTY COUNCIL.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH,

Presented to the Council at the Quarterly Meeting, November 7th, 1899.

IN this, my tenth 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, as is done in some county reports.

Were it not for the fact that the Administrative County contains so many sanitary districts, the latter plan would possibly be the better, but to adopt it, under the circumstances, and, at the same time, give sufficient prominence to the more important features of each report under review, would necessitate needless repetition, many remarks being equally applicable to several districts.

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

The general tables of statistics correspond exactly with those of last year's Report.

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. There is still room, however, in some of the reports, for greater detail in the accounts given

of the various outbreaks of infectious disease. It is also desirable that corrections should in all cases be made in the statistics of those districts where large public institutions, such as General Hospitals and Union Workhouses, affect the returns to an extent which materially interferes with accurate deductions being drawn from the figures of the districts which contribute to the institutions in question; in many cases these corrections are made, but in a few they are not.

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 in public health work, more with the view of indicating the lines on which the Committee are proceeding than with the hope that such a condensed account can convey an adequate idea either of the work itself or the good which has attended it.

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 may point out that it embraces a period of twelve months, ending July, 1899, as the last summary covered the ground up to the end of July of the previous year. 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 1898 only.

The routine work under the Rivers Pollution Prevention Act has proceeded on former lines. The systematic work of inspecting existing sewage disposal works, and the collection of samples of sewage effluents, and river water at fixed points on streams, has been conducted almost uninterruptedly during the year. In all, 357 analyses have been made, compared with 210 the previous year. The samples analysed comprised the following:—Sewage effluents, 264; river water, 73; and special samples (well waters mostly), 20. The very large increase in the number of samples analysed is accounted for by the experimental sewage disposal work which has been conducted for the information of local authorities, and which has proved of the greatest value. It has been the custom to call the Committee's attention, at the time, to any irregularities which were noted in the management of sewage works, and the responsible Authorities in such cases were invariably communicated with.

To comment at all fully 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 report of this description. Still, it may be useful to refer, shortly, to the more important questions in this department of the Committee's work which have received attention.

In my last Annual Report, I referred to the fact that a detailed inspection had been made in North and South

Staffordshire, for the purpose of reviewing the work of the Sanitary Committee as regards rivers pollution. A similar inquiry has this year been conducted in Mid-Staffordshire, with satisfactory results as regards pushing on Authorities either to provide sewage disposal works or improve existing ones. The Mid-Staffordshire pollution report was presented to the Council by the Sanitary Committee at the quarterly meeting held in November, 1898. Meanwhile, the Sanitary Committee had been in communication with the various Authorities included in the report, most of whom are now taking steps to remedy the pollutions with which it deals, and, in my next Annual Report, I hope to be in a position to refer to substantial progress having been made as the result of the Committee's action.

As the outcome of previous action in the North and South of the county, it is satisfactory to be able to state that considerable work is now in progress, or has been completed, which will undoubtedly have the effect of at last bringing about an improvement in the polluted condition of the streams, an improvement which will be progressive, as other sewage works are constructed or re-constructed. In addition to improvements in existing works, several new sewage works have been established, and at the present time I am engaged in inspecting these, and in analytical work, in order to report to the Committee on the altered condition consequent upon the improvements which have been effected.

The Sanitary Committee have, this year, made an interesting new departure in visiting various sewage works within the county, and have thus been able to form a practical idea of the improved work which is now in progress. With this object, visits were paid to the sewage works at Burslem, Darlaston, Newcastle, and Wolverhampton (County Borough).

Deputations have also specially visited districts to confer with the District Councils on the question of improving their sewage disposal works.

In my last Annual Report I referred to a matter of very great importance, namely, the completion of the inquiry into

the pollution of the Tame, a question involving the disposal of the sewage of a population approaching 1,400,000. As the outcome of the action of the Joint Committee of the Sanitary Committee and the Corporation of Birmingham, the Birmingham Tame and Rea District Drainage Board gave an undertaking to carry out certain work which had been recommended by Professor Dewar and Mr. Hawksley, in conference with myself, and in my Report to the Sanitary Committee of June, 1899, I was pleased to be able to call attention to the satisfactory progress which had been made in carrying out the improvements agreed upon.

Another matter of great importance which is now again engaging the attention of the Sanitary Committee, and upon which I specially reported two years ago, is that of the disposal of acid waste from works in South Staffordshire. A most satisfactory conference has been held with the representatives of the local authorities, at which it was decided that such waste shall no longer be received in its crude state into streams or sewers. In order to arrive at an amicable understanding with manufacturers, the conference was adjourned to a date to be subsequently fixed, when the question may be considered, in conjunction with representatives of different manufacturers, in the hope that some reasonable solution of the difficulty may be arrived at.

As regards other work under this heading, besides numerous communications with Authorities, and consultations with their officers, 26 special reports have been presented to the Sanitary Committee during the year dealing with questions relating to rivers pollution; space, however, will not allow of more than an enumeration of the districts to which the reports in question had reference, as follows:—Burslem, Fenton, Hanley (C.B.), Lichfield, Newcastle, Oldbury, Stoke, Stone, Tunstall, Uttoxeter, and Willenhall Urban Districts; and Kingswinford, Lichfield, Mayfield, Uttoxeter, and Wolstanton Rural Districts. I also specially reported upon proposed improved sewage disposal works at Burntwood Asylum.

Local Government Board Inquiries with reference to sewage disposal, at which I was present, were held in the following districts during the year, namely :—Lichfield, Wolverhampton, and Street Hay in the Lichfield Rural District.

As regards the general work of the Sanitary Committee, much has been done during the year. Special reports have been presented dealing with important sanitary questions affecting Cannock, Coseley, Rowley Regis, Sedgley, Stoke, and Willenhall Urban Districts; and Gnosall, Leek, Stafford, and Stone Rural Districts.

Unfortunately, owing to legal difficulties in the administration of the Isolation Hospitals Act, 1893, concerning which the Council have been fully informed, I regret to say I cannot report any actual progress in the formation of hospital areas. Still, the question has not been lost sight of, and during the year I have had numerous consultations and attended many meetings of Authorities to explain the policy of the County Council, including Biddulph, Burslem, Fenton, Hanley, Longton, Stoke, Tamworth, and Tunstall Urban Districts; and Leek, Stoke, and Wolstanton Rural Districts. I am glad to be able to state that, as the outcome of these conferences and consultations, the views of Local Authorities have undergone a considerable change, and there is now a very general feeling throughout the County that the policy of the union of districts for isolation hospital purposes is a wise one.

It is to be hoped that an amending Act may be passed early next Session which will facilitate the carrying out of the Council's policy, as most of the Local Authorities are now fully prepared to deal with the question in a comprehensive and thorough manner.

In my last year's Report I referred to an important step which had been taken by the Sanitary Committee, with the approval of the Council, in coming to an arrangement with Mason College, Birmingham, by means of which any medical practitioner in the Administrative County may obtain, free of cost, an opinion as to the result of bacteriological investigation

regarding the nature of doubtful cases of diphtheria. This scheme has been started during the year under review, and has been in operation since October, 1898. Reference will be found later on in this Report as to how the scheme has been received by Local Authorities, and all I need say here is that 250 specimens of throat secretions have been forwarded to Mason College for report during the ten months the scheme has been in operation, with the result that a negative opinion was given in 123 cases, a positive opinion in 126 cases, and 1 case was doubtful.

In addition to the work shortly detailed above, I have been consulted by Medical Officers of Health and other officers of Local Authorities on 77 occasions, which exceeds the number of similar consultations last year by 30.

Before closing this short summary I would specially refer to two most important features of this year's district reports, namely, the continued efforts which are being made by many of the Urban Authorities to abolish privies and private wells 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, which is 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 private wells from surface contamination.

It is with the utmost satisfaction that, for the first time, I am now in a position to state that practically the whole of the reports of the Medical Officers of Health are printed. I say practically, because in the case of the new urban district of Amblecote the report has been presented in manuscript

form, but I have no doubt that the District Council will fall into line with others, especially in view of the fact that until lately the district formed part of the Kingswinford Rural District, whose Medical Officer of Health's report is printed. The significance of this will be apparent to the Council when I state that only 24 out of the 57 authorities in existence previous to the institution of the Council printed the reports of their Medical Officer of Health.

Summary of Reports with Comments.

Area and Population.

As regards the area of the County, I have no alteration to record this year, but, owing to the formation of the new urban district of Amblecote, formerly a portion of the Kingswinford Rural District, the joint populations of the urban and rural districts, respectively, require re-adjustment. The population included in the new urban district of Amblecote is estimated at 3,340, so that, by that amount, the total urban population of the Administrative County is increased at the expense of the rural population.

Also, it has been the practice, hitherto, to exclude the borough of Burton-on-Trent in dealing with the reports from the various districts in the Administrative County, because, although within the County, the reports of the Medical Officer of Health of that borough have not, until lately, been forwarded officially to the County Council. The reason of this was that the late Medical Officer of Health of Burton-on-Trent was appointed as a permanent official before the the year 1880, and the Local Government Act does not require that reports from such officers, so appointed previous to that year, shall be forwarded to the County Council. By the recent appointment of a new Medical Officer of Health of Burton-on-Trent, however, the County Council are now entitled to receive the reports from that district, and the inclusion of the district, which previously was disregarded in compiling this report, adds 51,664 to the total population of the urban districts in the Administrative County, that figure being the estimated population of Burton-on-Trent.

The estimated aggregate population of the Administrative County is shown in the following table, which also distinguishes the urban from the rural populations, and gives the comparative figures according to the 1891 census :—

	Census, 1891.	Estimated to middle of 1898.	Increase.	Decrease.
Urban	598,535	665,586	67,051	...
Rural	216,073	226,500	10,427	...
Total.....	814,608	892,086	77,478	...

As the figures for 1898 are merely estimated, and as so long a time has elapsed since the last census year, it is likely that they are open to considerable correction. Under existing circumstances this, unfortunately, cannot be avoided, and it is to be hoped that the pressure which is at present being brought to bear upon the Government will result in legislation which will provide for, at least, a modified census being taken at quinquennial intervals.

Births.

The mean birth-rates of the whole Administrative County, and of the urban and rural districts respectively, for the ten years 1889-98, are shown in the following table, in which corresponding rates for England and Wales, and for the large towns in England, taken from the Registrar-General's Returns, are included :—

DISTRICTS.	BIRTH-RATE PER 1000 OF POPULATION.									
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897 *	1898 †
Staffordshire — Combined Urban & Rural	33·5	32·7	35·7	35·1	35·7	34·3	35·1	34·2	33·5	34·0
Staffordshire — Urban	35·2	34·5	37·3	36·3	36·6	35·4	36·2	35·4	34·8	35·0
Staffordshire — Rural	29·5	28·6	31·6	32·2	33·3	31·6	32·0	31·2	30·3	31·1
England and Wales	31·1	30·2	31·4	30·5	30·8	29·6	30·3	29·7	29·7	29·4
Large Towns in England	30·9	30·4	32·5	31·8	31·8	30·6	31·2	31·2	30·6	30·2

* Excluding Brownhills.
† The figures for Burton-on-Trent are taken into account for 1898 only.

The relatively high birth-rate of Staffordshire, as compared with the rest of England, is undoubtedly to be accounted for, as I have explained in former Reports, by the large artisan population of the County, and the consequent predominance of young adults.

The urban and rural birth-rates are shown in the statistical tables at the end of this Report, and little need be said about them here, beyond pointing out that in seven instances in the case of urban districts—viz., Brownhills, Darlaston,

Fenton, Heath Town, Sedgley, Short Heath, and Tunstall—the rates reached or exceed 40 per 1,000 of the population. It will be noticed that in all these cases the populations are made up of artisans.

As regards Darlaston, the Medical Officer of Health points out that the rate is higher than in any year since 1892.

In Lichfield Rural District, the birth-rate is generally, for a rural district, exceptionally high, and although this year it amounted to no less than 31·9, the Medical Officer of Health points out that it was among the lowest on record, being lower than in any year since 1890.

Deaths.

The number of deaths registered in the Administrative County in 1898 amounted to 15,797.

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

DEATH-RATE PER 1000 OF POPULATION.

	Staffordshire.			England.		
	*General.	*Urban.	Rural.	General.	Large Towns.	Country Districts.†
1889 ...	18·0	18·9	15·4	17·9	19·2	16·5
1890 ...	19·8	20·0	16·3	19·5	21·6	17·5
1891 ...	19·9	20·7	18·1	20·2	22·4	18·5
1892 ...	18·8	19·2	17·9	19·0	20·6	18·1
1893 ...	18·6	19·5	16·3	19·2	21·5	17·4
1894 ...	16·2	16·5	15·4	16·6	18·0	15·6
1895 ...	18·5	19·1	16·9	18·7	20·5	17·0
1896 ...	17·2	18·0	15·2	17·1	19·2	15·3
1897 ...	17·8	18·6	15·7	17·4	19·1	15·8
1898 ‡...	17·7	18·4	15·5	17·6	18·3	16·0

† Certain proportion of Urban residents included.
* Excluding Brownhills in the case of the year 1897.
‡ The figures for Burton-on-Trent are taken into account for 1898 only.

It will be noticed that, with one exception, namely, 1894, the mean urban death-rate of the County nearly approaches the lowest recorded since the institution of the Council. I pointed out in my Report for 1894 that the exceedingly low rate that year was to be attributed chiefly to two causes, first, to the prevalence of influenza during the previous years, which had the effect of not only raising the standard of comparison, but also of greatly reducing the number of the aged and feeble, whose lives might otherwise have been prolonged to swell the death returns of the year in question; and, secondly, to the remarkable absence of summer diarrhœa, which is usually so fatal among infants.

As regards the rural districts of the County, it will be noticed that the death-rate is correspondingly low.

The death-rates in urban and rural districts, together with the figures upon which they are based, are shewn in the tables at the end of the Report. In the following table the figures are given for those urban districts in which the rates may be said to be very high, together with figures and remarks bearing on the influences that causes, preventable and more or less non-preventable, have had on the results. The districts are placed in order, in accordance with the death-rates, the highest being placed first.

DISTRICT.	Death-rate per 1000 of Population.	Population estimated to middle of 1898.	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 9 years.
						Measles.	Whooping Cough.	Diarrhœa.	Diseases of Respiratory Organs.	
Longton ..	**27·0**	36,069	18·0	5·71	Working class.	..	..	..	Slight.	23·8
Tunstall ..	**25·5**	16,807	20·2	6·18	,,	Very considerable.	..	..	Considerable.	22·7
Fenton	**23·8**	21,000	13·1	6·43	,,	Slight.	..	..	..	21·2
Bilston	**23·3**	23,500	12·5	5·06	,,	..	..	Considerable.	Considerable.	22·5
Heath Town	**22·0**	7,800	10·5	5·12	,,	..	Slight.	Very considerable.	Slight.	20·1
Darlaston ..	**21·9**	15,327	19·1	3·71	,,	..	..	Considerable.	..	22·9
Willenhall..	**21·3**	18,938	15·1	3·74	,,	..	Considerable.	..	Slight.	21·0
Tipton.....	**21·2**	30,000	11·1	5·20	,,	Very considerable.	..	..	..	19·3
Kidsgrove ..	**21·0**	4,269	3·9	1·17	,,	..	..	..	Very considerable.	17·6
Burslem ..	**20·7**	35,095	13·5	4·18	,,	..	..	Slight.	..	22·2
Newcastle..	**20·3**	20,100	30·8	4·22	,,	..	..	..	Considerable.	19·7
Brierley Hill	**20·2**	12,120	11·8	4·53	,	Considerable.	.	..	Considerable.	18·2

It will be noticed from the last column that all the districts included in this table, with the exception, possibly, of Kidsgrove and Brierley Hill, must be looked upon as high death-rate districts.

As regards Kidsgrove and Brierley Hill, it would be a mistake, owing to the small population in both cases, to base any conclusions upon one year's figures, and in the face of the fact that the mean rate in both these districts, particularly the former, over a series of years, is much lower than this year's rate, one may fairly conclude that what may be termed accidental circumstances explain the increase, and that in all probability it will prove to be temporary.

The Medical Officer of Health of Kidsgrove attributes the exceptionally high rate to an unusually larger mortality from infectious diseases and a large number of fatal accidents.

The Medical Officer of Health of Brierley Hill attributes the high rate to an epidemic of measles, which caused a mortality of 2·2, and to deaths from diseases of the respiratory organs incident upon influenza.

The Medical Officer of Health of Burton-on-Trent, where the low rate of 14·1 is returned, calls attention to a satisfactory decrease of 2·0 on the mean rate for the past 10 years.

In Quarry Bank, a higher rate is attributed by the Medical Officer of Health to the prevalence of diarrhœa, measles, and whooping cough.

In Sedgley, the rate of 16·0 is said to be the lowest recorded during the past 10 years, and is attributed by the Medical Officer of Health to the mild weather during the first and last quarters of the year.

In Tunstall, where the very high rate of 25·5 is recorded, the Medical Officer of Health attributes the excessive mortality to severe epidemics of measles and infantile diarrhœa.

In commenting upon the low rate of 10·0 in Wednesfield, the Medical Officer of Health mentions as a probable cause the "progressive improvement in the condition of the people consequent on a better state of trade in the district . . ."

In Stafford, where an increased rate is recorded, the Medical Officer of Health attributes it almost entirely to the large number of deaths which took place from measles and infantile diarrhœa.

Longton still maintains its unenviable position as having the highest death-rate of any district in the county, and this year it is even higher (27·0) than in any year of which I have records. In 1897 the rate was represented as being more favourable than it really was owing to an error in estimating the population for which, as is pointed out by the Medical Officer of Health in his report for 1898, the new rate collector was responsible. Owing to an erroneous return of inhabited houses, the population in 1897 was estimated at 39,104, whereas the estimate now given of the population up to the middle of 1898 only amounts to 36,069. The result of this is that the death-rate for 1897 should have been 25·1, in place of 23·5 as recorded in that year's report.

As regards rural districts, the Medical Officer of Health of Lichfield Rural District, where the rate was 13·9, states that it "compares very favourably with other records," and the Medical Officer of Health of Walsall Rural District, where the rate was 12·7, points out that it is the lowest ever recorded, the records extending back to 1882.

Infant Mortality.

The infant mortality in the urban districts of the County is still maintained at a lamentably high figure. Although this year's figures show an improvement on those of 1897, still, they are less favourable than the mean for the past ten years, and the tendency lately has been in the wrong direction, bad though the position was to start with, and in the face of considerable recent sanitary progress. This points to the conclusion that the remedy is largely a social as well as a sanitary one, although it by no means follows that the responsibility of local authorities as guardians of the public health is thereby lessened, the circumstance has the effect rather of widening the field over which search must be made for the remedies.

In the following table those districts are included which have an infant mortality rate of 200 and upwards, and it will be noticed that in no less than ten instances this enormous rate has been reached this year.

Deaths in children under one year per 1000 registered births.

	Bilston.	Burslem.	Darlaston.	Fenton.	Heath Town.	Longton.	Newcastle.	Tipton.	Tunstall.	Willenhall.	Urban Districts in County.	Large Towns in England.
1889	204	197	207	162	204	216	143	180	211	178	161	161
1890	182	217	191	192	200	231	157	167	220	156	176	171
1891	210	171	235	193	252	224	188	205	232	179	175	167
1892	219	189	215	186	221	231	156	164	198	189	174	163
1893	202	194	221	193	158	225	194	183	206	207	179	181
1894	175	190	174	251	143	238	150	161	173	223	163	152
1895	224	182	221	216	222	234	165	173	288	186	181	182
1896	181	216	183	196	171	235	200	183	194	187	171	167
1897	226	232	255	231	202	253	195	153	234	229	187	177
1898	228	200	229	211	201	274	213	208	232	207	181	178
Mean Rate.	205	199	213	203	197	236	176	177	219	194	174	170

It must not be supposed, because prominence is given in the above table to these towns which have exceptionally high infant death-rates, that, therefore, other towns have favourable records; this is far from being the case, as a glance at the sixth column of the death-rate table at the end of this Report will show.

In referring to the infant mortality of Bilston, the Medical Officer of Health, although not directly accusing insurance as being a possible factor in producing the high rate, gives certain figures from which such an inference might, possibly, be drawn. Of course the bearing of the prevailing practice of infant insurance upon the mortality among children has been frequently discussed, but I have never seen any statistical proof that child insurance does materially conduce to excessive mortality. To be of any

value, figures in support of such a theory should show not only the number of insured infants who died, but also the ratio which that number bears to the insured children who did not die. There are many difficulties in the way, however, of acquiring such information, the chief being that the practice of insuring children is common only among a certain class, and for that reason alone it would be impossible to obtain strictly, or even approximately, comparable figures.

The Medical Officer of Health of Burslem attributes a considerable share in the infant deaths to the prevalence of diarrhœa.

The Medical Officer of Health of Darlaston does not specially refer to the high infant mortality in that district, but in discussing the prevalence of autumnal diarrhœa, which he points out was very fatal among infants, he attributes the chief exciting cause to carelessness in infant feeding.

Under this heading the Medical Officer of Health of Fenton writes:—"I cannot help thinking that a knowledge of elementary physiology and hygiene should form an essential part of what should be acquired at school; ignorance as to the feeding of infants, as to the necessity for cleanliness, fresh air, light, etc., would no longer prevail, and this knowledge would, in my opinion, lead to a lessening of infant mortality."

The Medical Officer of Health of Heath Town does not specially refer to the infant death-rate in the district, but it will be seen from the table given above that the high rate of this year is by no means exceptional.

The Medical Officer of Health of Longton writes:—"One of my reasons for calling your attention to the insanitary condition of the Borough, and its high rate of mortality, especially the infantile, for which home management is to a great degree responsible (this would be very largely counteracted by healthier surroundings), is to give you to understand that unless you build an Infectious Disease Hospital, do some radical work to the drains, concrete building sites, watch the places where tipping is going on, so as to prevent odd loads of

decomposing matter being thrown in, sewers properly ventilated and flushed, and the whole of the night-soil properly disposed of, you must consider that you are only playing at sanitation, making matters on the surface to please the eye, but not to please the eye of intelligence—it cannot be pleased as long as it knows that the causes of epidemic disease, and the general bad health of the people, are merely not visible to the anatomical eye, but are existing under fostering circumstances, ready at short notice to send forth their forces to raid upon the health and lives of the Burgesses. However much you may do in street improvements—electric trams and other ways of making the town more presentable—if you neglect the above important matters, which I have for years brought to your notice at various times, in Committee and in my annual reports, you are highly responsible in the most important one of your various duties, as representatives of the Burgesses, for consequences of a very serious nature, and this, I am sure, as conscientious men, you do not desire."

In referring to the high infant mortality in the Borough of Newcastle, the Medical Officer of Health says:—"This evil appears to be growing, and it is not wholly accounted for by the presence of zymotic disease; other conditions exist, and it is to be hoped local authorities, assisted by Government, will be able in the future to devise some means by which this evil may be remedied."

Bearing upon this subject, I quote the following from the report of the Medical Officer of Health of Tipton, which is one of the districts in the high infant death-rate table:—"The lectures of Miss Whalley are good, sound, practical teaching, and are much appreciated by the few that attend them. I much regret that we cannot get the proper kind of people to attend. All are more or less of the better and more educated class; the poorer people will not come."

The Medical Officer of Health of Tunstall partly attributes the high infant death-rate of that town to the prevalence of measles and diarrhœa. As regards the latter he says:—"The deaths from diarrhœa were almost entirely among very young

children, and the mortality from this cause would be considerably diminished by better attention to the feeding and nursing of the children, while the prevalence of the disease itself might be abated by the entire abolition of the privy system, and the large accumulations of ashes and house refuse still to be seen in the yards of many of the houses."

The high infant death-rate of Willenhall is attributed largely to diarrhœa and to a very extensive epidemic of measles.

So much for the urban districts which appear this year in the high infant death-rate table. As regards other districts, where in many cases the rate was also very high, the following are a few extracts from the reports under review.

The Medical Officer of Health of Coseley again strongly recommends the authority to institute a course of free lectures to women on infant management.

The Medical Officer of Health of Handsworth writes as follows:—"In 1898, of the 180 children who died at ages below twelve months, it was found that 48, being born prematurely or dying shortly after birth, might be excluded from an inquiry as to the mode of feeding. Of the remaining 132, 17 only were fed at the breast, 97 were brought up by bottle, 9 had breast-milk and bottle, and in 8 cases the mode of feeding could not be ascertained, the parents not being found. Thus nearly three quarters (73 per cent.) of these 132 children who died from all causes were brought up by hand. Diarrhœal diseases caused the deaths of 2 breast-fed children, 54 hand-fed children and 2 who had breast-milk as well as bottle. Atrophy, &c., caused the death of no breast-fed child, but was the cause of the death of 12 hand-fed children, and of one child who had both breast and bottle."

A very useful leaflet is presented to every person in Handsworth who registers the birth of a child, setting forth in simple language instructions regarding the care and feeding of infants. For the information of other districts who may think well to follow Handsworth's example in this respect, I give the text of the leaflet in question as follows:—

"PLEASE TO KEEP THIS HANDBILL FOR FUTURE REFERENCE.

"URBAN DISTRICT OF HANDSWORTH (STAFFS.)

"HOW TO TAKE CARE OF YOUR BABY.

"WASHING AND CLOTHING.

"Clothe babies in warm loosely fitting clothes, avoiding exposure of the shoulders, arms, and legs. Wash them all over daily in warm water, in front of the fire in cold weather. Remove all wet napkins at once.

"AIR AND EXERCISE.

"Babies need plenty of fresh air. Take them out whenever the weather is fine. Ventilate all rooms, especially bedrooms, by opening the windows at least twice a day.

"SLEEP.

"Babies need plenty of sleep. Up to three years old they should sleep once or twice in the daytime, at fixed times. Nursing babies to sleep in the arms should be avoided. If possible the child should sleep by itself in a cot.

"FEEDING.

"FEEDING AT THE BREAST.—The natural food for a baby up to seven months from birth is the mother's milk. No other food whatever should be given if the mother have plenty of breast milk. For the first six weeks the child should have regular meals at the breast every two hours DURING THE DAYTIME, or ten to twelve meals per day. From six to twelve weeks the meal should be given every two hours and a half, or eight to nine meals per day; afterwards the meals should be given every three hours. To give the child the breast whenever it cries is wrong, and may merely increase its fretfulness.

"Between eleven at night and five in the morning, suckling the baby should be avoided. The baby will soon get used to sleeping all night. If the mother cannot suckle the baby for the whole seven months she should give the child the breast so long as she can.

"FEEDING BY BOTTLE.—If the baby be brought up 'by hand' pure unskimmed cow's milk ONLY must be given until the child is seven months old. No bread, arrowroot, cornflour, biscuit, or anything else should be given, except what is ordered by a medical man.

"If condensed milk be used, be very careful to choose a brand which is guaranteed to be made from PURE MILK and not from 'separated' or 'skimmed' milk. Smell all milk, if it is sour do not give it to your baby. The bottles to be used should be the old-fashioned feeding bottle WITHOUT ANY TUBE TO GET DIRTY but simply a teat of india-rubber which can easily be kept clean. After being used the bottle should be cleaned at once.

"UP TO SIX WEEKS.—Mix a half-pint of milk with one pint of water and a teaspoonful of sugar, boil and pour into a clean jug and cover up with a clean cloth. For each meal, four tablespoonfuls from the jug should be put into the bottle. Meals should be given every two hours during the day, as with the breast milk.

"FROM SIX WEEKS TO THREE MONTHS.—Half-a-pint of cow's milk and half-a-pint of water sweetened and boiled as before. Eight tablespoonfuls should be used for each meal and meals given every two hours and a-half in the daytime.

"FROM THREE TO SEVEN MONTHS.—One pint of cow's milk and half-a-pint of water sweetened and boiled as before. Eight tablespoonfuls should be given for each meal every three hours in the daytime.

"FROM SEVEN TO TWELVE MONTHS.—About twelve tablespoonfuls of pure milk, boiled, may be given at TWO meals, and at THREE meals the same quantity of milk may be given, thickened with a little farinaceous food, such as good bread, rusk well boiled, oatmeal, &c. The pure milk meal may be given at 11 a.m. and 5-30 p.m.; the meals of thickened milk may be given at 7 a.m., 1-30 p.m., and at 10 p.m.

"WEANING.

"Weaning of the baby should begin at the end of the seventh month ending at the ninth month, and on no account should the child be kept at the breast after the twelfth month.

"N.B.—If a child continue to suffer from indigestion or diarrhœa, in spite of care in feeding it, the mother should consult a medical man.

"HEALTH DEPARTMENT,
"COUNCIL HOUSE, HANDSWORTH.

"IF YOU LOSE THIS HANDBILL ANOTHER COPY MAY BE HAD AT THE COUNCIL HOUSE."

The Medical Officer of Health of Quarry Bank writes:—"In 1897 there were 28 deaths among children under one year old, of which 9 were during the first month of life. During the year the Council has passed resolutions favouring the greater control of the sale of condensed milk (especially condensed skim milk) and the supervision of cowsheds, dairies, and milk supplies, with a view to the prevention of the sale of milk from tuberculous cows, as milk from this source has been proved to be the chief cause of consumption among young children, notably in the form of Tabes Mesenterica or consumption of the bowels."

The Medical Officer of Health of Smethwick writes:—"I am glad to have noticed that women are growing, very slowly it must be confessed, but still growing more sensible of the duty they owe to their children by affording them their natural food—breast milk. It is impossible to urge on them too strongly that in all cases they should nurse their children, and where that is, as it must be in a certain proportion of cases, impossible, to be very careful in the selection and preparation of the artificial substitute that has to be provided."

The Medical Officer of Health of Stoke-on-Trent writes:—"The infantile mortality is largely increased by the pernicious habit of feeding the little ones on prepared foods. Farinaceous food is given to them before their digestive organs are developed, and, not being assimilated, it causes diarrhœa and wasting diseases. Then again, their food is given to them irregularly, and is frequently of too varied a nature. The causes of the excessive infantile mortality are not far to seek. Amongst them may be mentioned early and improvi-

dent marriages. The neglect by the mother on account of going to work, and delegating her duties of nurse to elder children, neighbours, or old women. Condensed milk of doubtful origin and inferior brands is not nourishing."

The Medical Officer of Health of Wednesfield writes:—"In some districts lectures on the subject of public health are given, with apparently good results, and I would recommend the Council to institute such in Wednesfield; as it is to the education of the people, principally, that we must look for any improvement in this direction, 'as it seems hopeless to expect any progress until young children are reared with more intelligent care as to their feeding, and with greater regard to the cleanliness of their surroundings than is at present displayed.' It is a very regrettable circumstance that as a rule twice as many children die in the first year of their lives as in the *four* years immediately following."

As regards rural districts, the Medical Officer of Health of Walsall (Rural) writes:—"The infantile death-rate recorded this year seems to be about the average for this district, although it is far too high. No improvement will take place until the women of the working classes exercise more care in the feeding and nursing of their children, and pay greater regard to the cleanliness of their surroundings. In my last annual report I threw out a suggestion that free Health Lectures to women should be given in the different parishes, and the County Medical Officer wrote saying that the County Council were willing for such instruction to be given by their Lecturer free of charge. The matter was referred by your Council to the Parish Councils of the various parishes. The latter bodies for some reason did not accept the offer. I can hardly think the matter was thoroughly understood by the members. Possibly they were under the impression that some expense would be incurred by the lectures. If no good purpose was served other than pointing out the proper method of feeding young children, I am convinced the lectures would more than repay any trouble that might be taken in their arrangement, as it seems to me that it is only by the spread

of such knowledge that the infantile death-rate will be materially lowered. In his annual report for 1897 the Medical Officer of Health for the Cannock Urban District (where the population is composed exactly of the same class of people as Rushall and Pelsall), calling attention to a reduction of the infantile death-rate, expresses satisfaction that the Health Lectures are being continued in his district."

In Wolstanton Rural District the deaths from summer diarrhœa are said to have been slightly less, and the increased infant mortality is attributed largely to an increase in the number of premature births.

The Council will remember that I conducted an inquiry seven years ago into the effect of factory labour on the infant mortality. I give in the following table the original figures for the artisan towns, classified in accordance with the relative proportion of married women engaged in factory work, together with corresponding figures for the past ten years :—

Deaths in Children Under One Year in Three Classes of Artisan Towns in Staffordshire.

	CLASS I. Many women engaged in work.	CLASS II. Fewer women engaged in work.	CLASS III. Practically no women engaged in work
10 years, 1881-90	195	166	152
10 years, 1889-98	208	176	166

These figures speak for themselves. It will be noticed that while there has been a general increase in the infant death-rate, practically very much the same relative proportion has been maintained between the three classes of towns.

This increase, coincident with an undoubted improvement in the sanitary condition of towns, is, perhaps, the most unsatisfactory feature in the mortality statistics of the County. The infant mortality is considered one of the best tests of sanitary conditions; this being the case, one must look to other causes to explain the growing infant death-rate, and

among these causes in this County a prominent place, I fear, must be given to the prevailing practice of mothers leaving their homes to work in factories.

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 higher this year than last; indeed, as regards the Administrative County, it is the highest rate yet recorded within the experience of the County Council.

In the following table the comparative figures are given for the past ten 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

On comparing the figures of the individual zymotic diseases for this year with those for 1897, it will be found that the urban districts are chiefly responsible for the increased rate, and that it is to measles, more especially, that the increase is to

be attributed. At the same time, the diarrhœa mortality, which reached a high figure in 1897, very nearly approaches that figure this year, and there is also an increase in the mortality from enteric fever.

The Medical Officer of Health of Biddulph points out that the high zymotic death-rate in that district was entirely owing to measles. He mentions the fact that only one death took place from diseases which are notified, namely, a child suffering from membranous croup; and with reference to the small number of notified cases, he says—"This is a record upon which the Council and the district may be warmly congratulated. I venture to claim a share of the credit for the active and efficient administration of the Sanitary Department. The high zymotic death-rate is explained by deaths from measles."

The Medical Officer of Health of Wednesbury points out that the high rate of 3·9 was mainly owing to diarrhœa, and he adduces arguments in support of his opinion that diarrhœa should not be included among the list of diseases in estimating the zymotic death-rate.

Special Zymotic Death-rate.

Small-pox.—One death was recorded from small-pox in the urban district of Brownhills. The Medical Officer of Health of the district does not give any particulars regarding the case.

This is the first death which has occurred from this disease within the Administrative County since 1895, when two deaths were recorded. It will be remembered that the disease was prevalent in several districts in 1894, and caused 89 deaths.

Measles.—This disease, which appears annually in most districts, has been much more prevalent than in 1897.

In the Administrative County, 714 deaths occurred from measles, as compared with 254 in 1897, equal to a rate per 1000 of the population of 0·80, as against 0·31. Of these

deaths, 599 occurred in the urban districts, or 0·90 per 1000, and 115 in the rural districts, producing a rate of 0·50 per 1000. In the following table corresponding figures are given for the past 10 years :—

	MEASLES.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of Deaths...	347	221	368	187	283	183	280	525	192*	599
	Rate per 1000.....	0·64	0·40	0·67	0·33	0·50	0·32	0·48	0·88	0·32*	0·90
Rural	Number of Deaths...	66	37	106	20	111	39	25	106	62	115
	Rate per 1000.....	0·26	0·14	0·44	0·08	0·48	0·17	0·11	0·47	0·27	0·50

* Excluding Brownhills.

Under this heading, the Medical Officer of Health of Biddulph discusses the question of school closure as a means of checking an outbreak, in the following terms :—"With regard to Non-notifiable Infectious Diseases, however, it is to be observed that we had a sharp epidemic of measles in April and May. The total number of cases was not ascertained, but there were 12 deaths. These all occurred in children under school age, six being less than one year old and the oldest only four. The first death occurred early in January, and probably marked the commencement of the epidemic, but it was not till April that anything was heard of it. Four deaths took place this month and six in May, the last one of the 12 just reaching June. On April 1st the Gillowshaw Brook School was closed, and the master was appointed Temporary Assistant Inspector. I instructed him to visit all infected houses every day, and to be very strict with the parents as to enforcing and maintaining quarantine. A fortnight afterwards the Wesleyan School was attacked, and it was then decided to close all the schools in Bradley Green, the master of each being similarly taken into the employ of the Council during closure, and for purposes above stated. The Wesleyan School was closed on the 15th, the Methodist on the 18th, and the two Church Schools on the 26th. The epidemic was promptly arrested and controlled. Reports of its decline were so satisfactory that all the schools were

re-opened on May 9th, except Knypersley, which was kept closed until the 21st. It was afterwards necessary to close Biddulph Moor School from May 16th to 28th, and that was the end of the trouble.

"The 12 deaths which occurred were everyone due to intercurrent diseases, such as pneumonia, bronchitis, convulsions, &c., and not primarily to the measles. They give the district a heavy zymotic death-rate, and a heavy infantile mortality rate, and were all (probably) preventible.

"The action taken to check the epidemic was the outcome of a similar course adopted experimentally in February at Winsford, where its success had been striking. I wish to lay particular stress on these two examples, because school closure for measles (and whooping cough) is by many considered of very doubtful value (an opinion expressed by myself in my last annual report), and I think I prove here pretty fairly that school closure can be made of value, if accompanied and supplemented by home supervision, so as to prevent indiscriminate mingling of sick and healthy."

An extensive epidemic occurred at Burton-on-Trent, and was enquired into by one of the Medical Inspectors of the Local Government Board. The disease has been included among those which are notifiable for some years in this borough, and as the period for which it was originally decided to try the experiment of notification has nearly expired, the Medical Officer of Health intimates that he intends to report specially upon the experience obtained, more especially during the recent serious epidemic.

In referring to an outbreak which occurred at Quarry Bank, the Medical Officer of Health calls attention to the probable good which resulted from the closure of certain schools.

In Rowley Regis the disease was very prevalent, and was specially reported upon.

In Rugeley measles caused seven deaths, which is said to be the largest number of deaths from any infectious disease which has been recorded during the past 10 years.

The Medical Officer of Health of Stafford, where measles caused 17 deaths, calls attention to the exceptional severity of the type.

Scarlet Fever.—In the Administrative County, 174 deaths occurred from scarlet fever, as compared with 180 in 1897, equal to a rate per 1000 of the population of 0·19, against 0·22. Of these deaths, 132 occurred in the urban districts, or 0·19 per 1000, and 42 in the rural districts, producing a rate of 0·18 per 1000. In the following table, corresponding figures are given for the past ten years :—

SCARLET FEVER.		1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of Deaths...	108	145	144	105	119	101	142	143	150*	132
	Rate per 1000.....	0·20	0·26	0·25	0·18	0·21	0·17	0·24	0·24	0·25*	0·19
Rural	Number of Deaths...	30	51	63	29	27	29	43	43	30	42
	Rate per 1000.....	0·12	0·19	0·26	0·12	0·11	0·12	0·19	0·19	0·13	0·18

* Excluding Brownhills.

The Medical Officer of Health of Burton-on-Trent writes :— "I think it may be safely said that scarlet fever is endemic in this town. The incidence and character of the malady vary considerably with the atmospheric changes. Isolated cases crop up at odd times in all parts of the borough, and on enquiry it is impossible to trace the source of infection. In addition, infection is much more easily spread about than is generally understood, and the mildness in character of some cases leads to them being overlooked altogether." He also estimates that, roughly speaking, about 20 per cent. of children born in the borough suffer from scarlet fever.

At Perry Barr, of 17 reported cases of scarlet fever, 16 were isolated in hospital—11 in the West Bromwich hospital, and 5 in the Aston hospital—and the other case died before removal to hospital. As an example of how readily the infection of scarlet fever may be conveyed, I quote the following from the report of the Medical Officer of Health of Perry Barr :— "Of the 17 cases of scarlatina, 14 occurred in the Maryvale Convent School, to which is attached the St. Catherine's

Public Elementary School. The history of the outbreak is as follows: One of the inmates was allowed to visit for a week a relative in Birmingham. The date of this visit could not be accurately ascertained. On September 15th, this child, after her return, had vomiting, and, on the 16th, a red rash and a very slight sore throat. She was so very slightly ill that no notice was taken of her case until an examination of all the children by the Convent's Medical Officer, on October 1st, revealed that she was peeling. This girl was a good dresser of dolls, and was accustomed to dress them for the other children whilst actually suffering from scarlatina so mild in character as to be overlooked. In the meantime, a girl who had been an inmate of the Convent for four years, fell ill on September 26th, had a rash on the 27th, and died early on the 28th of scarlatina maligna. The next 11 cases occurred as the direct result of these between October 1st and November 6th, and were isolated at once and removed to hospital, the rooms being fumigated with sulphur, and the bedding being disinfected at Aston Disinfecting Station."

At Rowley Regis, the Medical Officer of Health states that there were fewer cases this year, and says:—"The general type of the disease has been mild, similar to that of the three previous years. Probably the disease has used up most of the susceptible material, as the modes of checking it we now employ are very primitive, viz., sulphur fumigation, confinement of patients to their own homes, and prevention of children from infected houses attending public schools."

In Willenhall, on the other hand, where 45 cases occurred in 37 houses, the Medical Officer of Health states that many of the cases were of a severe type.

In Lichfield, it is said, the disease was kept in check by the prompt isolation of first cases.

Diphtheria.—In the Administrative County, 277 deaths occurred from diphtheria, as compared with 249 in 1897, equal to a rate per 1000 of the population of 0·31, as against 0·30. Of these deaths 230 occurred in the urban

districts, or 0·34 per 1000, and 47 in the rural districts, producing a rate of 0·20 per 1000. In the following table corresponding figures are given for the past ten years :—

	DIPHTHERIA.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of Deaths...	27	23	37	32	24	47	65	131	190*	230
	Rate per 1000.....	0·05	0·04	0·06	0·05	0·04	0·08	0·11	0·22	0·32*	0·34
Rural	Number of Deaths...	28	14	25	21	18	34	28	30	59	47
	Rate per 1000.....	0·11	0·05	0·10	0·09	0·08	0·15	0·12	0·13	0·25	0·20

*Excluding Brownhills.

In the following summary of the remaks appearing under this heading in many of the reports of Medical Officers of Health, I have included various comments upon the working of the County Council scheme for the bacteriological examination of throat secretions in suspected cases of diphtheria, and from the favourable nature of these, as well as from the fact, pointed out earlier in this report, that advantage has been taken of the scheme in so many cases during the ten months it has been in operation, it will be the general opinion of the Council that the small expenditure involved has been amply justified.

The Medical Officer of Health of Biddulph in favourably referring to the scheme, hopes that enteric fever will soon be placed upon the same footing.

The Medical Officer of Health of Bilston says that the great value of the scheme "need not be pointed out."

The Medical Officer of Health of Burton-on-Trent in referring to the origin of the cases says :—"Reference to the 'particulars' of each case shews that of the 52 houses infected, by the 55 cases, over 60 per cent. had defective drains, whilst to eight of the houses privies and ash-pits were attached, and to seven houses pails and ash-pits."

In Fenton, 220 cases occurred, and caused 40 deaths. This, the Medical Officer of Health points out, shows a more favourable comparative fatality, although the number of cases

were very much greater than in the preceding years, the lessened fatality being due, probably, either to lessened malignancy, or to a more extensive use of anti-diphtheritic serum. To the latter reason also a diminished case mortality at Handsworth is also attributed by the Medical Officer of Health.

As an example of sanitary defects frequently found to be associated with diphtheria, I quote the following from the report of the Medical Officer of Health of Perry Barr :—"The four cases occurred in a house at the extreme north border of the district. Sore throats had been prevalent one month previously in the house, which had the following sanitary defects: defective lip trap (D-trap) to sink drain, cesspool in garden full of foul sewage, open privy midden, foul and wet, the liquid filth soaking into the closet. Two of the cases were fatal."

The Medical Officer of Health of Smethwick, in referring to the County Council scheme, says that it is "a matter for regret that these means of assisting the diagnosis of the disease are not habitually made use of."

The Medical Officer of Health of the borough of Tamworth, in referring to the scheme, says:—"The various medical men in the borough have been notified of this arrangement, and your Council, in order to be ready for any emergency, has sanctioned the obtaining of all the necessary boxes containing sterilized tubes, etc. Advantage has already been taken of this arrangement with satisfactory results, and it is a pleasure to further so useful a scheme."

The Medical Officer of Health of Tettenhall, in his report, says of the County Council's scheme:—"The offer was accepted at the November meeting of your Council, with results which have hitherto been satisfactory, for in the cases notified as diphtheria, up to the present date (March, 1899), the diagnosis has not been sustained by the examination of the throat secretion."

In commenting upon the scheme, the Medical Officer of Health of Wednesfield says:—"This cannot but be a move in

the right direction, and one calculated to be of the utmost possible service in the cause of humanity."

The Medical Officer of Health of Willenhall, where 27 cases occurred with only two deaths, says that possibly some of these were cases which a few years ago would not have been considered diphtheria. In referring to the scheme of bacteriological examination, he says that such assistance would have been prohibitive to the poorer classes if the County Council had not defrayed the cost.

The Medical Officer of Health of Cannock Urban District, while pointing out that diphtheria is not common in that district, states that it is a matter of satisfaction that the County Council have provided the means of assisting in the diagnosis of the disease.

I quote the following remarks which appear under this heading in the report of the Medical Officer of Health of the borough of Newcastle, because of the bearing which they have on, first, the propagation of the disease through schools, and, secondly, the need for hospital isolation in such cases :—

"Twenty-eight cases were notified during the year, of which 10 proved fatal. A few cases occurred associated with insanitary conditions in their houses, but the majority of cases were traced to one source of origin, the infection having been introduced into one of the elementary schools of the town from outside the borough ; this, associated with overcrowding and insanitary conditions existing in these schools, caused an outbreak, which quickly assumed a serious aspect ; 16 cases were reported in a few days, 8 of which proved fatal.

"Prompt measures were taken, the schools being closed and disinfected, and instructions given to the Authorities to remedy the existing insanitary conditions. These measures proved effective, no other case being traced to this origin.

"The necessity for an isolation hospital was particularly emphasised in this case, for all these cases had to be treated in their own homes, with the result that other cases in the same households occurred."

In the Blore Heath Rural District, several of the notified cases were verified by bacteriological methods.

The Medical Officer of Health of Gnosall Rural District writes under this heading:—"In the last week of the year, seven cases were notified from three houses in Adbaston, and again a case, unrecognised, had caused the general outbreak. This is, however, less likely to happen in future, as any medical man practising in this district can, by applying to me, have means placed at his disposal whereby a bacteriological examination can be obtained of any case of sore throat suspected to be diphtheritic in character. This is a most valuable step in advance, as this method of diagnosis is both prompt and sure; and as a consequence early recognition should lead to early isolation, and so tend to check the spreading of this dangerous disease in the future."

The Medical Officer of Health of Tamworth Rural District, in writing of the scheme, says:—"The various medical men in the neighbourhood have been notified of this arrangement, and your Council, in order to be ready for any emergency, has sanctioned the obtaining of all the necessary boxes containing sterilized tubes, etc. Advantage has already been taken of this arrangement with satisfactory results, and it is a pleasure to further so useful a scheme, which would be still more advantageous if it were also made available for the Warwickshire portion of your district."

The Medical Officer of Health of Cheadle Rural District, in referring to the difficulty which is experienced in preventing the spread of the disease, says:—"Until some measures are taken whereby early and complete isolation can be carried out, I do not anticipate any better state of things."

The Medical Officer of Health of Walsall Rural District congratulates his Authority on having provided the necessary outfit in connection with the County Council scheme.

Whooping Cough.—In the Administrative County, 275 deaths occurred from whooping cough, as compared with 365 in 1897, equal to a rate per 1000 of the population of 0·30,

as against 0·44. Of these deaths, 220 occurred in urban districts, or 0·33 per 1000, and 55 in rural districts, producing a rate of 0·24 per 1000. In the following table corresponding figures are given for the past ten years :—

	WHOOPING COUGH.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of deaths....	261	211	222	420	171	252	175	261	296*	220
	Rate per 1000.....	0·48	0·38	0·40	0·75	0·30	0·44	0·30	0·44	0·50*	0·33
Rural	Number of deaths....	39	68	39	90	33	38	49	59	69	55
	Rate per 1000.....	0·11	0·26	0·16	0·39	0·14	0·16	0·22	0·26	0·30	0·24

* Excluding Brownhills.

In several of the reports attention is directed to the fact that the danger of the disease is not sufficiently recognised by parents, whose carelessness and want of thought lead to needless deaths.

Enteric Fever.—This disease, which must be looked upon as entirely preventable, caused 236 deaths, as against 100 in 1897, equal to a rate of 0·26 as compared with 0·12. Of these, 211 occurred in urban, and 25 in rural districts, equalling a rate respectively of 0·31 and 0·11. In the following table corresponding figures are shown for the past ten years :—

	ENTERIC FEVER.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of deaths....	106	74	111	85	117	77	129	118	86*	211
	Rate per 1000.....	0·20	0·13	0·21	0·15	0·20	0·13	0·22	0·20	0·14 *	0·31
Rural	Number of deaths....	26	34	35	24	32	18	19	22	14	25
	Rate per 1000.....	0·10	0·13	0·12	0·10	0·13	0·08	0·08	0·09	0·06	0·11

* Excluding Brownhills.

In Bilston, where 91 cases occurred in 73 houses, and caused 22 deaths, the Medical Officer of Health, in referring to 19 cases which were notified in August, points out that 10 of these occurred among persons who worked at ironworks in Coseley, where, although the public water-supply was available, the workpeople had been in the habit of using an old well,

which was undoubtedly polluted from a defective sewer. On representations being made to the Coseley District Council, steps were taken to prevent this well water from being used in the future. Other cases in the epidemic were associated with conditions which are thus described:—"It is well known, and has frequently been demonstrated, that typhoid fever can be caused by pollution of the water-supply or of some articles of food, particularly milk, but it is not such common knowledge that the germs may be conveyed through the air, and that it is in an especial manner connected with conditions of soil. It has been shown that soils containing animal matter are favourable to the life of the typhoid bacillus, while virgin soils do not sustain it. 'In one experiment, indeed, the bacillus not only maintained its life for 456 days in sterile polluted soil, but after drying and powdering to dust was still active.' It is easy to understand how such soil in the form of dust may be carried away by the wind and deposited on articles of food, meat, milk, &c., and so lead to cases whose origin may apparently be most obscure.

"But contaminated soil alone may give rise to the continued presence of typhoid fever, and this is the explanation of its prevalence in the poorer parts of the town. Were the water supply at fault, the distribution of cases would have been general and wide-spread, and inquiries into the milk supply—constantly made—gave negative results. In the districts invaded all the conditions for continuous soil-pollution are seen at their best. No water-closets, untrapped sinks, ash-pits frequently below the level of the soil, absence of spouting, causing damp walls and floors, unpaved yards leading to the soaking of subsoil with slop-water and other impurities. Add to this that the dwellings are small, dirty, and crowded, that the food is usually kept in, or near to, the living room—often in some receptacle having no communication with the external air—and that the yards are sometimes so small that the ash-pits and privies almost, if not actually, adjoin the houses!

"As typhoid fever is a disease of gradual onset, there is little doubt that each new case as it occurs will lead to the

deposition of infected matter in these ash-pits; the refuse from the ash-pits is emptied into the streets, and thence removed. This produces fouling of the yard and street, and a certain amount of refuse—laden with typhoid poison, be it remembered—being left behind is converted into dust and scattered about by the wind, and thus there is no end to the vicious circle which keeps up both the supply of the poison and its distribution."

The remarks just quoted are well worthy of the serious attention of the Councils of those districts, more especially, in which the privy system is still being perpetuated. The Medical Officer of Health of Bilston further points out that no case of enteric fever occurred in houses provided with water-closets.

The Medical Officer of Health of Brierley Hill, in referring to 23 cases of enteric fever which occurred in 13 houses, and caused four deaths, calls attention to two interesting points in connection with six of the cases, viz.—the value of hospital treatment in such cases and the danger from shell-fish as media of contagion. He writes as follows:—"The first cases were notified in January at Dudley Street, at a fish dealer's premises, adjoining the Dudley Arms Inn. There were six cases at this house, three of which were removed to the Isolation Hospital and recovered. They were all severe cases, and although it is costly to provide trained nursing for so few cases at the Hospital, we have the satisfaction of knowing that at least three of those lives were saved by it, as I do not think they could possibly have recovered under the circumstances in which I found them. They were in a state of great poverty, and unable to obtain either food or nursing. The insanitary condition of these premises has been frequently before you, and a good deal has been done from time to time to improve them. Owing to the confined back premises, water-closets had been put in, but on this occasion, owing to the carelessness of the occupiers, I found two of the water-closets in a very foul and dirty condition. They were at once put in working order and well cleansed and disinfected, and the occupiers were cautioned against permitting them to get into such a condition again.

"I believe, however, that this outbreak was due to some oysters, of which the family had partaken freely. Two other persons had also partaken of some of the same lot of oysters, and they also had typhoid fever.

"It is highly probable that the removal of the cases to the Isolation Hospital checked any further spread of the disease in that locality. These houses are all supplied with the South Staffordshire Water Company's water."

In Coseley, 160 cases were notified, 18 of which proved fatal. Considerable space is devoted to the consideration of the causes of the outbreak by the Medical Officer of Health in his report, and the two chief causes appear to be polluted well-water and polluted soil. Here again, as in Bilston, a number of cases (13) were traced to the well at the same iron works, the water of which was used by the men in preference to the public supply. Regarding these cases the Medical Officer of Health writes: — "All the patients, without exception, acknowledged having drunk the pump water, and I have no hesitation in attributing the outbreak to contamination of the well by sewage."

I quote the following from the report of the Medical Officer of Health of Darlaston, as showing how important it is to isolate enteric fever cases:—"A localised outbreak of considerable severity occurred on September 12th at a house in Cramphill, where four out of a household of 10, inhabiting two bedrooms, were attacked.

"The origin of the first case could not be traced. The patient, a young man, in spite of my protests, was nursed downstairs throughout his illness, the rest of the inmates taking their meals and living in the kitchen where he was. The case, which was of a very severe type, terminated fatally within a fortnight. Although the house was thoroughly disinfected, a few days later his sister and sister-in-law contracted the disease, and I thought it well, in view of this development, to admit them both into our own hospital. Yet another inmate of the same house was stricken within about ten days of their removal, and in accordance with the request of the Sanitary

Committee that no more cases should be admitted, I ordered his removal to the Walsall Union Infirmary. The house was immediately closed, disinfected, and limewashed throughout.

"A small closet, without any light or ventilation, did duty as pantry: here the food was stored, and by this the excreta were carried, only to be deposited in the ashpit at the top of the yard, and but a few feet from other houses in the same group.

"Under the above dangerous conditions one can only wonder that more cases did not occur."

The Medical Officer of Health of Handsworth writes:—"Fifty-four per cent. of the cases occurred in houses having privy-middens, whereas the proportion of the whole number of houses having privy-middens in the district was nearly 33 per cent. at the end of the year.

In Newcastle Urban District, where 51 cases occurred, resulting in seven deaths, the two chief causes are said to have been the privy system, and the absence of means of isolation. The Medical Officer of Health writes as follows:—"Two distinct sources of infection existed in the same locality, one of imported origin, the other due to local insanitary conditions. The property in this area was of the worst description, and in which the privy system was in vogue. The people were of dirty habits, and not the class to exercise any care in directing the disposal of the excreta, even when disinfectants were supplied to then; added to this, there was a want of hospital accommodation, difficulty in getting beds in the North Stafford Infirmary, and also in the Union Workhouse. All these facts assisted to spread this disease, and it was not until a temporary hospital was equipped that we were able to stamp out this malady.

"Of 38 cases occurring in this locality, I traced 21 cases to direct infection from a previous case. This proves that if we had possessed means for promptly isolating, more than half the cases would not have occurred."

In discussing preventive measures, the Medical Officer of Health of Quarry Bank, writes as follows:—"To rid your district of the risk of this disease, the following precautions should be taken:—

"(1) To isolate all infected persons.

"(2) To disinfect immediately all excretions from the patients, and all bedding and clothing with which they came in contact.

"(3) To prevent soakage into the soil beneath and around dwelling houses by means of water-tight pavements, efficient and well-trapped drains and water-tight, covered and ventilated middens and ashpits.

"(4) To replace privies by water-closets wherever practicable; and

"(5) Where this is not practicable, to scavenge frequently and thoroughly.

"(6) To protect water, milk, and food supplies from risk of infection.

"The suggestions in clauses (1), (2), (5), and (6), have recently had much careful attention from the Council, but those in (3) and (4) have scarcely been considered."

In Rowley Regis, 194 cases were reported as having occurred in 148 families, causing 38 deaths. The Medical Officer of Health devotes considerable space in his report to the question of causation, and as regards preventive measures he writes as follows:—"The Council, finding that ordinary preventatives were not sufficient to combat it, resolved on isolating all cases. For this purpose the hospital at Tividale, formerly used for small-pox cases only, was requisitioned, and after being repaired and re-furnished as far as necessary and practicable, was opened on September 26th. Four trained nurses, wardmaid and laundrymaid, in addition to the matron, were engaged, and all patients who were in a condition to stand the journey were removed to it. As none of the patients, either from actual poverty or on account of the nature and duration of the illness, are in a position to pay for their maintenance whilst in the hospital, the local authority will have to bear the whole of the cost, unless the old agreement between the Council and the Dudley Board of Guardians is carried out. I congratulate the Council that they hold to this fact—that the primary

consideration of a sanitary authority should be the prevention of disease, and that the recovery of the patients and the stamping out of the disease supersedes all other considerations, and many of the usual formalities with regard to expenditure have of necessity to be dispensed with. I trust that the difference of opinion between the two Boards will be bridged over, and that an amicable arrangement will be arrived at."

In discussing the causes of 50 cases which occurred at Smethwick, the Medical Officer of Health writes as follows:—"Nine cases occurred in houses provided with W.C.'s, and where premises and surroundings were unobjectionable, but the remaining 41 were found to be living under less satisfactory conditions—in houses provided with privies and ashpits of large capacity—where the back yards were badly or not at all paved, where the surface drainage was defective, and often where rubbish of various kinds was littered about, and where fowls were kept.

"The cleanliness of the back yard of the artizan dwellings which constitute such a preponderating element in the house accommondation in Smethwick, is, to the inmates, a matter of vital importance—it is the constant resort of the children—and the main avenue for the admission of the outside air into the dwelling—the back door and the kitchen or living-room window open directly into it. This door is almost universally the only open door, the front door being rarely used. When these yards are stocked with privies and ashpits, containing large quantities of excremental filth, sodden with slop-water of varying degrees of nastiness, dirtied by fowl droppings and all sorts of domestic rubbish and dust, the houses must be more or less constantly flooded with air of such a character as cannot but be harmful and extremely offensive, and, under certain circumstances, absolutely dangerous to health and life, by conveying specific poisons such as those of this fever directly into them. Much has been done of late to secure the abolition of these dangers to health, and it is satisfactory to observe that typhoid fever has been rooted out from many places where it was at one time endemic.

"The special precautions that have for some years been taken to prevent the contamination of privies and ashpits, by the excreta of persons suffering from typhoid fever, have no doubt largely contributed to diminish the possibility of danger in the future, but though the sanitary authority may do all they can, a grave responsibility rests on the people, and until the lesson of cleanliness has been thoroughly learnt and put into practice by all, we shall continue to be troubled with a host of those preventable filth diseases of which typhoid fever is a prominent example. It is sad to reflect what mischief and havoc is wrought by a self-opinionated, reckless disregard of this fundamental law of cleanliness."

The Medical Officer of Health of Wednesbury, where 10 deaths resulted from enteric fever, points out that he has no knowledge of the number of cases which occurred owing to the fact that the "Notification" Act is not in force in the borough. In referring to the milk supply as a possible source of danger he writes as follows:—"This reminds me to suggest that it is high time for the sanitary authority to remove an anomaly of long standing. I refer to the existing arrangement whereby the control of the dairies of the town is vested in the police authority, an arrangement which is surely ridiculous. I am convinced that a much more efficient supervision could be exercised by the health authority. I would therefore suggest that you would be acting wisely in placing the dairies of the town under the periodical inspection of your Sanitary Inspector."

It is to be hoped that the Corporation of Wednesbury will act upon this suggestion and take the necessary steps to abolish this system, which is a remnant of antiquity justly designated by the Medical Officer of Health as ridiculous.

The Medical Officer of Health of Willenhall, in discussing the causes of enteric fever in that district, calls attention to what appears to be a very serious condition of things in connection with the new sewerage and drainage work in the town which calls for the immediate attention of the District Council, more especially as it would appear that he has previously called

attention to the matter, apparently without success. It is a most serious thing that new work should be carried out in the manner indicated in the following extract from the report in question :—"In 23 cases there was more or less connection of the premises with the sewers. The Council is aware that I have expressed my belief that a good deal of drainage work has been done badly, and I have no hesitation in saying again 'that all drainage work should be inspected by your Surveyor immediately on completion, and a written certificate given if the work has been satisfactorily done, or condemned if improperly done, without delay.' In saying this, I mean not only the actual drains should be examined, but that all that contributes to drainage should be examined and certified, such as the position of air inlet and outlet, and the condition of the surface drainage. It will be found, as I have demonstrated in my reports, that many of the so-called air inlets are really in practice air outlets, and that they are placed in dangerous proximity to doors and windows. It will be found that many of the man-holes at the top of entries are constructed of the flimsiest brickwork, and that when there is a block in the drain, sewage percolates through it and finds its way beneath the foundations or into the cellar of the house. It will be found that in many cases when the premises were connected with the sewers, no provision was made for the disposal of surface drainage; so that it often happens that the yards below the street level become flooded, and that houses become damp, the water being sometimes polluted by animal or vegetable refuse. A proper inspection at the time ought to lead to better brickwork set in cement or puddled with clay, to accuracy in fall, to proper disconnection from the sewers, to efficient and safe ventilation of the drains, to all drainage work providing for deep drainage to the sewers and surface drainage to the surface drains. The mica valve flaps are in the majority of instances useless and ugly in this town, and air inlet shafts put in entries, always will lead to a nuisance within a short space of time, because one of the first barrows wheeled up the entry smashes the shaft, and it is generally weeks before the damage is remedied. The Council has had instances of defects placed before it in abundance."

The Medical Officer of Health of Kingswinford Rural District, where 12 cases occurred, writes as follows with refer- to six of them :—" We were unfortunate in getting a case at a farmhouse at Brockmoor, from which six of the cases seemed to arise—probably through the milk which was taken into the bailiff's house where the first case occurred—before the nature of the illness was known, the cases all occurring in quick succession. Prompt steps were taken to prevent the milk cans being deposited in the house, and no other case from that source could be traced."

The Medical Officer of Health of Cannock Rural District recommends his Council to arrange for the isolation of enteric fever cases at the isolation hospital.

Diarrhœa.—In the Administrative County, 974 deaths occurred from diarrhœa, as compared with 932 in 1897, equal to a rate of 1·09, as compared with 1·13. Of these, 877 occurred in urban, and 97 in rural districts, equalling a rate respectively of 1·31 and 0·42. In the following table corresponding figures are shewn for the past ten years :—

	DIARRHŒA.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Urban	Number of deaths...	431	454	208	301	632	210	592	423	806*	877
	Rate per 1000.....	0·82	0·82	0·38	0·54	1·12	0·36	1·02	0·71	1·37*	1.31
Rural	Number of deaths...	98	91	65	65	129	60	92	90	126	97
	Rate per 1000.....	0·40	0·35	0·27	0·28	0·56	0·26	0·41	0·39	0·55	0·42

* Excluding Brownhills.

Diarrhœa is a disease which is very variable as regards its prevalence, as the temperature in the summer months is intimately associated with its causation. At the same time, although climatic conditions are intimately associated with the ailment, its prevalence is largely influenced by the presence or absence of insanitary surroundings, and the amount of discretion shewn in the feeding of infants, for it is essentially an infantile affection.

The maintained increase in diarrhœal deaths in 1898 is, no doubt, to be accounted for by the long continued hot

weather again experienced during the summer months, but in the absence of insanitary surroundings, and with a better observance of wholesome rules in the feeding of infants, climatic conditions would have little influence in this direction.

The Medical Officer of Health of Darlaston writes under this heading as follows:—"As would be anticipated the maximum intensity of the diarrhœal wave was felt in August and September, the period of the year when summer heat is most favourable to the growth of those organisms which produce the disease. I had occasion last year to enter, somewhat in detail, into what I considered to be the chief causes of excessive diarrhœa mortality, the most potent factor being carelessness in infant feeding; I still regard this as an important element in its causation, and the mortality from this disease must still continue high until those having the management of children acquire some elementary knowledge of the infant dietary and put it into practice."

The Medical Officer of Health of Handsworth writes:—"Since deaths certified as being due to diarrhœa amount to more than three-fifths of the mortality due to the seven principal Zymotic Diseases, the modes of prevention of this preventable disease cannot be too strongly brought before you. I therefore quote from my last year's report the following:—

"'All theories apart, we know that diarrhœa depends upon certain meteorological conditions and upon certain conditions of the soil, acting together. Numerous observations have shown that a loose, porous soil, charged with organic matter, favours diarrhœal diseases, and that the tendency to these diseases is at a maximum when the temperature of the soil reaches 56°F at a depth of four feet from the surface. A certain degree of moisture of the soil is also requisite. In open districts, with good ventilation, the diarrhœal mortality is very low compared with that of more crowded localities. Handsworth, at the present time, is rapidly losing its rural and assuming an urban condition. It is therefore incumbent on your Council to see to it that the soil be kept as free from impurities as possible, and that poisonous emanations from the soil be

shut off from the houses. The former condition is attained by having all sewage matters carried away from the houses as rapidly as possible without soaking in the soil, and the latter condition is satisfied by having a layer of concrete, at least six inches thick, on the surface of the ground below every dwelling house, in addition to the usual damp-proof courses.

"'In the New-Building Bye-laws which you are now formulating, I hope you will have these two conditions ever before you, as also the provision of ample means of ventilation in and about dwelling houses.'"

The Medical Officer of Health of Quarry Bank discusses at some length the various causes of infantile diarrhœa, and concludes as follows:—"The higher death-rate from diarrhœa in 1898, does not necessarily indicate, as it might appear to, that insanitary conditions are more abundant than in 1897, but that the soil being already polluted, the prolonged and intense heat of the summer was alone required to develop the microbes of diarrhœa. Had the temperature of the soil remained below 56°F., these germs might have remained dormant though living, and no epidemic would have occurred. The sun's heat being beyond our control, the germs must be deprived of the other conditions necessary to their growth, namely, moisture and polluted soil.

"I have written at some length on this subject, because, although the death-rate from diarrhœa is higher than that of any other zymotic disease, it is not often seriously considered, and because with proper precautions it should be among the most preventable diseases of this class."

The following remarks of the Medical Officer of Health of Stafford are interesting as shewing what an important influence improper feeding has on the death rate from infantile diarrhœa:—"Summer diarrhœa, as stated above, caused a heavy mortality among infants, and this is all the more to be regretted as it is a preventable disease. The germs of diarrhœa appear in the air, food, and water, so that it is necessary to aim at having these three agents as pure as possible. Clean-

liness of the person and of the dwelling, both inside and of its outside surroundings, should be secured. With regard to infantile diarrhœa it may, I think, be said to be caused almost invariably by contaminated milk. It is rare indeed for a baby that is fed exclusively at the breast to die of diarrhœa. In fact, the possibility of it has been denied. And the opinion that it is only artificially-fed infants who succumb to this disease is eloquently supported by an inquiry into the fatal cases which occurred in Stafford this last year. Of the sixteen deaths, one I have got no information of, but of the remaining fifteen only one was breast fed, the remaining fourteen all being brought up artificially. This is strong evidence that the posion was conveyed to the infants through the milk. Milk is highly putrescible, especially in hot weather, and it should be invariably sterilised before being given to the bottle-fed infant. Among the poorer classes this can be most readily done by *boiling* it, and care should be taken that all vessels used for it are absolutely clean. Boiling is a safeguard too against the transmission of tuberculosis through milk. In addition to sterilisation of the milk, however, it is equally necessary that the bottles should be scoured out with water, boiling when possible, after each meal, and kept in clean water until again required. If these simple precautions were taken, deaths from infantile diarrhœa would disappear."

In the Cannock Rural District the decline in the zymotic death-rate is accounted for by fewer deaths from diarrhœa.

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, 47 deaths were attributed to puerperal fever, as against 21 in 1897. In only a few of the reports is any special reference made to the circumstances attending the cases.

Influenza.—Although it would appear from the reports under review that influenza prevailed in most parts

of the County, the type seems to have been milder than in previous years. From some of the reports it would also appear that the disease presented itself more frequently in an intestinal form than previously was the case.

The Medical Officer of Health of Rowley Regis in referring to the cases which occurred in that district, states that abdominal symptons were very frequently noticed similar to those of the early stages of enteric fever.

The Medical Officer of Health of Tipton states that although cases occurred the disease was by no means so general as in former years, and that at no time during the year could there have been said to be an epidemic.

The disease seems to have been prevalent in Wednesbury, and the Medical Officer of Health estimates that one out of every 25 or 30 persons have suffered during the year. With regard to the apathy of the public concerning this affection, he says :—" The apathy manifested by the public in regard to some diseases compared with others is remarkable. The public generally seem to think little or nothing of influenza, although in a large number of instances, even when the patient seems to have recovered, the degree of nervous prostration and circulatory enfeeblement following the disease is most distressing. I believe that the disease is disseminated broadcast by the association of healthy persons with those who are tediously convalescing from the disease, and in more than one instance I firmly believe that I have met with relapses in the same patient brought about by fresh doses that have entered the system owing to the patient having stayed in the room that he had himself infected. If only the infected rooms were fumigated as rooms are after the occurrence of scarlatina, and all infected clothing were disinfected, a powerful check would doubtless be given to the spread of this serious malady."

In Willenhall the disease is said to have been prevalent during the first quarter of the year, and increased the deaths from chest diseases.

The Medical Officer of Health of Tutbury Rural District writes as follows :—" Influenza has again been prevalent. In

fact since its appearance in 1889, no year as passed without its recurrence, and either directly or indirectly it has greatly influenced the mortality, many of the deaths attributed to diseases of the respiratory and circulatory organs being primarily caused by influenza.

"It is mainly propagated by human intercourse, hence the necessity for isolation of those attacked. The importance of this precaution is, I am convinced, not sufficiently considered."

Diseases of the Respiratory Organs.—Under this heading, which does not include phthisis, I last year called attention to a decline in deaths, compared with the year before, but this year I have to record an increase, the figures for 1898 being 2,764, as against 2,609 in 1897.

None of the reports under review contain any remarks under this heading which call for special reference.

Phthisis.—The causation and prevention of phthisis receive a considerable amount of attention in some of the reports.

In Biddulph the District Council undertake the disinfection of houses after deaths have occurred in them from phthisis, and families usually avail themselves of this precaution.

The Medical Officer of Health of Cannock Urban District calls special attention to the investigations of recent years into the causation of tuberculosis, and writes as follows as to the precautionary measure of boiling milk:—"Though the above number of deaths is what has been actually certified, still it may be shrewdly suspected that some of the respiratory and abdominal diseases of infancy have been affected by tuberculosis without showing symptons of the disease during life, and hence the vital importance of sterilising milk, by boiling, for artificially-fed infants where the source of supply is not known or may possibly be tubercular, as it appears to be well founded that the prevalence of this disease in infancy and childhood is due to infection through the alimentary canal by milk from tuberculous cows."

The Medical Officer of Health of Tutbury Rural District writes:—"The prevention of tuberculosis is a question that

has been very prominently brought forward by sanitarians during the past year, and there is no doubt that the mortality from this disease might be considerably reduced by sanitary legislation. Modern research has thrown considerable light on the origin of tubercle, and it is generally conceded that tuberculosis is an infectious disease, a specific fever, with many points in common with the other specific fevers.

"There is nothing better established with regard to tubercle than its relation to overcrowding. Fresh air, and plenty of it, is of vital importance to those who have any predisposition, hereditary or otherwise, to pulmonary consumption. It is freely admitted that tubercular disease is much favoured by unsanitary conditions, and by whatever is inimical to the maintenance of good health—ill constructed, badly ventilated, and sewage tainted houses being common and powerful factors in its causation.

"In an almost purely agricultural district like ours, the milk supply in its relation to this disease must ever be in our minds.

"It has been suggested in influential quarters the 'Tuberculous test' should be universally applied, and this method would have the great advantage of thoroughness, all cattle reacting to the test being slaughtered. The cost would be great, but I think some system of insurance might be devised which would adequately compensate owners.

"If this suggestion should ever become law, we may expect a great reduction in the mortality from consumption."

Zymotic Disease Prevention.

Notification.—I regret to say I cannot call attention to any addition this year to the list of districts in which the Notification Act is in force. In the following districts the Act has not been adopted:—

Short Heath Urban.
Smallthorne Urban.
Tipton Urban.
Wednesbury Urban.
Leek Rural.

The Medical Officers of Health of these districts this year, as in former years, strongly urge their Authorities to adopt the

Act, but notwithstanding that fact, and the action of the County Council in a similar direction, there would appear to be little hope of the Authorities yielding. It surely cannot be that expense acts as a deterrent cause, but for the information of Authorities generally, and particularly of those in whose districts the Act is not in force, I give the following figures, which show the average cost per 1,000 of the inhabitants for each of the past nine years in districts where the Act has been in force:—1890, 18s. 6d.; 1891, £1 8s. 9d.; 1892, 18s. 4d.; 1893, £1 5s. 10d.; 1894, £1 1s. 7d.; 1895, £1 2s. 8d.; 1896, £1 3s. 6d.; 1897, £1 2s. 10d.; 1898, £1 3s. 9d.*

Tables with reference to the working of this Act are introduced at the end of this report.

In those districts where the Act is in force, it continues to operate with entire absence of friction, and there is a general concensus of opinion as to its great value, even in districts where hospital accommodation is not yet available.

As an example of what I have just stated, I quote the following from the report of the Medical Officer of Health of Tutbury Rural District:—"The Notification of Infectious Diseases Act, since its adoption by your Council, has proved a great help in dealing with the infectious fevers, and the cost of its application has been infinitesimal, the total fees for the past year amounting to only £2 12s. 6d. I mention this fact, as before the Act came into force, it was feared by some that it would materially increase the rates."

The following are the comments of the Medical Officers of Health of those districts in which the Act is not in force:—

The Medical Officer of Health of Short Heath writes:—"There are two Acts which it is very desirable the Council should adopt as soon as possible, namely, The Infectious Diseases (Prevention) Act, 1890, and the Notification Act of 1889. Both of these, to become applicable to the district, must be adopted in manner prescribed in the Acts. The

* In estimating the cost for 1898 the cost of notifying measles in Burton-on-Trent has not been taken into account, as the inclusion of measles in that borough has merely been tried as an experiment for a time. Had the measles notifications at Burton-on-Trent been included in the estimate, the amount would have been £1 10s. 0d.

former Act confers important powers and duties on Urban Authorities and upon their officers with regard to inspection of dairies reasonably suspected of being infected, the cleansing and disinfection of infected premises, the retention, removal, and burial of infected corpses, the detention in hospital of infected persons, and the provision of temporary shelter for families during disinfection of dwelling houses. The Act, or particular sections of it, may be adopted; but I advise the Council, though some of the sections could not at present be put into force, to adopt it in its entirety, leaving it to the discretion of its officers to decide how far each section may be useful. With regard to the other Act my views are already well known to the Council."

The Medical Officer of Health of Smallthorne writes:—"I am sorry the Council have not thought it advisable to adopt the Notification of Infectious Diseases Act, although the good accruing from its adoption and the cheapness of its administration have been shown to them."

The Medical Officer of Health of Tipton writes:—"The Compulsory Notification of Infectious Diseases Act is not yet in force. I think that in course of time it will be general all over the country, and that a few isolated authorities should not have it in their power to refuse an Act so beneficial in the interests of all classes of society. My means of knowing about the outbreak of an infectious disease is limited to the kindness of my professional colleagues, to rumours amongst neighbours, and to the cases which break out in my own practice. The number of sanitary authorities in the county which now adopt the Act is 51, representing a population of 802,152. The average annual cost to us should not exceed £40 per annum."

The Medical Officer of Health of Wednesbury, in urging the adoption of the Act, says:—"Is it impossible that when this matter comes up again for consideration something may be done? As I have previously stated, in my opinion no useful end can be served by including the whole list of zymotic diseases in a list of notifiable diseases. Surely,

however, the members of the sanitary authority will agree with me that there is a practical utility in adopting the Notification Act in regard to enteric fever, small-pox, scarlatina, and diphtheria. These also are the diseases which call for isolation under circumstances which your medical officer may consider sufficient to demand it. I would earnestly suggest to the health authority that notification should be adopted in respect of the diseases I have specially mentioned. In small-pox such a step is imperative, so that isolation may be carried out from the first appearance of the disease—in the case of enteric fever, so that the total number of cases arising may be known, and so that, if possible, the cause of the disease may be traced, as for instance to defective food or drainage; in the case of scarlatina, so that disinfection of the infected premises may be performed, and the same consideration holds good in regard to diphtheria."

With reference to the remarks just quoted, it may be well to state that whatever arguments there may be in favour of the exclusion of certain diseases now included among those compulsorily notified under the Act, sanitary authorities have no power to make a selection in adopting the Act, they may, if they think fit, add to the list of notifiable diseases, but they cannot, on adopting the Act, exclude any of those diseases mentioned as being compulsorily notified under it.

This year the Medical Officer of Health of Leek Rural District again urges his Council to adopt the Act, and gives a very striking example of the advantages of the measure in a special report of an outbreak of scarlet fever, dated November 4th, 1898, which is reproduced in his annual report. I quote his remarks in full as follows:—

"I beg to report the occurrence of an outbreak of scarlet fever in the village of Norton. There are now 9 cases in 7 houses (none fatal). The history of the outbreak is as follows:—The first case, that of a child living in a cottage on the 'Flatts,' Norton, was taken ill on or about October 14th, the disease appeared in the second and third cases

towards the end of the following week, the fourth case began on October 26th, the fifth on October 29th, the sixth on November 1st, and the seventh on November 3rd. The first 6 cases occurred in cottages situated on or near the 'Flatts,' and are all within a short distance of each other. Although all the cases were medically attended, we heard nothing of the outbreak till November 1st. From enquiries made on the spot, from medical men and others, I am convinced that the case which occurred on October 14th was the first case of scarlet fever which has occurred in the Norton district for a considerable time.

"If this case and perhaps the two succeeding cases had been promptly notified to us, they would at once have been removed to the hospital at Tinster's Wood (which is situated within two miles of the village), and, in all probability, what now promises to be a serious epidemic, would have been cut short.

"The medical men practising in the district do not now, as heretofore, give us information of the early cases of infectious disease, presumably because the Notification of Diseases Act is not in force, and in the absence of an authoritative statement by the medical attendant as to the nature of what may or may not be an early case of infectious disease, the school and village officials can only suspect, and they are naturally extremely reluctant to take upon themselves the responsibility of acting on mere suspicion, which may very likely prove to be unfounded. In consequence, we sometimes fail to get information of an outbreak of infectious disease until a number of households are infected, when it is too late to make effective use of the isolation hospital.

"Gentlemen, if you are still determined not to adopt the Notification of Diseases Act, I strongly recommend you to at least make an arrangement with the medical men practising in the Norton sub-district for them to notify the *most important* of the infectious diseases. Norton is the most densely-populated part of our district, and a large proportion of the inhabitants are children.

"We have an isolation hospital in working order in the centre of the district, the usefulness of which is greatly restricted by the want of information of the early cases."

It is to be hoped, now that such a telling example of the need for the Act has been brought to their notice, actually within their own district, that the District Council will re-consider their previous determination not to adopt it.

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. In some instances it would appear that patients object to go to them on the ground that the accommodation provided is not satisfactory. In other cases in which difficulty is experienced the Authorities themselves seem to be responsible, owing to the fact that they take too limited a view of their responsibilities, and impose a hindrance to the isolation of infectious cases by making a charge for the admission to hospital of all persons who are not paupers.

The percentage of infectious cases isolated in urban districts where hospitals are available, and have been available during the whole year, varies very much—from nil in the case of Brownhills, Cannock, Sedgley, and Smethwick (Urban Districts), and Blore Heath and Stoke-on-Trent (Rural Districts), to 76·2 per cent. in Perry Barr.

The aim of Sanitary Authorities should be to isolate all cases where isolation cannot efficiently be carried out at home, and these constitute nearly the whole. A glance at the first column of the table referred to will show the position of each

district as regards percentage of cases isolated in hospital to total cases, both in urban and rural districts where the Notification Act is in force.

In view of the future action of the Council, it is desirable that I should again quote pretty fully under this heading from the reports under review, in order to indicate the feeling in the various districts regarding this important matter.

It appears that the Biddulph District Council favour union with Congleton, although in Cheshire, because it is said that its position and business relations bring the district into closer contact with Congleton. In the event of such a union, the Medical Officer of Health suggests that the existing hospital should be retained for the isolation of small-pox cases for the use of the joint district.

The Medical Officer of Health of Amblecote, whose cases are isolated at the Kingswinford hospital, by arrangement, points out that the public object to the proximity of the hospital to the Union Workhouse, and complain of the inefficient nursing. He recommends that at least one trained nurse should be appointed, and states that he approves of the County Council's suggestion as to grouping of districts for isolation hospital purposes.

The Medical Officer of Health of Bilston has been instructed to confer with the Medical Officers of Health of Willenhall and Darlaston with the view of reporting as to a scheme of union.

At Burton-on-Trent it appears that the new disinfectant, "formalin," is now used instead of sulphur for disinfecting houses, but the Medical Officer of Health states that it has not yet been long enough in use to allow of an expression of opinion as to its comparative efficacy.

The Medical Officer of Health of Coseley, in commenting upon scarlet fever in his district, writes as follows :—"As I have pointed out in previous reports, prompt isolation is the only means at present known for preventing the spread of this disease. The precautions at present taken of ordering children

from infected houses, or blocks of houses, to be kept from school, or in some cases temporary closure of schools, have some effect, but the question of interference with the work of education has to be considered, and, without doubt, the persistence with which the school officers look up absent children is a factor in the spread of this and other diseases, children being sent back to school while still in an infectious state, or too soon after the house has been infected.

"Some of the difficulties would be removed by the issue of improved regulations by the Education Department designed to prevent loss of grant by the school, and undue pressure on the child to return until all danger is past.

"The provision of an isolation hospital would, however, effectually meet these difficulties in the case of scarlet fever. I hope that your Council will soon come to a decision regarding this matter, which has recently been brought before you in the Special Report of the County Medical Officer. I have previously made a suggestion in case your Council fall in with the view of combination for this purpose."

The Medical Officer of Health of Newcastle Urban District, under the heading of diphtheria, states that all the cases had to be isolated in their own houses, "with the result that other cases in the same household occurred." He also states that had means existed of promptly isolating enteric fever cases, "more than half the cases would not have occurred." With reference to the use of the available hospital accommodation he writes:—"The hospital serves a most useful purpose for the isolation of fever patients, and, without its use during the year, it is appalling to think what would have been the condition of the town, as it was, in November and December we had more cases to deal with than we had isolation accommodation for."

The need for a hospital for the isolation of more than one infectious disease is well illustrated by the following remarks of the Medical Officer of Health of Quarry Bank under the heading scarlet fever:—"I have repeatedly stated that isolation at home in an industrial district like Quarry

Bank is not very efficient, owing to lack of knowledge among the poorer classes and to want of accommodation in their houses. It is a common practice for children suffering from scarlet fever to be allowed (and often compelled) to mix with the other members of the family long before the last stages of infection have passed. The true remedy is removal to an isolation hospital, and the advisability has been considered of using the present hospital for this purpose, in the absence of small-pox, in preference to isolation of enteric fever. The isolation of enteric fever can be much more successfully effected at home than can that of scarlet fever, but, on the other hand, the former requires more skilful nursing. In my opinion it is now of greater importance to isolate the first case of scarlet fever than the first case of enteric, as the latter is mainly conveyed by infected water and food and careless personal habits, whilst the former is usually air-borne, and may attack at some distance. If, however, enteric fever should break out in an overcrowded house or area, or where the water-supply is liable to contamination, such cases could only safely be dealt with by isolation. These conditions are becoming less common every year, and may be largely corrected by systematic sanitary inspection. The chief question involved in the isolation of scarlet fever is that of expense, and the Council will shortly be called upon to consider what advantages may be derived from combining with other districts to form a 'Hospital Area' for this purpose." Soon after the Council decided to use the small-pox hospital at Tividale for enteric fever cases, it was found that, although doing good service, the building was sadly inadequate to the requirements, and negociations were entered upon between the Council and an engineering firm to provide an iron hospital of thirty beds to be erected immediately near the site of the present hospital. Before this could be carried into effect a communication was received from the County Medical Officer proposing a new scheme for a joint hospital. The Council accepted the proposal, and is now awaiting the development of the scheme.

The Rowley Regis District Council are to be congratulated on having provided a new and efficient brougham ambulance for the conveyance of infectious cases to hospital.

The Medical Officer of Health of Rugeley writes as follows:—"The question of providing an isolation hospital for infectious disease for the district is still unsettled, but, as promised last year, the County Council, to whom the Rugeley Urban District Council applied for powers to form an Isolation Area, by taking in adjoining villages, has re-opened the question, and the position now is that the Rugeley Urban District Council await the evolution of some plan of hospital provision in convenient areas to be arranged by the County Council. A scheme was laid before the County Council Sub-Committee on Hospitals in February last by the County Medical Officer. This scheme united this urban district with the urban and rural districts of Lichfield, having Longdon as a central site for the hospital. Although I should like to see it built nearer to Rugeley, yet having regard to economy and the fact that the County Council promises pecuniary aid in building and maintaining a properly appointed hospital on a site to be approved by itself, I think that the distance of a mile or two will matter very little, and should not be objected to, where economy in building would be combined with greater efficiency and completeness of detail than could be obtained in a building on a smaller scale such as Rugeley could provide for itself. I therefore think the Urban District Council act wisely in putting itself in the hands of the County Council in this matter. I only hope that the latter will delay as little as possible in maturing its plans and getting to work on the building."

As regards the above quotation, a slight correction is necessary; it is towards the annual expenses of such hospitals, and not towards the cost of erection, that the County Council have decided to contribute.

The Medical Officer of Health of Sedgley says:—"I beg to repeat my recommendation of previous years, that

efficiency and economy can be best secured by combining with neighbouring localities for hospital purposes."

The Medical Officer of Health of Smallthorne calls attention to the need for an isolation hospital, and states that there is now some hope of one being provided.

The Medical Officer of Health of the borough of Stoke-on-Trent writes as follows with reference to the need for a disinfecting apparatus:—"The Sanitary Committee decided early in the year to provide a disinfecting apparatus, but on account of the difficulty of finding a convenient site the matter is still in abeyance. It is hoped that the apparatus will be provided as soon as possible, as the cost and inconvenience of sending clothing and bedding to Bucknall, and the delay in getting them returned, makes the disinfection of clothing and bedding in many instances impracticable, and probably secondary cases of infectious disease have occurred during the year, which would have been prevented had such an apparatus been provided in the borough."

I would remark with reference to this matter that there ought to be no delay in getting the clothing, &c., returned from the disinfector at the Bucknall hospital, if that apparatus were an efficient one. Although considerable additions have lately been made to the hospital buildings, I have not heard that an efficient disinfector has been provided to take the place of the old one, which is practically useless as I reported some years ago.

The Medical Officer of Health of the borough of Tamworth, who is also Medical Officer of Health for the rural district of Tamworth, states that the recent improvements in the hospital, which serves for the two districts jointly, have greatly added to the efficient working of the hospital.

It appears that the Corporation of Wednesbury are contemplating the erection of a temporary building, and the Medical Officer of Health expresses the hope that in his next annual report he may be in a position to say the building is completed and fit for the reception of patients.

The Medical Officer of Health of Wednesfield writes with reference to hospital accommodation as follows:—"I am afraid the present building cannot be looked upon as other than a temporary arrangement; it has certainly served its purpose fairly well up to the present time, but it will not probably be sufficient for the wants of this growing neighbourhood for very much longer. It would obviously be the most economical and efficient course for the Council to join with neighbouring districts in providing suitable and permanent accommodation."

The Medical Officer of Health of Blore Heath Rural District writes:—"In October, in answer to an inquiry by the County Medical Officer as to what provision had been made by your Council for the isolation of cases of infectious disease, I reported to him that in conjunction with the Rural District Council of Drayton, your Council had rented ground for the purpose of erecting a tent which is stored at the Union Workhouse, should an outbreak of dangerous infectious disease occur. In my opinion the tent would be found to be both inadequate and unsuitable for the purpose, and I beg to suggest, as a subject for your serious consideration, the provision of proper accommodation for the isolation of cases of dangerous infectious disease."

The Medical Officer of Health of Eccleshall Rural District writes under the heading "scarlet fever" as follows:—"In every instance the sick rooms were disinfected by fumigation with sulphur, but, as I have before pointed out, the disinfection of the bedding and clothing cannot be properly carried out until your Council is provided with a proper disinfecting apparatus at the hospital."

The Medical Officer of Health of Newcastle Rural District, in referring to an epidemic of scarlet fever, says:—"This epidemic speaks for itself as to the absence of any effectual means of isolation."

In Seisdon Rural District the hospital is said to give great satisfaction, the parents, without exception, expressing themselves "more than satisfied." Attention, however, is directed to the absence of provision for the isolation of small-pox cases.

The Medical Officer of Health of Tutbury Rural District recommends amalgamation with other districts for hospital purposes.

In Walsall Rural District, the Medical Officer of Health states that the question of providing hospital accommodation has been postponed for six months in order to ascertain the action of adjoining local authorities in the matter.

The Medical Officer of Health of Wolstanton Rural District writes:—"I am happy to state that the prejudice against removal to the sanatorium in cases of infectious disease is fast dying out. I have done my best this year to show—where removal was necessary—the advantages of isolation, and also the benefit to the patient when in a state of convalescence by his being able to benefit from the open air."

Vaccination.—In many of the reports attention is directed to the insufficient manner in which vaccination is performed. This, I regret to say, is not entirely owing to opposition on the part of the public, but is too often the result of the dishonesty of certain practitioners.

In view of recent legislation it may be of interest to quote a little more fully than I have hitherto done from the reports under this heading.

The Medical Officer of Health of Audley writes:—"It is satisfactory to be able to report that the Vaccination Acts are still efficiently carried out in the district. Little advantage has been taken of the new Act up to the present, only two objectors having appeared in six months. This intelligent action on the part of the inhabitants is of great importance, as the disregard of vaccination in other districts will in the future certainly lead to serious epidemics of small-pox, which efficient vaccination will in a large measure prevent from spreading to us."

The Medical Officer of Health of Bilston gives figures of vaccination returns for nine years, and says:—"By the Act passed last session in Parliament it is provided that vaccination shall now be performed at the home of the child and not at a

vaccination station, and that lymph from the calf shall be used instead of humanised lymph. These changes are already well known to the public, and it is to be hoped the result will be more efficient and complete vaccination throughout the country. Much of the vaccination in this district is quite inefficient—the idea evidently being simply to fulfil the minimum requirements of the law without any regard to its real use—and will have little, if any, protective power against small-pox when next it appears. This is the more to be deplored, because it not only gives a feeling of false security to the parents, but tends to bring the operation into disrepute, and to inflict incalculable damage upon vaccination as a preventive of small-pox."

The Medical Officer of Health of Burton-on-Trent points out certain defects in the recent Act, which were referred to in my last year's Annual Report, but states that "on the whole the new Act may be said to work fairly satisfactorily in this borough, as it is doing in many parts of the country."

In Quarry Bank, the Medical Officer of Health says that although most infants are vaccinated, he fears that in many instances the operation is imperfectly performed.

The Medical Officer of Health of Rowley Regis writes:—"The number of unvaccinated children has been increasing the last few years, but this year it is almost double that for the preceding year, and under the new law, will, I am afraid still further increase. The claimants for exemption from vaccination at present are not so numerous in this as in many other districts. The explanation of this fact I think is that the bulk of the people are ignorant of the provision of the new Act. Many of those who now claim exemption do so without any real knowledge of what the advantages or disadvantages of the operation are, but simply act on prejudice. I again reiterate my frequently expressed opinion that vaccination, unless thorough, is but little, if any, protection against small-pox. The compulsory clause of the Act may as well be abolished, as to allow the spirit of the Act to be evaded by vaccinating so as to produce one or at most two insufficient vesicles as is now done to such a large extent."

In Rugeley it is said that vaccination, both public and private, is efficiently done. Out of 133 children born, only one was excused from vaccination on the ground of "conscientious objection."

The Medical Officer of Health of Short Heath writes:—"The number of births registered was 156, of deaths of children under a year old 29, of children successfully vaccinated 17. Such neglect of vaccination, in spite of both experience and warnings, is truly deplorable. If people *will* ask for small-pox they *will* have it, and it will become the obvious duty of Sanitary Authorities to make provision for isolation on a scale which a few years hence will astonish them, both by its magnitude and cost."

The Medical Officer of Health of Smethwick writes:—"Although there has been no case of small-pox in the district since the subsidence of the epidemic of 1893-5, at any time by the very nature of the disease another outbreak may occur. We are prepared for it as far as a certain amount of hospital accommodation goes, but the great question is what is being done in the way of prevention—in a word what is the state of the community in respect of vaccination? Looking over the returns of the vaccination officer for the last eight years I find that 11,772 children were born, of whom 6,177—rather more than half—have been vaccinated, 30 have been certified to be insusceptible of vaccination, 1,789 have been registered as dead unvaccinated, in 180 cases the vaccination has been postponed by medical certificate, 117 removals have taken place of which the vaccination officer has been apprised, 879 removals of which he has not been apprised, and that 2,942 cases are still outstanding.

"The returns for the present year are as follows:—

DISTRICT.	Births.	Number successfully vaccinated.	Insusceptible of vaccination.	Had small-pox.	Dead unvaccinated.	Postponed by medical certificate.	Removed to districts, V.O. apprised.	Removed.—Address not known.	Outstanding cases.
Smethwick...	1727	662	2	...	200	8	8	154	640

"From these figures it will be seen that there is a considerable proportion of the population unprotected by vaccination, on whom the great shock of an epidemic will be likely to fall with terrible effect.

"The new Vaccination Act has more than met the scruples of the opponents of vaccination. Surely when so much has been done to meet every possible objection that could be urged against the operation one may hope for better things. The anti-vaccinator may now very gracefully retire from the position he has, with some little pretence of justice, hitherto occupied, but which under the new order of things is no longer tenable."

The Medical Officer of Health of Wednesbury writes:—"Vaccination during the year was almost a dead letter, but the operation of the new Act is likely to yield much better results in 1899. Two points, however, in the Act call for alteration. First, the conscientious objector should not be recognised, because in the great majority of cases there is nothing conscientious about the objection. It has not been my experience that the conscientious objector has been met with here and there so much as in certain localities where the agitation against vaccination has been actively carried on. In some streets there has been a large preponderance of conscientious objectors, and in others scarcely any. Secondly, whilst no objection can reasonably be made to the performance of vaccination by any qualified medical practitioner, the Act should insist upon the vaccination covering some area of minimum size to be fixed by the Act. At present, in order to escape vaccination in four places as recommended by the Act, parents take their children to practitioners who make one small vaccination mark. The result is that the child does not receive adequate protection from vaccination, and so by possibly developing small-pox a few years later when exposed to the infection, such a case may be brought forward by opponents of vaccination in order to shew its inefficacy, and the whole system is brought into disrepute. Such a danger should be made impossible."

In Wednesfield, also, vaccination seems to be practically neglected, for during the last quarter of the year only four children were vaccinated.

In Cannock Urban District, on the other hand, it is said that the "number of children vaccinated has increased very rapidly since the new Vaccination Act has come fully into operation."

In the borough of Stafford, 41 certificates of exemption have been granted by the magistrates since the passing of the Act.

Insanitary Dwellings and Overcrowding.

It would appear from the reports under review that the provisions of the Housing of the Working Classes Act, 1890, and the Public Health Act, 1875, in regard to insanitary dwellings, are receiving increased attention; still, there is room for greater activity on the part of Authorities, especially of rural districts, in condemning insanitary property.

The Medical Officer of Health of Bilston writes:—"As previously intimated, some streets (*e.g.*, Smith Street and Stone Street) are so close and narrow that the dwellings are packed together, without proper light and currents of fresh air, and, were it not for the financial position already alluded to, should be dealt with as 'unhealthy areas' and entirely condemned. Houses without through ventilation are common, and overcrowding prevails. Many are damp and unhealthy from the absence of damp-proof courses and spouting—both conditions should be remedied in all new buildings, and even in old houses the provision of the latter, at least, should be insisted upon. Four houses have been closed or made habitable, and 15 others repaired during the year. Eight cases of overcrowding have been dealt with, but, owing in part to the scarcity of cheap houses with a minimum of three bedrooms—to meet the needs of large families—it is most difficult to know how to deal properly with such, and to ensure decency.

"It has already been pointed out that the courts and yards frequently reek with emanations of all kinds, their

surfaces are covered with accumulations of filth, stagnant water, &c., and their small size often causes the privies and ashpits almost to adjoin the dwellings. These should be prevented by having the courts provided with an impervious pavement—when absorption of organic matter would be impossible—and well-lighted, and the ashpits should be made much less, rendered water-tight, and roofed over.

"The bye-laws dealing with these and other sanitary matters have—so I am led to believe—been recently under consideration, but they have not been submitted to the Health Department, and the result, therefore, cannot be given. They should, however, be made to cover the defects described."

From the last paragraph of the above quotation it would appear that the Bilston District Council are engaged in framing new Bye-laws, and that their sanitary officers have not been consulted in the matter. One cannot suppose that it is the intention of the Council to frame Bye-laws without the help of their sanitary staff, but that, however late in the day, such assistance will be sought. The chief object of all Bye-laws is to guard against evils in building and construction which would be likely to cause injury in a public health sense, and who, it may be asked, are better qualified to speak with authority on the subject than the members of the sanitary staff, whose business it is to enquire into existing defects and advise as to their correction?

In Cannock Urban District there is said to be a considerable amount of overcrowding.

It is satisfactory to find that action has been taken to remedy insanitary property in Rugeley in consequence of the remarks of the Medical Officer of Health in his annual report of the previous year.

The Corporation of Tamworth may be mentioned as an example of an advanced Authority in more than one respect, and it is satisfactory to find reference in the report of the Medical Officer of Health to a scheme, under Part 2 of the

Housing of the Working Classes Act, 1890, which is now under consideration, and has been enquired into by the Local Government Board, for purchasing certain property with the view of demolishing the houses and substituting modern well-arranged buildings.

The Corporation of Stafford have recently devoted special attention to the question of the housing of the working classes, and have caused special enquiry to be made by an inspector specially appointed for the purpose—under the instructions of the Medical Officer of Health—as to the house accommodation in the borough and the amount of overcrowding which existed. As the result of the enquiry, a Committee of the Corporation came to the conclusion that a scheme under Part 2 of the Housing of the Working Classes Act could not be recommended, but that in a number of cases, unless the owners put their property into a proper state, the houses would be closed. The following extract from the special report will prove of interest:—

"Number of houses inspected, 978.

"Only 10 houses were returned as being occupied by double families. [It is maintained by some members of the Committee that it is in better-class houses than those inspected where the double families live.]

"In the 49 two-roomed houses visited 14 of them, or 28 per cent., were overcrowded. In houses of more than two rooms overcrowding occurred in 130, or 14 per cent.

"In 93 houses, or 9 per cent., the walls were damp.

"In 83 houses, or 8 per cent., repairs of various kinds were needed, such as to floors, stairs, ceilings, &c.

"A large proportion, amounting to about 20 per cent., were returned as being in a dirty condition.

"In 90 houses, or 9 per cent., there was not separate closet accommodation."

In commenting upon the Special Report, the Medical Officer of Health draws the following general conclusions:—

"*(a)* That overcrowding exists to a greater extent than should be the case.

"*(b)* That in their present condition a large number of houses are insanitary.

"*(c)* That more houses are required for the poorer working classes."

With reference to these conclusions, the Medical Officer of Health says:—"The first two conditions are now having the attention of the Sanitary Inspector, but they are such as can be only very gradually corrected. The better housing of the working classes is a social question of the first importance, and is one which is calling louder every year for the attention of sanitarians. Dwellings, which were regarded as satisfactory a generation ago, are now unhesitatingly condemned. The cottage, as well as the mansion, must be dry, light, well-ventilated, and admit of being easily cleaned. Its yard, too, must be drained and paved so that the ground does not become polluted. And how are such dwellings to be provided at a rental the really poor can pay, say from half-crown to three-and-sixpence a week? Builders do not erect houses for this class, and the natural result is these poor people are driven into houses which are cheap because they are in bad condition. Overcrowding too naturally follows, and it will, I fear, continue to exist until the problem of cheap sanitary dwellings for the people is solved."

The Stoke-on-Trent Rural District Council seem to have shown activity in the direction of improving the working class houses in the district. In referring to a number of houses which were closed either permanently or for repairs, the Medical Officer of Health states that one landlord was proceeded against under the Housing of the Working Classes Act, 1890, and fined £5 and costs in respect of each of ten houses, which were also ordered to be closed.

In Walsall Rural District it is said that over-crowding is on the increase, owing largely to the scarcity of houses in several of the parishes.

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 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.

In the new urban district of Amblecote, where the water-carriage system is pretty general, the Medical Officer of Health states that a house-to-house enquiry is now in progress in order to ascertain the number of houses which are connected with the sewers, and he hopes to be able to show, probably in his next annual report, how the matter stands.

The following satisfactory remarks appear in the report of the Medical Officer of Health of Biddulph:—"The alteration anticipated in my last annual report has now been effected. At the termination of the scavenging contracts at Midsummer, the Council undertook the work by means of a scavenging staff directly under its own control. It is believed, from six months' experience, that the result will be eminently satisfactory.

The Sanitary Committee also decided, after exhaustive discussion, to adopt the system of excrement disposal, known as the "Congleton Peat Pail." I was able to advise them that the experiment had been made at Knutsford with very good results. Some few are being got into use. The pails are made of wood; each contains one-fifth its volume of finely powdered and carefully dried peat dust, acidulated with ten per cent. by weight of common sulphuric acid. The pails are in duplicate, and once a week a clean one is placed in position, and the partly filled one removed. The peat absorbs all moisture as fast as deposited, and the sulphuric acid fixes the ammonia given off by decomposing urine. The pail contents are thus always dry, and almost inodorous (of course if the pail receive fair treatment), and when emptied at the central depôt are found to have largely combined together into a kind of humus which forms a valuable manure. For property which is not considered fit for water-closets, this system is the best with which I am acquainted, being superior to cesspools, privies, earth closets, ordinary pails, or stop-water closets."

The following remarks of the Medical Officer of Health of Brierley Hill are quoted *in extenso*, as they bear forcible testimony to the invariable failure of the contract system of refuse removal, and to the mistaken policy of placing the responsibility of directing attention to neglect on the part of the contractor upon the householders. The Authority, by this means, are probably in a position to claim more or less exemption from direct responsibility, but they thereby endanger the public health, of which they are the sole guardians. The following are the remarks referred to, which appear under the heading Excrement Removal :—

"This work is still in the hands of a contractor. The three years' contract will terminate next April, and the question now arises whether you will continue to have the work carried out under that system. The system is universally condemned, and can only be supported on the ground of cost.

"During the year frequent complaints were made as to the delay on the part of the contractor in emptying the middens and ashpits, the nuisances arising therefrom, and danger to health being constantly brought to my notice, and although he may not have been always to blame, some better plan seems to be very desirable.

"The midden nuisance is a matter of perennial interest ; its faulty construction, and the infrequent removal of its contents affording inexhaustible material for discussion before your Sanitary Committee—*ad nauseam*. In previous annual reports I have endeavoured to point out the reasons why this is one of the most difficult questions with which you have to contend, and may be briefly stated as follows :—

"1. The Contract System.—By giving out this work for competition, and accepting the lowest tender, you do not get the best results. The main object of the contractor is to make a profit. However much he may desire to give satisfaction to the Council, it goes without saying that his personal interests will have the first consideration.

"2. Structural Defects.—The construction, insanitary condition, and means of access of a large proportion of the

privy-middens increases the difficulties and cost of cleansing, by absorbing more time and labour than should be necessary.

"3. NOTICES.—The present system of leaving it to the occupier or owner to give notice when these places require cleansing does not work satisfactorily.

"THE CONTRACT SYSTEM.— I am assured by your present contractor that it is quite impossible to do the work satisfactorily *at the price at which he tendered to do it* three years ago. As this contract is about to terminate next April, I think the question whether the work should be offered for competition requires your most careful consideration. I have no hesitation in advising you to abandon the contract system, as I consider it has proved to be a complete failure. You have given this system an extensive and fair trial, and I do not think you have been satisfied with it. The time has now arrived when you should seriously consider the advisability of taking this work directly under your own control, and carry it out with your own servants. By having the whole machinery in your own hands the work would be much more thoroughly and efficiently done. It is imperative that some more satisfactory method should be adopted, and in your deliberations upon it, I would respectfully ask you to place this important question upon higher grounds than that of cost alone.

"DEFECTIVE CLOSETS.—I regard this as the most important obstacle the contractor has to contend with. Many of these structures are much too large, difficult of access, and contain filthy liquid excrement. They are frequently made the receptacle of rubbish of every conceivable description. The above conditions are a great hindrance to the work. To call upon all the owners of property to convert these structures into good, dry, sanitary closets is undoubtedly a very serious question, but it is also a very serious question to allow them to remain insanitary. To make these places sanitary, they should have a good impervious floor, level with or only a few inches below the surrounding surface, be well roofed and ventilated, so that the contents can be kept dry, and nothing but dry ashes should be thrown into them. If a separate

receptacle were also provided for other rubbish and part of the ashes, and its use made compulsory by a bye-law, it would be an advantage. A dry privy-midden, such as I describe, can be readily and quickly cleansed, and there would be no disgusting liquid filth deposited in the streets during the operations, thus getting rid of one of the most objectionable of nuisances. The dried dust in the street where these liquid deposits have occurred is also a danger to be reckoned with, as it may get blown about and deposited on food exposed for sale, or inhaled by passers-by. The above remarks do not apply to new buildings, as in that case care is now taken to ensure a better system. The alterations to the older structures should be more thoroughly done, not only to make them more sanitary, but also to make them more accessible to the scavengers.

"NOTICES.—A complaint book is provided for these notices to be entered in. There is no difficulty in obtaining access to it. It is the fault of the people themselves if advantage is not taken of this opportunity of giving early notice of nuisances. The small house occupier is proverbially careless in sanitary matters. Experience has proved that the nuisance is in many cases allowed to accumulate until the cleansing becomes urgent. If these urgent notices come in from several parts of the district on the same day, it upsets the system of working to give immediate attention to them, and there is consequently some delay. I have investigated a good many of these complaints, and find there is often exaggeration and unreasonable abuse, which a little more consideration and attention to giving notice at the proper time might have prevented. Though this is so, it cannot be denied that there have been cases where, after giving proper notice, an unreasonable time has elapsed before the cleansing has been attended to. Something further appears to be necessary, and I think it can be met by more regular and systematic official inspection of these particular nuisances, so as to ensure more frequent attention to them. The inspection should be daily, and the scavenging regulated in accordance with the require-

ments. If this work cannot be undertaken by your present staff, then some appointment should be made to meet it.

"An examination of the Sanitary Inspector's monthly reports for 1898 shows the contractor's monthly average of work done, and I think clearly indicates the direction in which some more definite regulations should be adopted. There are 1,673 privies and 1,294 ashpits in the district, all of which the contractor undertakes to cleanse. Taking the ashpits as the better guide to the amount of work done, I find the Inspector's monthly reports show that 1,822 ashpits have been cleansed during the year, or an average of 151 per month. As there are frequently two privies to one ashpit, they come out at an average of 182 per month. Supposing you require your contractor to cleanse out every privy and ashpit within the district once in every three months, he must empty 431 ashpits per month. I do not suppose anyone will contend that once in three months is too frequent cleansing for these nuisances—it is, in fact, not sufficient—but the figures show that your past efforts are very far short of even this standard. An average of 182 privies per month is wholly inadequate for the requirements of the district, and I feel sure once you recognise this fact, you will endeavour to put this department upon a better system. If the structural obstacles I have already referred to make it impossible to regulate the work by any fixed rule, does not that show the necessity of adopting some standard of improvement which shall bring all of these places as nearly as possible into line? With more efficient and systematic inspection, more regular and frequent removal, it is not improbable that once the system is well established, very little extra labour would be required than it now takes to do the work in an unsatisfactory and inefficient manner.

"There is another way of looking at this question. If you press forward with your scheme of deep drainage, the majority of the privy-middens could be abolished, and the water-carriage system adopted. This would remove most of your present difficulties and at least half the cost of scavenging would be saved. There is no reason, however,

why the probability of an early adoption of deep drainage should interfere with the structural alterations of the present privy-midden, as the alterations could be made so as to meet the requirements of W.C.'s without any further serious cost to the owners of property."

The Medical Officer of Health of Brownhills writes:—"In looking to the future sanitary progress of the district, I would again urge upon the Council the duty incumbent on them to see to the prompt and efficient disposal of the refuse from the ashpits. This, as at present carried out in many parts, amounts to the carts depositing the refuse in the most convenient site possible, that is to say, broadly, the nearest. Take as a sample the deposition of such refuse in the rear of the Central Schools, bordering on the play-ground for the children, and intermediate between them and a long range of houses. Now in these days when the germ theory of disease, of the origin and continuation of disease, is proven, I think I may say, up to the hilt, when diseases such as Phthisis Pulmonalis—formerly thought to be the inheritance more or less of the British race—is now known to be capable of propagation from one to the other by the media of the expectoration in a dried form impregnating the atmosphere, I am sure you as a Council will agree with me that the excreta from lungs, &c., should not be dumped down in the most easy spot, but removed so far as is possible to a remote distance from centres of population, more especially from the children who are to form our future commonwealth. I again respectfully urge upon the Council to take all portions of the district into their own hands for the removal of ashpit refuse. I know that this may probably be in the first instance more expensive, but if it is true in the body corporate that national health is national wealth, then I do believe that in the portion to which we belong the aphorism must also hold good."

Under the heading of sewage disposal the Medical Officer of Health of Burton-on-Trent writes as follows:—"As the new deep level sewage scheme for the western side of the

borough is now approaching completion, some distinct improvement in the health of the town may be looked for, but the full benefit of this large expense will not, and cannot be felt unless the combined privies and the single ashpits are done away with. There are about 1,400 privies in the town at the present time, and 7,100 pail closets. In my report to you on June 30th on this matter, I drew attention to the advisability of obtaining the necessary powers to compel W.C.'s being provided in all new houses at least. I also strongly urge that privies, which are a nuisance, should be converted into W.C.'s in all property (except the poorest and where there is no tap water). Were the town to bear a portion of the cost of the conversion of all privies and pail-closets into water-closets, there would be a distinct annual saving in the expenditure of scavenging these places. The disposal of excreta from the pail-closets —a question I touched on in my annual report last year— having been brought prominently forward during the year, your Authority thereupon elected a Special Committee to deal with the whole question, and no doubt the results of that Committee's enquiries and recommendations will be of lasting benefit to the town."

Under this heading the Medical Officer of Health of Darlaston writes as follows:—"That this important question has been seriously considered by the District Council during the year is shown by their refusal to pass the plans of new buildings unless a water-closet be provided in place of our obsolete form of privy and midden, and also by a resolution recently passed that a Sub-Committee be formed to frame— in consultation with the County Medical Officer and myself— such bye-laws as will confer the requisite power for compelling privy conversion. The system we now have is bad, and a standing menace to the public health, and until (where practicable) the more wholesome system of water-carriage is substituted for it, we shall be unable, with any reasonable hope of permanent success, to make much progress."

The Medical Officer of Health of Fenton, in a very modest paragraph, calls attention to the introduction of a

system in that town which many of the urban districts in the County would do well to copy. In place of the old large ashpits, galvanized iron dust-bins are being adopted with a weekly collection of ashes. On seeing this paragraph I communicated with the Medical Officer of Health, and, through him, I obtained the information that this system is now in operation in 129 houses. It is to be hoped that the District Council will continue to encourage its general adoption.

The Medical Officer of Health of Handsworth writes :— "I think the dry ashes would be better and more economically collected if moveable receptacles were gradually substituted for the present ashpits. This would get rid of the present unsightly and probably unhealthy method of collecting the refuse in heaps in the streets preparatory to carting it away."

In the same district, with reference to privies, the Medical Officer of Health says :—"In 302 cases, privies and middens were converted into water-closets and dry ashpits or receptacles after notice had been served on the owners, in addition to many which were converted without notice on the suggestion of Mr. Hodges. An increase of 35 as compared with the year 1897."

The existence of foul privies is credited by the Medical Officer of Health of Longton with contributing in no small degree to the recent serious epidemic of diphtheria in that borough. He says :—"The emanations from privy cesspools are self-evident, you only have to stand near to one to become convinced of this, on a fine summer day or a close sultry one and more especially near one outside the closet covered over with a stone which does not fit so well as to prevent rain getting in, which helps the work of decomposition of the contents ; these cesspools are placed at the backs of the houses in the footpath over which the people walk to their homes, and often enough children are to be seen playing over them.

"Cesspools are known to become leaky more or less, in a comparatively short period of time long enough before it is considered necessary to replace them by water-closets or flush

pans. In all cases of leaky cesspools when discovered, notice is at once given to replace them by water-closets or flush pans.

"I must beg you to excuse me for writing so much upon this matter, but after much thought and deliberation I have felt that I should be doing less than my duty by not doing so after such a scourge as we have been passing under, and I must warn you that the conditions are still in abundance, cases of the dreaded disease are still being reported, and I am convinced that a rather long period of dry weather will develop another epidemic unless some radical work is done to oppose it."

In Newcastle, the Medical Officer of Health says faulty privies are gradually being abolished, and water-closets substituted. During the year 112 privies have been so converted in this borough.

The Medical Officer of Health of Quarry Bank congratulates his Council on the abolition of the contract system, and refers to it as the "principal sanitary reform of the year."

Under this heading the Medical Officer of Health of Rowley Regis says:—"Although great zeal is exercised in working this department, the system and the work is under many disadvantages from a sanitary point of view. The present tips are being rapidly filled up, and are becoming most unsavoury mounds. New sites for tips are becoming very difficult to obtain as building operations are being carried out extensively throughout the parish. The work is very apt to get into arrears, especially during wet weather when the men are unable to work. The work when done must of necessity pollute the soil in the immediate neighbourhood of the property from which the night-soil is removed. The most feasible method of remedying this state of affairs, is the substitution of water-carriage for the present system. In furtherance of this, water-closets are being substituted for all dilapidated and insanitary midden-closets, and all new houses are to be provided with water-closets. I hold that when a midden has received the excrement from an enteric patient, that that midden is irretrievably contaminated and is a perpetual source

of danger, and I invariably advise the Council to give orders for a water-closet to replace it."

The Medical Officer of Health of Smallthorne urges his Council to adopt "some cleaner and more up-to-date method."

In Smethwick, the Medical Officer of Health says—"The good work of converting privies into water-closets has gone on uninterruptedly, as 392 more privies and 357 ashpits have been swept away . . . ."

In Stoke-on-Trent similar work is being done, and 161 water-closets have been provided for 182 houses during the year.

The Medical Officer of Health of Stafford writes:—"The disposal of refuse is no longer a source of trouble. The four-cell destructor, erected by Messrs. Manlove and Alliot, burns the whole of the town refuse, and enough steam is generated through its combustion to pump the sewage up to the tanks."

The Medical Officer of Health of Kingswinford Rural District writes:—"From a sanitary point of view, the privies and ashpits are not cleansed as frequently as they should be. The present system of leaving it to the occupier to give notice does not work satisfactorily, because they allow the nuisances to accumulate until the removal becomes urgent, and these notices coming in from widely separated parts of the district must cause delay and make the regular removal difficult. I think the exact number of these places in each district should be ascertained, and systematic and regular removal insisted upon. A monthly statement from each district should be presented, showing the number of privies which have been cleansed. The object to be kept in view is to empty these places as frequently as possible, and it should not be less than once in every three months. To attain this object, it is necessary to know the exact number which should be cleansed in each district monthly. As a further aid to this work I think each sub-district should have a station, where a complaint book could be kept, and weekly visits made by the Inspector. The cost would be trifling compared with the advantage

conferred, and a much more regular and systematic supervision would follow. At this weekly visit the Inspector could go round and note the places the contractor had reported to him as attended to, thus ensuring a systematic inquiry into the sanitary condition of each district. In a widely-scattered district like this it is impossible for one Inspector to promptly attend to all the complaints made to him, coming, as I know they do, from widely separated places, but I think that at least one day per week should be devoted to each district, and the Inspector should be provided with an office where complaints can be brought to his notice. The cost which this step would entail is not a very serious one, and I feel sure it would be amply justified by the results, and would be appreciated by the inhabitants generally." Later on in his report this Medical Officer of Health urges his Council to consider the question of the adoption of an improved form of privy.

The Medical Officer of Health of Stoke-on-Trent Rural District suggests to his Council that it might be worth while to consider the practicability of undertaking the work of refuse removal themselves.

Sewerage and Sewage Disposal.

Apart from the information already in the Council's possession as to the general activity on the part of most Authorities in improving the various sewerage systems, it is evident from the prominence given to the subject in most of the reports that honest efforts are being made to meet the views of the Council. The following summary of the remarks under this heading will serve to show that this is the case:—

At Biddulph, nothing yet appears to have been done, but the Medical Officer of Health informs his Council that he is prepared to advise upon the matter whenever new works become necessary.

The Sanitary Committee, from time to time, have brought pressure to bear on the Corporation of Burton-on-Trent with reference to pollution from Stapenhill and Winshill, and the Medical Officer of Health now writes:—"As regards the

treatment of the Stapenhill and Winshill sewage, this sewage being chiefly household, the new 'septic' tank of Cameron, followed by filters, might sufficiently treat it without subsequent land filtration being necessary, especially if time proves this method of treatment to be all that is claimed for it, and so save the comparatively enormous expense of conveying to and dealing with this extra quantity at the present farm."

The Medical Officer of Health of Coseley writes:—"Owing to the scattered nature of the district and the disturbance of the surface from mining operations (which are more frequent in a colliery district in which the coal is so near the surface as it is here) deep sewerage has always been considered impracticable. An example of this difficulty is shown by the fact that the land is now being affected by mining at a point which, a short time ago, was suggested as a possible site for sewerage works. The unwatering of the mines by the hydraulic scheme, by which it is hoped to render coal accessible which is at present not so, is another element to be considered. At the same time it is obvious that many sanitary defects cannot possibly be remedied without improved drainage, and, therefore, I hope that it will be found practicable to deal, at least partially, with the matter."

In referring to the sewerage of Heath Town, which is now completed, the Medical Officer of Health points out that it will now be possible to improve the sanitary state of Park Village.

The Medical Officer of Health of Rowley Regis gives the following particulars in his report:—"The whole of the district, with the exception of a portion of the Rowley Regis Ward, is now laid with collecting sewers, and a vast amount of work has been done in making house connections. This work is still in progress. I am indebted to Mr. W. Whitworth, our assistant engineer, for the following Notes on House Connections made in Rowley Regis District between June 1st and December 31st, 1898:—

"'Seven hundred connections have been made to the sewers in Cradley Heath and Old Hill Wards. Approximately these have taken 28,000 six-inch pipes, 11,000 four-inch pipes, and 3,000 gullies to construct, one gulley being put to each house. During the carrying out of the work it has been found absolutely necessary to re-lay most of the brick sinks to wash-houses. This has been done with blue paving bricks and blue plinth bricks set in cement. The brick chase used as outlet to the sinks has been entirely substituted with two-inch earthenware sink pipes.

"'In order to get as much yard-water which can be called sewerage, into the gullies, the re-laying of the yard paving has been found inseparable from the work of drainage, and in many cases it has been advisable to put down new blue paving.'"

With reference to cellar drainage, the Medical Officer of Health writes:—"In exceptional cases cellars are still drained into the sewer. This question is coming before the notice of the Council at an early date, when I trust this dangerous practice will be stopped, as, however carefully cellars are connected with sewers, there is always a possibility of admitting sewer-gas into the house."

The Medical Officer of Health of Rugeley writes:—"This subject is still before the Urban District Council, the delay being caused by difficulty in coming to terms with the Earl of Shrewsbury in regard to the purchase of land necessary to carry out the proposed works, which will consist of septic tanks, built in such a manner that they can be converted into precipitation tanks should they not answer properly. The sewage, after passing through the tanks, will be further dealt with by proper beds, under-drained and laid out on the two fields to be purchased. A detritus chamber and a storm filter-bed will be also provided. Parts of the present sewers will also be taken up and relaid."

The Medical Officer of Health of the Borough of Tamworth writes:—"In July a scheme of sewerage and sewage disposal for Bolehall and Glascote was passed by the Rural

District Council and laid before the Local Government Board, but rejected on account of the unsuitableness of the site for the disposal works.

"In October a letter was received by your Council with reference to a scheme of sewerage and sewage disposal for the borough, stating that the Board had not yet been furnished with details of the alternative scheme promised. The Sanitary Committee have this subject under consideration, and the Rural District Council have passed a resolution appointing a committee to meet the Sanitary Committee of the Borough and discuss a joint scheme for the Borough, Bolehall, and Glascote, and part of Wigginton.

"It is greatly to be hoped that such a joint scheme will be carried out, as it will be much to the advantage of the Borough and these two parishes that they should join together, as from their situation their main outfall sewers must of necessity run alongside for about a mile, whereas, if they join, one outfall sewer will be sufficient for the two, and one disposal works, with one man to look after them, instead of two outfall sewers and two disposal works with one man each. I would, however, strongly advise the Authorities, that, in my opinion, the removal of the Alders and Comberford weirs should precede the carrying out of any sewerage and sewage disposal scheme, both on the score of efficiency and expense. The outfall sewer will now have, of necessity, to be laid in water for its whole length, as the ground water is so near the surface; whereas if these weirs were removed it may, at any rate for part of the distance, be laid in dry ground, and for the remainder in a less depth of water than it would have to be now. The man-holes for inspection, too, can then be laid at ground level instead of being raised above the flood level, as they would have to be now, and, besides, the lower parts of the Borough in Lichfield Street and Bolebridge Street would have now to be provided with cut-off valves, so as to prevent the water getting into the sewers in flood times, when of course their contents would become stagnant. On the other hand, if these weirs are removed, it will make a very great difference,

and a large amount of expense will be saved, and a more efficient and healthy scheme provided. For these reasons I would urge their removal, especially the Alders weir. You are to be congratulated that, unlike many districts which have spent large sums of money in works of sewage disposal, which are now found to be useless, you have the opportunity of adopting the most recent, viz., the Bacterial system, which has been tried and is highly spoken of elsewhere. This system, which appears to be simply following out nature's own plan, has been in vogue at Sutton, in Surrey, for some years, and is at work at Leeds and Burslem, and is being adopted at Lichfield, Manchester, and many other places."

The Medical Officer of Health of Uttoxeter Urban District trusts that a scheme is now almost decided upon.

The Medical Officer of Health of Stone Urban District writes:—"The sewage works have been carried on throughout the year, the sewage being treated with alumino ferric and permanganate of potass as a deodorizer, and then passed through the polarite filters; but the effluent has been very unsatisfactory, and, as you are aware, was very unfavourably reported upon by the County Medical Officer. It is now perfectly clear that the capacity of the tanks, as designed by the Engineer and carried out by your Authority, with the approval of the Local Government Board, is totally inadequate for the amount of sewage. Brewery refuse may to some extent account for the poor character of the effluent, as the Engineer affirms that it was his intention to have it first treated at the breweries before being allowed to enter the drains, but that excuse does not release him from the unfortunate error of having so greatly under-estimated the volume of sewage to be dealt with. It would be difficult, I fear, to further purify the sewage by land irrigation on the present site, as the adjoining plots of ground are unsuitable both from geological formation and from the situation being so nearly on a level with the river.

"Two experimental tanks have, however, been put down for coal filtration, and are now in working order. They will,

I hope, prove to be a success, and enable your Authority to amend the scheme by erecting a sufficient number to treat the sewage on bacteriological lines. These experimental filters will work 12 hours and rest 12 hours, and are regulated to take 200 gallons per square yard in 12 hours.

"Complaints that were rife in the early part of the year of nuisances at different manholes have been remedied by the fixing of a Field's Automatic Flushing Tank placed at the head of the sewer. One or two more might be fixed with advantage in other situations. It is much more efficacious than additional ventilating shafts."

The Medical Officer of Health of Cannock, who takes a personal interest in the question of sewage disposal, and advises his Council regarding it, writes:—"I have regularly visited the sewage farm during the past year, taking on each occasion samples of the effluents, which, on examination, have shown on an average a satisfactory improvement.

"It is pleasing to record also that the sewerage of Heath Hayes has been completed, and that the sewerage of the other undrained portions of the district will be in course of completion this year."

In Cheadle Rural District, the Medical Officer of Health states that the most important work during the year was the sewering of Cheadle proper, which, it would appear, is now completed with the exception of Queen Street.

As regards Kingswinford Rural District, it is said that a scheme of sewerage and sewage disposal now only awaits the sanction of the Local Government Board.

The Medical Officer of Health of Lichfield Rural District writes:—"During last year, the Chasetown drainage system has been entirely re-modelled. New main sewers have been laid in every street, and a different method of sewage disposal adopted, under the sanction and with the approval of the Local Government Board. The old main sewer which formerly carried both storm-water and house drainage, is now only used for the former, which it carries direct into the Crane

Brook, the old filter beds having been filled up. All drains, other than storm-water, have been connected up to the new main sewers. The sewage thus collected is chemically treated, depositing 'sludge' in a precipitation tank — designed by Ives, of Derby—of the Dortmund type. The effluent from the tank is then made to irrigate about 4¼ acres of land which have been specially levelled and prepared. The 'sludge' which is pumped out of the tank daily, is highly recommended as a manure. The effluent, since the beginning of this treatment (December, 1898), has appeared to be of satisfactory purity, and ultimately runs into the Crane Brook. The new system appears to be working well. It is capable of dealing with 50,000 gallons per day of 24 hours, and since the present flow averages about one-third of that quantity, affords accommodation for future requirements."

The Medical Officer of Health of Stoke-on-Trent Rural District writes:—"Under the direction of the Council's Surveyor and Engineer, Mr. Larner Sugden, the sewage works are now in an advanced stage. The whole of the main pipes are laid, except in the case of the Abbey Hulton and Leek New Road section, which has been delayed by the necessity for an entirely new scheme, owing to the exorbitant demands of local landowners and tenants. As soon as the Local Government Board's sanction to the necessary loan for this is received, the work will go on apace. The pumping station buildings are complete, and the machinery is about being started. Some delays also have resulted in obtaining way-leaves, and ascertaining rights of ways.

"The irrigation fields are being drained by labour employed by the Council, under the direct supervision of the resident engineer."

As regards Tamworth Rural District, the remarks of the Medical Officer of Health have already received notice in the paragraph relating to the urban district.

It would appear from the remarks of the Medical Officer of Health of Walsall Rural District that the sewerage and

sewage disposal scheme for Pelsall and Rushall is now nearly, if not quite, completed, and that the scheme for Aldridge 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, were still in use:—

In Burton-on-Trent, which is chiefly supplied by the South Staffordshire Waterworks Company, there are still many private shallow wells. Out of 82 samples of these well-waters which were analysed during the year, 72 were condemned, seven were suspicious, and only three were pronounced to be good. Concerning these wells the Medical Officer of Health writes:—"I may here remark that in about 99 out of every 100 wells in the gravel beds of the river Trent, within the borough of Burton-upon-Trent, the water will be found to be unfit for drinking purposes. This point should be considered before wells are sunk for new houses particularly."

The Medical Officer of Health of Brownhills writes:—"I would urge upon the Council in all cases where the water-supply is deficient or of bad quality, that the owners of such property should be at once compelled to avail themselves of the public water-supply. It is a point that is brought to my notice very frequently by tenants wishing me to take their burdens on my shoulders, and asking me to insist on water being supplied to their tenements, but on no account to mention their names, as they would get notice to quit, or in the best their rents would be raised. I should like to see the Council give a reasonable warning in such cases, say 14 days, and if the supply has not been provided, let them at once close the tenements as unfit for habitation.

I think strongly that this would put an end to landlords coercing their tenants so that they may not make known their just complaints."

The Medical Officer of Health of Coseley writes:—"I have received a return to the effect that the public water-supply has been laid on to 133 houses during the year. With regard to Woodcross and part of Cinderhill, where the public supply is not yet available, I understand that a clause has been introduced into a local Bill, about to be brought before Parliament, which will remove some of the difficulties which still exist, owing to the unfortunate fact of that hamlet being in more than one water company's area. The matter is an urgent one, and I hope will soon be settled. The trouble which the Clerk and Surveyor have been put to in this matter has been exceptional, owing to obstacles, legal and otherwise."

The Medical Officer of Health also points out that there are still many houses in parts of the district where the public supply is available which are dependent upon local wells. It appears, however, that the Surveyor has had instructions to follow such cases up, and the Council seem to be determined to use all their powers to enforce the provision of a pure supply for every house.

In Quarry Bank considerable progress seems to have been made in extending the public supply. During the year 71 houses have been connected with the mains, leaving only about 200 houses which are still dependent upon local wells.

In Rowley Regis, out of 73 samples of well-water which were analysed, no fewer than 71 were condemned.

The Medical Officer of Health of Sedgley refers to the same legal difficulty as regards a part of the district which is mentioned in referring to Coseley. He also states:—"The water from 13 wells has been examined by the County Analyst, who has condemned every specimen as unfit for drinking purposes. The water used in Bilston Street was found especially contaminated.

"During the year your Surveyor informs me that 101 houses have been connected with the mains of the South Staffordshire Waterworks Company, as compared with 120 last year. The Surveyor has also obtained from the Company a corrected return of the houses in your district supplied with their water. In previous years the number was incorrect, but in October last the Company said that 1,505 houses in your district had a public water-supply, and seven have since been connected, making a total at 31st December, of 1,512 houses supplied by the Water Company.

"It would be of benefit to obtain a special book or register to note the water-supply of all the houses in your district, and I beg to recommend that it be obtained. By its aid the houses without any water-supply could be more rapidly dealt with."

In Smethwick, it appears, only a few private wells remain. No fewer than 727 new houses were provided with water from the South Staffordshire Waterworks Company's mains during the year, and 56 old houses were so supplied. With reference to the samples analysed during the year the Medical Officer of Health says:—"Of the nine samples of water analysed, six were taken from the mains at different places, and all were found of good quality; three were taken from wells, and all were condemned."

The Medical Officer of Health of Stone Urban District states that of 115 samples of well-water analysed, nearly two-thirds proved to be unfit for use. Many owners have willingly laid on the public supply, and others are being pressed to do so.

In Tipton, out of an estimated number of houses of 6,700, 6,071 are now supplied from the mains, 155 of which were connected during the year.

The Medical Officer of Health of Uttoxeter Urban District writes:—"The quantity of water coming into the town from Bramshall and Somersal is quite inadequate for the number of inhabitants, and the Council have been

actively engaged during the year in considering the best means for increasing the supply, but, unfortunately, many vested interests, real or imaginary, have to be taken into consideration before the necessary work can be begun."

In rural districts, difficulty, legal and otherwise, is often experienced in enforcing the provision of proper water-supplies, but in some instances it would seem that the District Councils are at fault in the matter. This appears to be the case in the Eccleshall Rural District, as the following quotation from the Medical Officer of Health's report indicates:—"The water-supply at Shallowford village is still very defective. I am afraid it will be difficult to find a good supply, as the village lies very low, and I believe all the wells contain surface or river water. The supply to some of the cottages at Bowers Bent is also unsatisfactory, owing to the same causes, but here they might will be supplied by the Hatton Waterworks, as the mains to Bowers pass through the village."

In Cannock Rural District report it is stated that the Parish Council of Great Wyrley have arranged for a water-supply from the mains of the South Staffordshire Waterworks Company.

It is satisfactory to find that the Cheadle Rural District Council have succeeded in getting the Cheadle Waterworks Company to provide a constant supply for Cheadle. It also appears from the report of the Medical Officer of Health that there is now a prospect of obtaining a supply for the village of Kingsley.

The Medical Officer of Health of Gnosall Rural District again in this year's report comments in strong terms upon the defective water-supply, particularly of the village of Gnosall, to which the attention of the District Council has already been specially directed by the Sanitary Committee of the County Council. He writes as follows:—"From various places in the district complaints have been received of an inadequate water-supply. No doubt in some cases this was due to an exceptionally dry summer, but in many instances houses are

absolutely without any provision, and the water has to be brought from a distance away. In my report for 1897, I pointed out how this applied particularly to the village of Gnosall, and how an abundant supply could be obtained from Audmore. This has now been markedly emphasised by a special report from the County Medical Officer, which shews that out of 88 houses visited in Audmore and Gnosall, 33 have no water-supply, their water having to be fetched from two public wells, at distances varying from 100 to 500 yards. Analyses of samples from these wells prove that they are not of a very satisfactory character, while a sample taken from the source at Audmore proves to be in every way satisfactory. In connection with this I would point out that there is ample proof that even if inferior water does not actually produce infectious disease, it encourages its attack by rendering the persons using it more liable to infection, and that a noteworthy example of this has recently occurred in Adbaston, where an outbreak of diphtheria commenced in a household using a badly polluted water-supply, while in Gnosall and at Norbury, a number of cases of sore throat were found to proceed from the same cause, but were fortunately non-diphtheritic in character."

At Newton and Watling Street in Lichfield Rural District, the public supply has been laid on to houses whose wells were comdemned by the Medical Officer of Health.

The Medical Officer of Health of Mayfield writes:—"The question of a suitable supply of water to the village of Waterhouses, which was under your consideration at the time of my last annual report, is still (I am sorry to say) in abeyance."

In Walsall Rural District, of 14 samples of well-water analysed by the County Analyst, 13 were condemned. During the year, in this district, 81 houses have been provided with water from the public supply.

Slaughter-Houses and Meat Inspection.

Most of the reports refer to the inspection of slaughter-houses, and, as a rule, they are said to be found in a fairly satisfactory state.

The Medical Officer of Health of Burton-on-Trent advises the Corporation to appoint a Meat Inspector; advice which, it appears, he has given before.

The Medical Officer of Health of Cannock Urban District writes:—"The meat markets and slaughter-houses, particularly those in the Hednesford district, have been regularly visited by the Sanitary Inspector and myself, and although some of the meat supplied to the Hednesford district is of decidedly inferior quality, still sufficient evidence for condemnation has been wanting.

"On one occasion in Leacroft I had occasion to condemn the carcase of a cow as unfit for human food. The lungs were tubercular, and there were tubercular deposits in the pleural cavity. In this instance the buyer was a farmer, and, to his credit, he communicated his suspicions to the Sanitary Inspector regarding the unhealthy condition of the animal, which was slaughtered.

"The erection of a public slaughter-house in the Hednesford district would render the inspection of meat more thorough, and would be a hygienic advantage to the public."

The Medical Officer of Health of the Borough of Stoke-on-Trent writes:—"I am in favour of a public abattoir being erected, so that the meat can be easily and frequently inspected.

"In June last the carcase of a cow in course of preparation for sale was seized in a shed at Penkhull, and found to be unfit for food. The offender was summoned before the Stipendiary Magistrate, convicted, and sentenced to three months' imprisonment. The Stipendiary expressed in strong terms the seriousness of the offence against the public health which the offender had committed.

"Several consignments of fish and rabbits have been voluntarily submitted to the Inspector for inspection, and condemned as unfit for food. This practice is to be commended, and shows a desire on the part of some tradesmen to give to the public a good and sound article of food."

From the following remarks of the Medical Officer of Health of Tamworth Rural District, it would appear that the District Council have not given that attention to the subject of slaughter-houses which one might have looked for, judging from their activity in other sanitary matters. He writes as follows:—"I can only repeat the remarks made in previous reports that the slaughter-houses should all be registered, and the bye-laws for their better regulation should be enforced. It is very important that they should be placed in as thoroughly efficient a state as possible with regard to cleanliness, drainage, and other sanitary arrangements, as far as present circumstances will allow."

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.

In Leek Urban District it is stated in the Sanitary Inspector's report, which is printed with that of the Medical Officer of Health, that his suggestions on inspecting bakehouses have been complied with.

The Medical Officer of Health of Rugeley calls attention to the fact that in those cases reported in his two previous annual reports where bakehouse floors were defective, notices were served requiring the necessary repairs to be done within six months. In some cases the notices have been complied with, and the hope is expressed that in the other cases the necessary work will also be done.

Dairies, Cowsheds, and Milkshops.

The work under the Dairies, Cowsheds, and Milkshops Order receives attention in most of the reports.

The Medical Officer of Health of Biddulph points out that the District Council have not yet dealt generally with the question, which, he states, undoubtedly requires attention.

The Medical Officer of Health of Brierley Hill writes:—"Your Inspector reports these places as satisfactory. I do

not altogether agree with this opinion, as I think there are some which are not kept as clean as they should be, and the manure remains too long in close proximity to the sheds. This subject has lately become of so great importance that I intend shortly to inspect these places and report upon their condition."

The following remarks which appear in the report of the Medical Officer of Health of Burton-on-Trent are well worthy of the attention of the Corporation of that borough :—"As the question of tuberculosis has come so prominently forward during the past year by the report of the Royal Commission on Tuberculous Meat and Milk, and the formation of the Association for the Prevention of Tuberculosis, some new orders or legislation may be expected. Your Authority postponed in 1897 adopting the proposed regulations as drawn up by myself, until after the publication of the above report.

"There are 67 cowsheds and 110 milksellers in your district (some of the latter do not 'store' the milk at all, but, receiving it directly from the farmers, immediately retail it), and these have been systematically visited.

"The cubic air space in many sheds is wholly inadequate, also the light and ventilation, and I am convinced that endless trouble will follow if attempts are made to rectify these deficiencies without some fixed standard to work upon.

"The Burton-upon-Trent Corporation Act, 1896, requires that every dairyman supplying milk within the borough shall notify to the Corporation, or to the Medical Officer of Health, all cases of tuberculosis, or milk, or parturient fever to his knowledge occuring in his dairy, under a penalty not exceeding forty shillings. No notifications have been received by me, and in order to enforce this Act a veterinary surgeon should be appointed to inspect the cattle. Surely Burton is not free from such diseases, or the dairymen ignorant of their nature.

"The granting of a certificate by an authority to a dairyman whose cattle have been satisfactorily tested with tuberculin, is a question I beg to lay before you for your earnest consideration."

The Medical Officer of Health of Coseley again urges his Council to adopt regulations under the Daries, Cowsheds, and Milkshops Order.

The dairies, &c., in Leek Urban District, are inspected twice a year, and, it is said, the regulations are enforced.

Under this heading, the Medical Officer of Health of Rowley Regis writes:—"Recent inspections reveal the fact that the greater number of these establishments are very much below the required standard, and that considerable supervision over these businesses will be necessary, especially over those that have been in existence for some years. Before any fresh licenses are granted, a plan should be furnished to the Council showing the nature of the buildings, and stating the number of animals proposed to be kept. The prevalence of tuberculosis in milking cows throughout the country points to the necessity of exceptional steps being taken for eliminating from the stock cows so affected. This I think would best be accomplished by appointing a veterinary surgeon as inspector of cows, cowsheds, and dairies, to a conjoint area.

"The matter of condensed separated milk is also one needing strict attention, and I trust the Board of Agriculture will be able to devise means of insuring that the quantity of nourishing matter in each pint of condensed milk as compared with new milk may be stated on each tin sold in this country."

As regards Rugeley, the Medical Officer of Health writes:—"The cowsheds I visited were four in number, and none of them complied with the regulations issued by the Local Government Board in 1890."

The Medical Officer of Health of the Borough of Tamworth writes:—"The subject of the communicability of tuberculosis through the medium of cows suffering from this disease is one which is daily becoming more prominent, and urgently calls for the adoption of certain measures of sanitary control, combined with competent and efficient inspection. When it is recognised that the tubercle bacilli can always be found in milk from a tuberculous udder, as well indeed as in cows

whose udders are apparently free from the disease, the importance of this question cannot be under-estimated.

"Under the Dairies, Cowsheds, and Milkshops Order, 1885, legislation has provided regulations for keeping the places named in a proper sanitary condition. The carrying out of these regulations is a matter of extreme importance, and, in addition to efficient inspection by the sanitary officials, it would be a great advantage to have all dairy cows under veterinary supervision, more especially as the employment of the tuberculin test is now recognised as of such diagnostic value.

"I have in this, and in previous reports, alluded to the great danger to health derived from an impure milk supply, and also the necessity for the proper inspection of all meat intended for food, the best means of dealing with which appears to be by the methods indicated, and the provision of public abattoirs.

"From what has been said on this subject, it must be evident that the greatest care and supervision is needed as regards the sanitary state of the various dairies and cowsheds in the Borough, about which it must be said that at present they do not fulfil the requirements of the bye-laws, and, in my opinion, considerable alterations will have to be made in the work of their re-construction, ventilation, air-space, lighting, and draining, before a renewal of their licenses is permitted."

It appears that in Wednesbury the police are entrusted with the duty of inspecting dairies, &c. Surely it is time that such a remnant of the past should be abolished.

It is to be hoped that the Medical Officer of Health of Willenhall will not have occasion to write as follows another year:—"In my last annual report I asked the Council to 'take the necessary steps for securing the due regulation and cleansing of dairies and cowsheds,' and pointed out the first step towards this end is the registration of cow-keepers, dairymen, and purveyors of milk, because I thought the Council had not the power 'to make regulations prescribing conditions to be fulfilled' until this has been done. I also

advised the adoption of the Infectious Disease (Prevention) Act, 1890, or some of its sections, section 4 of which Act has an important bearing on the inspection of dairies and the prohibition of supply of milk, but that Act has not been adopted, neither have the bye-laws suggested by me as far back as 1895-6 on the same subject. Your Inspector is now in a position to show that on the 19th January he found milk for sale stored in a stable used at that time for stabling horses, and that in another case whilst investigating at my request the milk supply of Alma Street in relation to typhoid fever, he found milk stored under conditions equally objectionable."

Under this heading, the Medical Officer of Health of Kingswinford Rural District writes:—"I have been making some inquiry into the conditions of these places in your district, and I am not at all satisfied that they are kept in as good order as they should be. It seems to be generally thought that if the cowsheds meet the requirements as to cubic space, and are occasionally limewashed, nothing further is required. There are other matters, such as the ventilation and clean surroundings, which are quite as important, and which I think are sadly neglected.

"One very striking example of what I consider an insanitary cowshed is to be found at Kingswinford, opposite to the National Schools. The report of the last Royal Commission on tuberculosis has clearly demonstrated the danger of overlooking the sanitary condition of these places, as a preventive against the spread of that most fatal disease—consumption—through the flesh and milk of tuberculous cattle. The publicity which has been given to this question, enforces the duty upon every Sanitary Authority of seeing that the cowsheds shall be placed in airy positions, be well lighted, ventilated, paved and drained."

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.

Lodging-houses.

There are no remarks in any of the reports under this heading which call for comment.

Factories and Workshops.

The reports under review do not, with very few exceptions, devote any attention to the work of factory and workshop inspection, and in none are there any remarks which call for special notice.

Mortuaries.

The question of providing mortuaries does not appear to receive that attention in the reports which its importance deserves.

The Medical Officer of Health of the borough of Tamworth writes:—"The question of a public mortuary for the borough came under consideration of the Sanitary Committee, on the representation of the County Coroner that such a building was much needed. It was suggested that the mortuary at the Cottage Hospital might possibly be available, but the hospital authorities decided that it would not be to the interest of the hospital that this mortuary should be used for general purposes. Your Committee decided that the provision of a public mortuary was not a matter of urgent necessity, and recommended that the question of providing one be deferred for the present. The desirability, in the interests of the public health, of having a public mortuary has been alluded to on previous occasions."

The Medical Officer of Health of Willenhall expresses regret that no mortuary has yet been provided to which nfectious corpses might be removed from crowded houses to await burial.

Smoke Nuisances.

Notwithstanding the field there is in this County for action under the smoke nuisance clause of the Public Health Act, the question receives very little mention in any of the reports under review.

The Medical Officer of Health of the borough of Stoke-on-Trent writes:—"Several complaints as to smoke nuisances have been dealt with during the year, but still, much might be done by more careful stoking to minimise the nuisance."

The Medical Officer of Health of Fenton writes:—"It seems unfortunate that there is no diminution of the smoke nuisance; it is indeed a more serious matter than may at first sight be apparent; the smoke-laden atmosphere intercepts light, gives everything a miserable and gloomy appearance, kills trees and vegetation generally. It must be a disadvantage to shut out what little sunshine we get, in a climate where the sun is sometimes invisible for weeks at a time; light and pure air are necessary for good health. The struggle against dirt caused by having to clean everything from the effects of the downpour of soot, never ceases. These conditions tend to depress the mind and lower the health standard."

BYE-LAWS.

New bye-laws for Longton have now been sanctioned by the Local Government Board. The Tipton District Council have also framed new bye-laws which now await the sanction of the Central Board.

GEORGE REID,
County Medical Officer.

Stafford, September, 1899.

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.

URBAN.

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, and Diseases of the Respiratory Organs.

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.											
														Fevers.					
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.	Diarrhœa and Dysentery.	Phthisis.	Diseases of Respiratory Organs.
AMBLECOTE.....	2876	3340	5·0	20·9	a16·1	157	1·19	..	..	..	0·29	0·59	..	..	0·29	..	0·29	0·59	2·99
AUDLEY.....	12631	13000	1·6	37·9	15·5	125	1·38	..	0·38	0·15	0·07	0·46	..	..	..	..	0·38	0·84	2·53
BIDDULPH	5290	5575	1·1	35·7	b14·3	140	3·40	..	..	..	..	2·15	0·54	..	..	..	0·71	0·89	2·33
BILSTON.....	23453	23500	12·5	39·7	23·3	228	5·06	..	0·34	0·12	0·08	0·80	0·25	..	0·93	..	2·59	0·93	4·21
BRIERLEY HILL	11847	12120	11·8	35·4	20·2	172	4·53	..	..	0·08	..	2·22	0·33	..	0·33	..	1·56	0·99	4·37
BROWNHILLS.....	11815	12536	2·0	47·1	15·7	150	2·95	0·07	..	0·07	..	..	1·67	..	0·23	..	0·87	0·95	3·35
BURSLEM	31999	35095	13·5	38·8	c20·7	200	4·18	..	0·68	0·17	0·31	1·05	0·25	..	0·02	0·02	1·96	1·28	3·27
BURTON-ON-TRENT..	46047	51664	12·8	28·3	d14·1	140	1·93	..	0·09	0·21	..	0·60	0·03	..	0·05	..	0·93	1·35	1·83
CANNOCK	20613	22000	2·7	38·0	e16·6	175	3·18	..	0·18	..	0·04	1·40	0·18	..	0·09	..	1·31	0·77	3·77
COSELEY	21899	22000	5·5	36·2	19·2	169	3·36	..	0·09	0·13	0·13	0·95	0·13	..	0·82	..	1·22	0·59	3·31

a Not including 13 deaths which occurred within the district among persons not belonging thereto.
b Including 1 death ,, ,, outside ,, a person belonging thereto.
c Including 3 deaths ,, ,, ,, ,, among persons belonging thereto, and
not including 1 death ,, ,, within ,, a person not belonging thereto.
d Including 3 deaths ,, ,, outside ,, among persons belonging thereto, and
not including 37 ,, ,, ,, within ,, ,, ,, not belonging thereto.
e Not including 22 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,

URBAN.

Deaths registered during the year 1898, classified according to Diseases, Ages, and Localities, together with Births registered during the year.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																				
																	Fevers.																
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
AMBLECOTE	31	39	70	23	31	*a* 54	11	4	5	3	12	19	..	..	..	1	..	1	..	..	..	..	..	2	..	1	..	..	2	10	10	..	27
AUDLEY.....	275	218	493	124	78	202	62	32	11	9	47	41	..	5	2	1	..	.	..	..	2	..	..	6	..	5	1	..	11	33	9	6	121
BIDDULPH	102	97	199	41	39	*b* 80	28	12	2	5	16	17	..	..	..	1	..	..	..	..	..	..	..	12	3	4	..	..	5	13	5	..	37
BILSTON.....	490	445	935	276	273	549	214	100	17	23	124	71	..	8	3	2	..	22	..	..	1	..	1	19	6	61	..	..	22	99	19	23	263
BRIERLEY HILL ...	207	223	430	130	116	246	74	47	11	11	61	42	..	..	1	..	..	4	..	..	1	..	..	27	4	19	1	..	12	53	14	7	103
BROWNHILLS.....	307	284	591	113	85	198	89	24	8	13	36	28	1	..	1	..	..	3	..	..	3	..	3	..	21	11	..	..	12	42	11	9	81
BURSLEM	692	670	1362	393	335	*c* 728	273	137	36	23	188	71	..	24	6	11	..	1	1	..	2	..	1	37	9	69	1	..	45	115	38	17	351
BURTON-ON-TRENT..	755	708	1463	381	350	*d* 731	206	92	31	29	236	137	..	5	11	..	..	3	..	..	1	..	..	31	2	48	3	..	70	95	60	20	382
CANNOCK	417	419	836	201	166	*e* 367	147	61	14	17	71	57	..	4	..	1	..	2	..	..	1	..	..	31	4	29	1	..	17	83	11	7	176
COSELEY	408	390	798	225	198	423	135	92	10	28	90	68	..	2	3	3	..	18	..	..	2	..	..	21	3	27	2	..	13	73	17	2	237

a Not including 13 deaths which occurred within the district, among persons not belonging thereto.
b Including 1 death ,, ,, outside ,, a person belonging thereto.
c Including 3 deaths ,, ,, ,, ,, among persons belonging thereto, and
not including 1 death ,, ,, within ,, a person not belonging thereto.
d Including 3 deaths ,, ,, outside ,, among persons belonging thereto, and
not including 37 ,, ,, ,, within ,, ,, ,, not belonging thereto.
e Not including 22 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,

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.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
DARLASTON	14422	15327	19·1	41·4	21·9	229	3·71	..	0·26	..	0·06	0·71	0·06	..	0·45	..	2·21	1·56	3·32
FENTON	16998	21000	13·1	41·3	23·8	211	6·43	..	0·33	1·90	0·19	1·71	0·23	..	0·62	..	1·62	0·95	3·85
HANDSWORTH	32756	43500	11·9	28·3	*f* 13·2	147	1·81	..	0·02	0·04	..	0·23	0·25	..	0·13	..	1·12	0·48	1·95
HEATH TOWN	7075	7800	10·5	43·8	22·0	201	5·12	..	0·12	..	..	..	1·53	..	0·25	..	3·20	0·38	3·97
KIDSGROVE.....	3841	4269	3·9	33·9	21·0	172	1·17	..	..	..	..	0·70	..	..	..	..	0·47	0·47	5·62
LEEK	14128	15174	10·3	28·8	*h* 17·0	135	1·91	..	..	..	..	1·44	0·06	..	0·13	..	0·26	1·25	1·84
LICHFIELD	7864	7864	2·3	25·1	*i* 17·6	156	1·14	..	..	..	..	0·63	0·12	..	..	..	0·38	0·89	2·16
LONGTON	34327	36069	18·0	39·1	27·0	274	5·71	..	0·05	2·82	0·05	0·57	0·11	..	0·41	..	1·99	0·97	4·68
NEWCASTLE	18452	20100	30·8	33·3	*j* 20·3	213	4·22	..	0·39	0·49	0·04	0·94	0·59	..	0·34	..	1·44	0·79	4·12
PERRY BARR	2310	2650	0·6	35·4	*k* 10·5	74	2·26	..	0·37	0·75	..	0·37	..	..	..	..	0·75	0·37	1·50
QUARRY BANK.....	6732	7115	7·2	35·6	*l* 19·1	188	3·79	..	0·28	..	..	0·98	0·84	..	0·13	..	1·54	0·98	4·77
ROWLEY REGIS.....	30791	35200	9·5	37·9	*m* 18·9	170	3·97	..	0·22	0·02	0·05	1·27	0·42	..	1·07	..	0·93	0·51	3·63

f Including 46 deaths which occurred outside the district among persons belonging thereto, and
not including 5 ,, ,, ,, within ,, ,, ,, not belonging thereto.
g Including 15 ,, ,, ,, outside ,, ,, ,, belonging thereto.
h Not including 9 ,, ,, ,, within ,, ,, ,, not belonging thereto.
i ,, ,, 19 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
j ,, ,, 4 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Including 5 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 3 ,, ,, ,, within ,, ,, ,, not belonging thereto.
l Not including 1 death ,, ,, ,, ,, a person ,, ,, ,,
m Including 18 deaths ,, ,, outside ,, among persons belonging thereto.

URBAN—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																				
																	Fevers.																
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
DARLASTON	315	321	636	177	160	337	146	57	11	22	58	43	..	4	..	1	..	7	..	..	..	..	..	11	1	34	..	..	24	51	8	3	193
FENTON	435	434	869	265	236	501	184	135	32	16	82	52	..	7	40	4	..	13	..	..	..	..	..	36	5	34	1	..	20	81	20	6	234
HANDSWORTH	619	612	1231	298	278	*f* 576	181	50	21	21	166	137	..	1	2	..	..	6	..	..	1	..	1	10	11	49	4	..	21	85	45	7	333
HEATH TOWN	187	155	342	91	81	*g* 172	69	21	5	4	44	29	..	1	..	..	..	2	..	..	..	..	1	..	12	25	2	..	3	31	17	6	72
KIDSGROVE	72	73	145	46	44	90	25	16	2	1	25	21	..	..	..	5	..	..	..	..	..	..	..	3	..	2	1	..	2	24	3	5	45
LEEK	221	216	437	124	134	*h* 258	59	31	8	16	89	55	..	..	..	..	..	2	..	..	2	..	..	22	1	4	1	..	19	28	32	7	140
LICHFIELD	111	87	198	71	68	*i* 139	31	9	6	3	52	38	..	..	..	..	..	..	..	..	..	..	..	5	1	3	..	..	7	17	14	2	90
LONGTON	755	657	1412	498	478	976	388	170	69	29	238	82	..	2	102	2	..	15	..	..	2	..	..	21	4	72	2	..	35	169	43	22	485
NEWCASTLE	334	336	670	216	192	*j* 408	143	74	11	13	100	67	..	8	10	1	..	7	..	..	..	..	..	19	12	29	2	..	16	83	26	11	184
PERRY BARR	46	48	94	16	12	*k* 28	7	6	3	1	6	5	..	1	2	..	..	..	..	..	..	..	..	1	..	2	..	..	1	4	1	3	13
QUARRY BANK	128	126	254	72	64	*l* 136	48	34	3	7	24	20	..	2	..	..	..	1	..	..	..	..	..	7	6	11	1	..	7	34	6	5	56
ROWLEY REGIS	670	666	1336	344	324	*m* 668	228	140	25	38	130	107	..	8	1	2	..	38	..	..	3	..	1	45	15	33	5	..	18	128	22	18	331

f Including 46 deaths which occurred outside the district among persons belonging thereto, and
not including 5 ,, ,, ,, within ,, ,, ,, not belonging thereto.
g Including 15 ,, ,, ,, outside ,, ,, ,, belonging thereto.
h Not including 9 ,, ,, ,, within ,, ,, ,, not belonging thereto.
i ,, ,, 19 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
j ,, ,, 4 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Including 5 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 3 ,, ,, ,, within ,, ,, ,, not belonging thereto.
l Not including 1 death ,, ,, ,, ,, a person ,, ,, ,,
m Including 18 deaths ,, ,, outside ,, among persons belonging thereto.

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.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
RUGELEY	4181	4500	7·5	29·5	*n* 13·7	112	1·77	..	..	0·22	..	1·55	..	..	..	..	..	0·22	1·77
SEDGLEY	14961	15100	4·0	40·0	*o* 16·0	140	2·64	..	0·39	0·06	0·13	0·06	0·72	..	0·39	..	0·99	0·53	2·31
SHORT HEATH	2514	3539	3·3	44·0	15·2	185	1·69	..	..	0·28	..	..	0·28	..	0·28	..	0·84	0·84	4·52
SMALLTHORNE	5279	6025	11·3	36·0	14·6	138	2·82	..	..	..	..	0·82	0·66	..	0·49	..	0·82	..	3·65
SMETHWICK	36170	50000	26·5	34·4	14·8	158	1·90	..	0·06	0·40	..	0·14	0·18	..	0·22	..	0·90	0·66	3·24
STAFFORD	18732	*20355	20·2	27·9	*p* 16·0	135	1·96	..	0·04	..	..	0·83	0·04	..	0·09	..	0·93	1·62	2·50
STOKE-ON-TRENT	24027	28176	14·9	*q* 31·6	*r* 18·6	165	4·25	..	0·77	0·49	0·07	1·24	0·21	..	0·42	..	1·10	0·92	2·69
STONE	5754	6158	6·1	26·4	*s* 14·9	128	0·16	..	..	..	..	..	0·16	..	..	..	..	1·46	1·62
TAMWORTH	6614	7306	25·9	26·0	*t* 15·8	126	1·91	..	0·13	0·13	..	0·13	1·23	..	..	..	0·27	0·68	3·28
TETTENHALL	5145	5584	4·5	25·0	14·1	164	1·96	..	..	..	..	1·43	..	..	..	..	0·53	0·53	1·79
TIPTON	29314	30000	11·1	36·1	21·2	208	5·20	..	0·30	0·13	0·23	2·53	0·46	..	0·16	0·03	1·56	0·56	2·70
TUNSTALL	15730	16807	20·2	41·7	25·5	232	6·18	..	0·29	0·05	0·11	3·33	0·17	..	0·23	..	2·08	0·83	5·35

n Not including 1 death which occurred within the district, a person not belonging thereto.
o ,, ,, 78 deaths ,, ,, ,, ,, among persons not belonging thereto.
p Including 2 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 198 ,, ,, ,, within ,, ,, ,, not belonging thereto.
q Not including 31 births ,, ,, in the Union Workhouse, the parents not belonging to the district.
r Including 7 deaths ,, ,, outside the district among persons belonging thereto, and
not including 241 ,, ,, ,, within ,, ,, ,, not belonging thereto.
s Not including 12 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
t Including 6 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 8 ,, ,, ,, within ,, ,, ,, not belonging thereto.

* The total estimated population is 21937, but a deduction of 1582 has been made, that being the estimated number of persons in Public Institutions within the borough, but not belonging to it.

URBAN—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																				
																	Fevers.																
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
RUGELEY	71	62	133	33	29	*n* 62	15	9	2	..	17	19	..	..	1	..	..	..	..	..	1	..	..	7	..	..	..	..	1	8	5	3	36
SEDGLEY	305	299	604	119	124	*o*243	85	29	8	5	58	58	..	6	1	2	..	6	..	..	..	..	1	1	11	15	1	..	8	35	19	4	133
SHORT HEATH ..	80	76	156	28	26	54	29	8	2	1	8	6	..	..	1	..	..	1	..	..	..	..	1	..	1	3	..	..	3	16	3	..	25
SMALLTHORNE..	115	102	217	56	32	88	30	23	5	4	19	7	..	..	..	..	..	3	..	..	..	..	..	5	4	5	..	..	..	22	5	6	38
SMETHWICK	843	881	1724	361	381	742	273	108	32	24	160	145	..	3	20	..	..	11	..	..	2	..	2	7	9	45	3	..	33	162	36	29	380
STAFFORD.....	292	277	569	157	169	*p*326	77	34	6	19	97	93	..	1	..	..	..	2	..	..	1	..	..	17	1	19	1	..	33	51	26	6	168
STOKE-ON-TRENT	427	465	*q* 892	266	259	525	148	102	22	16	147	90	..	22	14	2	..	12	..	..	5	..	..	35	6	31	2	..	26	76	40	8	246
STONE	76	87	163	46	46	*s* 92	21	8	..	3	25	35	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	9	10	12	3	57
TAMWORTH.....	93	97	190	57	59	*t* 116	24	12	4	1	41	34	..	1	1	..	..	..	..	..	1	..	1	1	9	2	..	..	5	24	10	3	58
TETTENHALL....	75	65	140	38	41	79	23	7	3	1	18	27	..	..	..	..	..	..	..	..	..	..	..	8	..	3	..	..	3	10	3	..	52
TIPTON	546	539	1085	327	310	637	226	164	27	21	97	102	..	9	4	7	..	5	1	..	3	..	1	76	14	47	7	..	17	81	27	12	326
TUNSTALL	340	361	701	224	206	430	163	117	8	7	88	47	..	5	1	2	..	4	..	..	2	..	..	56	3	35	1	..	14	90	11	4	202

n Not including 1 death which occurred within the district a person not belonging thereto.
o ,, ,, 78 deaths ,, ,, ,, ,, among persons not belonging thereto
p Including 2 ,, ,, ,, outside ,, among persons belonging thereto, and
not including 198 ,, ,, ,, within ,, ,, ,, not belonging thereto.
q Not including 31 births ,, ,, in the Union Workhouse, the parents not belonging to the district.
r Including 7 deaths ,, ,, outside the district among persons belonging thereto, and
not including 241 ,, ,, ,, within ,, ,, ,, not belonging thereto.
s Not including 12 ,, ,, ,, ,, ,, ,, ,, ,, ,,
t Including 6 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 8 ,, ,, ,, within ,, ,, ,, not belonging thereto.

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.	Individnal zymotic mortality per 1000 of population.										Phthisis.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
UTTOXETER	4800	5000	5·1	29·0	*u*14·2	124	0·80	..	..	0·20	0·20	0·20	..	..	0·20	..	0·20	1·20	1·60
WEDNESBURY	25347	26000	12·2	36·0	18·6	196	3·96	..	..	..	0·07	0·69	0·46	..	0·38	..	2·42	0·76	3·72
WEDNESFIELD	4949	5200	2·5	30·3	10·0	132	2·11	..	..	..	..	..	0·38	..	0·19	..	1·53	..	1·53
WILLENHALL.....	16852	18938	15·1	37·8	*v*21·3	207	3·74	..	0·15	0·10	..	0·05	1·42	..	0·52	..	1·47	1·58	4·01
Totals and Averages	598535	665586	7·5	35·0	18·4	181	3·41	0·00	0·19	0·34	0·07	0·90	0·33	..	0·32		1·31	0·88	3·19
33 large towns in England, average population,	..	339951	35·3	30·2	19·0	178	2·85	0·00	0·14	0·31	*w*	0·56	0·42	..	0·20		1·22	*w*	*w*

u Not including 10 deaths which occurred within the district among persons not belonging thereto.
v Including 14 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 1 ,, ,, ,, within ,, a person not belonging thereto.
w Not given in Registrar General's Returns.

URBAN—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																						
																	Fevers.																			
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy.	Heart Disease.	Injuries.	All other Diseases.		
UTTOXETER	74	71	145	36	35	*u* 71	18	7	2	1	24	19	..	..	1	1	..	1	..	..	..	..	..	1	..	1	..	..	6	8	13	..	39		
WEDNESBURY ..	495	443	938	259	227	486	184	65	13	17	85	122	..	..	..	2	..	10	..	..	..	..	1	18	12	63	..	..	20	97	28	11	224		
WEDNESFIELD ..	82	76	158	22	30	52	21	4	1	3	12	11	..	..	..	..	..	1	..	..	1	..	..	..	2	8	..	..	..	8	5	1	26		
WILLENHALL ..	382	335	717	217	188	*v* 405	149	74	9	17	97	59	..	3	2	..	..	10	..	..	1	..	2	1	27	28	..	..	30	76	14	9	202		
Totals	11873	11460	23333	6371	5904	12275	4234	2115	485	472	2888	2081	1	132	230	51	..	211	2	..	38	..	17	599	220	877	43	..	590	2125	688	285	6166		

u Not including 10 deaths which occurred within the district among persons not belonging thereto.
v Including 14 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 1 death ,, ,, within ,, a person not belonging thereto.

RURAL.

DISTRICT.	Population at all ages.		Mean area per person in acres.	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.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not Spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
BLORE HEATH	2227	2149	6·3	27·4	13·4	84	0·46	..	..	..	..	..	..	..	..	..	0·46	0·93	0·93
CANNOCK	15278	15965	3·0	32·8	*a*15·2	91	1·00	..	0·18	0·18	0·12	..	0·18	..	0·12	..	0·31	0·50	3·44
CHEADLE	21765	22500	2·4	33·7	18·4	130	1·86	..	0·04	0·80	0·13	0·66	..	..	0·04	..	0·31	1·02	3·28
ECCLESHALL	5698	6151	5·2	22·9	12·1	85	1·13	..	0·32	0·16	..	..	0·16	..	0·16	..	0·32	0·48	0·97
GNOSALL	4982	5024	5·7	22·0	10·9	90	1·19	..	..	0·79	..	..	0·19	..	..	..	0·19	0·79	1·99
KINGSWINFORD	17848	19741	0·2	32·9	*b*16·9	152	1·72	..	0·10	0·05	..	0·45	0·30	..	0·15	..	0·65	0·91	3·54
LEEK	12898	12898	5·2	33·2	14·2	95	0·85	..	0·07	..	..	0·46	0·15	..	0.15	..	..	0·93	3·02
LICHFIELD	*24299	*24699	2·4	31·9	*c*13·9	92	1·13	..	0·16	0·04	..	0·28	0·28	..	0·04	..	0·32	0·52	1·78
MAYFIELD	4160	4160	5·8	29·8	16·8	88	0·96	..	0·24	..	..	0·72	..	..	..	..	..	1·92	2·64
NEWCASTLE	6478	7079	2·7	24·7	11·0	137	1·27	..	0·42	0·42	0·14	0·14	0·28	..	..	..	0·14	0·14	2·11

a Including 3 deaths which occurred outside the district among persons belonging thereto, and
not including 2 ,, ,, ,, within ,, ,, ,, not belonging thereto.
b Not including 39 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
c Including 19 ,, ,, ,, outside ,, ,, ,, belonging thereto.

* Not including Burntwood Asylum.

RURAL—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																					
																	Fevers.																		
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
BLORE HEATH	27	32	59	8	21	29	5	1	1	2	7	13	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	2	6	1	17
CANNOCK	262	263	525	129	115	a244	48	27	11	16	66	76	..	3	3	2	..	2	..	..	1	..	1	..	3	5	2	..	8	55	24	9	126
CHEADLE	394	365	759	220	195	415	99	45	21	13	108	129	..	1	18	3	..	1	..	..	..	..	..	15	..	7	4	..	23	74	34	12	223
ECCLESHALL	68	73	141	38	37	75	12	5	5	5	22	26	..	2	1	..	..	1	..	..	..	..	..	..	1	2	..	..	3	6	11	5	43
GNOSALL	51	60	111	27	28	55	10	3	5	1	14	22	..	..	4	..	..	..	..	..	..	..	..	..	1	1	..	..	4	10	5	3	27
KINGSWINFORD	337	313	650	174	161	b335	99	53	10	14	75	84	..	2	1	..	..	3	..	..	1	..	1	9	6	13	4	..	18	70	29	12	166
LEEK	217	212	429	87	97	184	41	18	8	14	51	52	..	1	..	..	..	2	..	..	..	..	..	6	2	..	..	..	12	39	27	5	90
LICHFIELD	428	361	789	181	164	c345	73	36	13	9	88	126	..	4	1	..	..	1	..	..	1	..	..	7	7	8	1	..	13	44	39	13	206
MAYFIELD	54	70	124	36	34	70	1[illegible]	6	7	2	16	28	..	1	..	..	..	..	..	..	..	..	..	3	..	..	..	..	8	11	11	..	36
NEWCASTLE	91	84	175	48	30	78	24	14	3	4	15	18	..	3	3	1	..	..	..	..	..	..	..	1	2	1	..	..	1	15	4	3	44
SEISDON	173	175	344	88	94	182	49	8	4	8	46	67	..	2	..	..	..	1	..	..	..	..	1	6	4	3	..	..	9	38	18	7	93

a Including 3 deaths which occurred outside the district, among persons belonging thereto, and not including 2 ,, ,, ,, within ,, ,, ,, not belonging thereto.
b Not including 39 deaths ,, ,, ,, ,, ,, ,, ,, ,, ,,
c Including 19 ,, ,, ,, outside ,, ,, ,, belonging thereto.

RURAL—continued.

DISTRICT.	Population at all ages.		Mean area per person in acres.	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.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1898.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not Spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
SEISDON	12371	13636	2·7	25·5	13·3	140	1·17	..	0·14	..	..	0·44	0·29	..	0·07	..	0·22	0·66	2·78
STAFFORD	10320	10800	4·8	22·6	*d* 13·6	106	0·27	..	0·18	..	..	..	..	..	..	..	0·09	0·92	3·42
STOKE-ON-TRENT	4818	5434	0·7	34·4	*e* 13·0	187	2·02	..	..	0·55	..	..	..	..	0·18	0·18	1·10	0·55	2·02
STONE	8174	8847	4·0	22·1	*f* 14·4	142	0·90	..	..	..	0·11	0.45	0·11	..	0·22	..	0·11	1·01	2·93
TAMWORTH (Staffs. portion.)	4770	5396	4·0	24·6	*g* 15·5	142	1·11	..	..	..	..	..	..	..	0·18	..	0·92	1·29	2·22
TUTBURY	9031	9435	2·7	28·1	*h* 15·0	120	1·69	..	..	..	..	0·31	1·37	..	..	..	..	1·27	1·27
UTTOXETER (Staffs. portion.)	7764	7950	6·0	25·4	*i* 14·5	128	0·88	..	..	0·25	..	..	0·62	..	..	..	..	0·75	2·26
WALSALL	9319	10577	1·1	35·1	*j* 12·7	150	1·22	..	0·28	0·28	..	..	0·09	..	..	..	0·56	0·56	2·17
WOLSTANTON	33873	34059	0·3	39·7	*k* 20·1	183	4·19	..	0·52	0·23	..	1·79	0·26	..	0·29	..	1·08	0·52	3·99
Totals and Averages	216073	226500	2·6	31·1	15·5	133	1·68	..	0·18	0·20	0·03	0·50	0·24	..	0·11		0·42	0·75	2·82

d Including 1 death which occurred outside the district, a person belonging thereto, and
not including 14 deaths ,, ,, within ,, among persons not belonging thereto.
e Not including 13 ,, ,, ,, ,, ,, ,, ,, ,, ,,
f Including 10 ,, ,, ,, outside ,, ,, ,, belonging thereto.
g Including 2 ,, ,, ,, ,, ,, ,, ,, ,, ,, and
not including 11 ,, ,, ,, within ,, ,, ,, not belonging thereto.
h Not including 3 ,, ,, ,, ,, ,, ,, ,, ,, ,,
i Including 8 ,, ,, ,, outside ,, ,, ,, belonging thereto.
j ,, 2 ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Not including 22 ,, ,, ,, within ,, ,, ,, not belonging thereto

RURAL—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																				
																	Fevers.																
	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
STAFFORD	130	114	244	74	73	*d*147	26	10	5	8	51	47	..	2	..	..	..	..	..	..	1	..	..	..	..	1	..	..	10	37	22	4	70
STOKE-ON-TRENT ..	92	95	187	34	37	*e*71	35	1	1	1	23	10	..	..	3	..	..	1	1	..	..	..	..	..	..	6	..	..	3	11	4	4	38
STONE	102	94	196	67	61	*f*128	28	12	1	3	32	52	..	..	..	1	..	2	..	..	1	..	..	4	1	1	..	..	9	26	11	5	67
TAMWORTH ..... Staffs. portion.	72	61	133	41	43	*g*84	19	2	4	2	27	30	..	..	..	..	..	1	..	..	1	..	..	..	..	5	..	..	7	12	6	5	47
TUTBURY	148	118	266	70	72	*h*142	32	13	4	5	41	47	..	..	..	..	..	..	..	..	..	..	..	3	13	..	..	..	12	12	18	3	81
UTTOXETER ..... Staffs. portion.	97	105	202	64	52	*i*116	26	9	3	2	29	47	..	..	2	..	..	..	..	..	1	..	..	..	5	..	..	..	6	18	18	5	61
WALSALL	168	204	372	75	60	*j*35	56	14	7	3	31	24	..	3	3	..	..	..	..	..	1	..	..	..	1	6	..	..	6	23	10	5	77
WOLSTANTON	661	693	1354	375	312	*k*687	249	127	20	32	142	117	..	18	8	..	..	10	..	..	1	..	..	61	9	37	2	..	18	136	34	4	349
Totals	3572	3492	7064	1836	1686	3522	942	404	133	144	884	1015	..	42	47	7	..	25	1	..	9	..	3	115	55	97	13	..	172	639	331	105	1861

d Including 1 death which occurred outside the district, a person belonging thereto, and not including 14 deaths ,, ,, within ,, among persons not belonging thereto.
e Not including 13 ,, ,, ,, ,, ,, ,, ,, ,, ,,
f Including 10 ,, ,, ,, outside ,, ,, ,, belonging thereto.
g Including 2 ,, ,, ,, ,, ,, ,, ,, ,, and not including 11 ,, ,, ,, within ,, ,, ,, not belonging thereto.
h Not including 3 ,, ,, ,, ,, ,, ,, ,, ,, ,,
i Including 8 ,, ,, ,, outside ,, ,, ,, belonging thereto.
j ,, 2 ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Not including 22 ,, ,, ,, within ,, ,, ,, not belonging thereto.

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. Smallpox, Scarlet Fever, Diphtheria, and Fevers alone are included in the percentage calculation of hospital cases. In cases in which the Act was not in force during the whole year, the cost has been estimated for the year on the basis of the cost during the period when in force.

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.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
AMBLECOTE. *	Houses infected	..	..	6	..	..	..	1	..	..	..	..	1		
3,340.	Cases	Under 5													
		5 & upwards	..	6	..	..	..	1	..	..	..	..	1		
6/-	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	
		5 & upwards	..	..	..	..	..	1	..	..	..	..	..	1	
42·8.	Cases treated in hospital	Under 5													
		5 & upwards	..	3											
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
AUDLEY.	Houses infected	..	..	110	4	1	..	6							
13,000.	Cases	Under 5	..	64	2	1	..	3							
		5 & upwards	..	80	2	..	..	8	..	..	2				
£1 11s. 3d.	Deaths.....	Under 5	..	4	1	1	..	..	..	..	..	..	..	6	
		5 & upwards	..	1	1	..	..	..	..	..	2				
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
BIDDULPH.*	Houses infected	..	..	1	1	2	..	2	..	..	..	..	1		
5,575.	Cases	Under 5	..	1	..	2									
		5 & upwards	..	..	1	..	..	2	..	..	..	..	1		
3/1.	Deaths	Under 5	..	..	..	1	..	..	..	..	..	..	..	12	3
		5 & upwards													
25·0.	Cases treated in hospital	Under 5	..	..	..	..	..	1							
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
BILSTON.*	Houses infected	..	..	71	5	2	..	73	..	..	2	..	34		
23,500.	Cases	Under 5	..	91	5	2	..	91	..	..	2	..	34		
		5 & upwards													
£1 3s. 11d	Deaths	Under 5	..	6	1	1	..	2	..	..	..	..	1	19	5
		5 & upwards	..	2	2	1	..	20	..	..	1	..	..	..	1
25·1.	Cases treated in hospital	Under 5	..	7	..	..	..	1							
		5 & upwards	..	23	..	..	..	16							
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	1	..	..	..	2							
BRIERLEY HILL.*	Houses infected	..	..	36	2	..	..	13	..	..	2	..	4		
12,120.	Cases	Under 5	..	13	2										
		5 & upwards	..	31	..	..	..	23	..	..	2	..	4		
15/5.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	23	4
		5 & upwards	..	..	..	..	..	4	..	..	1	..	..	4	
11·6.	Cases treated in hospital	Under 5													
		5 & upwards	..	..	..	..	..	8							
	Deaths occurring in hospital..... ..	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.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
BROWNHILLS.*	Houses infected†	..	..	..	..	..	..	..	..	..	..	..	..		
12,536.	Cases	Under 5	1	17	1										
18/4.		5 & upwards	..	16	6	..	..	12	..	..	5	..	34		
Nil.	Deaths	Under 5	1	..	1	..	..	..	..	..	..	..	..	..	21
		5 & upwards	..	..	..	..	..	3	..	..	3	..	3		
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
BURSLEM.*	Houses infected	..	..	351	17	11	..	15	1	..	6	..	18		
35,095.	Cases	Under 5	..	158	7	8									
£1 13s. 4d.		5 & upwards	..	243	10	3	..	15	1	..	6	..	18		
27·4.	Deaths	Under 5	..	16	5	10	..	..	..	..	..	..	..	36	9
		5 & upwards	..	8	1	1	..	1	1	..	2	..	1	1	
	Cases treated in hospital	Under 5	..	28	..	..	..	1							
		5 & upwards	..	86	1	..	..	3							
	Deaths occurring in hospital	Under 5	..	1											
		5 & upwards	..	1	..	..	..	1							
BURTON-ON-TRENT.*	Houses infected†	..													
51,664.	Cases	Under 5	..	76	19	3	..	1	..	..	..	..	2	1228	
£6 1s. 8d.‡		5 & upwards	..	238	31	2	..	24	2	..	1	..	68	820	
71·1.	Deaths	Under 5	..	3	8	..	..	..	..	..	..	..	..	30	2
		5 & upwards	..	2	3	..	..	3	..	..	1	..	..	1	
	Cases treated in hospital	Under 5	..	64	3										
		5 & upwards	..	201	1	..	..	9							
	Deaths occurring in hospital	Under 5	..	1	3										
		5 & upwards	..	2	..	..	..	2							

† Not specified. ‡ Measles included among diseases notified.

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
CANNOCK.*	Houses infected	..	..	136	1	1	..	6	..	..	3	..	55		
22,000.	Cases	Under 5	..	91	..	1	..	..	..	..	..	..	4		
£1 12s. 0d.		5 & upwards	..	125	1	..	..	6	..	..	3	..	51		
Nil.	Deaths	Under 5	..	4	..	1	..	..	..	..	..	..	..	30	4
		5 & upwards	..	..	..	..	..	2	..	..	1	..	..	1	
	Cases treated in hospital	Under 5 .... 5 & upwards													
	Deaths occurring in hospital	Under 5 .... 5 & upwards													
COSELEY.	Houses infected	..	..	76	24	4	..	117	..	..	2	..	30		
22,000.	Cases	Under 5 .... 5 & upwards	..	98	27	7	..	160	..	..	2	..	30		
£1 16s. 9d.	Deaths	Under 5	..	2	2	2	..	..	..	..	..	..	..	21	3
Nil.		5 & upwards	..	..	1	1	..	18	..	..	2				
	Cases treated in hospital	Under 5 .... 5 & upwards													
	Deaths occurring in hospital	Under 5 .... 5 & upwards													
DARLASTON.*	Houses infected	..	..	46	..	..	..	17	..	..	..	..	9		
15,327.	Cases	Under 5	..	31											
14/4.		5 & upwards	..	27	..	..	..	21	..	..	..	..	9		
3·8.	Deaths	Under 5	..	4	..	1	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	..	..	..	7							
	Cases treated in hospital	Under 5 .... 5 & upwards	..	..	..	..	..	3							
	Deaths occurring in hospital	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.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
FENTON,* 21,000. £2 17s. 4d. 6·5	Houses infected	..	..	112	182	5	..	69	..	..	3	..	18		
	Cases	Under 5	..	153	220	5	..	83	..	..	3	..	18		
		5 & upwards	..												
	Deaths	Under 5	..	6	28	4	..	..	..	..	..	..	..	35	5
		5 & upwards	..	1	12	..	..	13	..	..	..	..	..	1	
	Cases treated in hospital	Under 5	..	2	5										
		5 & upwards	..	12	11										
	Deaths occurring in hospital.....	Under 5	..	1											
		5 & upwards	..	..	2										
HANDSWORTH.* 43,500. 10/3. 35·1.	Houses infected . ..	..	..	70	22	1	..	26	..	..	4	..	24		
	Cases	Under 5	..	24	5	2	..	1	..	..	..	..	2		
		5 & upwards	..	64	24	..	..	30	..	..	4	..	22		
	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	9	11
		5 & upwards	..	..	2	..	..	6	..	..	1	..	1	1	
	Cases treated in hospital	Under 5	..	15											
		5 & upwards	..	37											
	Deaths occurring in hospital.....	Under 5	..	1											
		5 & upwards													
HEATH TOWN.* 7,800. 13/9. 60·5.	Houses infected	..	..	25	5	1	..	8	..	..	..	..	4		
	Cases	Under 5	..	6	..	1									
		5 & upwards	..	19	5	..	..	8	..	..	..	..	4		
	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	..	12
		5 & upwards	..	..	..	..	..	2	..	..	..	..	1		
	Cases treated in hospital	Under 5	..	4											
		5 & upwards	..	19											
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
KIDSGROVE.	Houses infected	18													
4,269.	Cases	Under 5	..	3	1	5	..	1	..	..	1	..	9		
11/8.		5 & upwards													
Nil.	Deaths	Under 5	..	..	..	5	..	..	..	..	..	..	..	3	
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
LEEK.*	Houses infected	..	..	14	..	..	..	8	..	..	1				
15,174.	Cases	Under 5	..	7	..	..	..	1							
4/5.		5 & upwards	..	9	..	..	..	9	..	..	1				
73·0.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	..	..	..	2	..	..	2	..	..	22	
	Cases treated in hospital	Under 5	..	5											
		5 & upwards	..	8	..	..	..	6	..	..	..	..	..	2	
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	..	..	..	..	1							
LICHFIELD.*	Houses infected	..	..	4	..	..	..	6	..	..	..	..	9		
7,864.	Cases	Under 5	..	1											
6/8.		5 & upwards	..	3	..	..	..	8	..	..	..	..	9		
25·0.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	4	1
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	1	
	Cases treated in hospital	Under 5													
		5 & upwards	..	2	..	..	.	1							
	Deaths occurring in hospital	Under 5 ..													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
LONGTON.	Houses infected	620													
36,069.	Cases	Under 5	..	135	554	9	..	61	..	..	6	..	29		
		5 & upwards													
£2 17s. 1d.	Deaths	Under 5	..	2	56	2	..	..	..	..	..	..	..	20	4
		5 & upwards	..	..	46	..	..	15	..	..	2	..	..	1	
6·5.	Cases treated in hospital	Under 5	..	..	51										
		5 & upwards													
	Deaths occurring in hospital.....	Under 5	..	..	6										
		5 & upwards													
NEWCASTLE.*	Houses infected	..	..	180	21	1	..	42	.	..	..	..	14		
20,100.	Cases	Under 5	..	251	28	1	..	51	..	..	..	..	14		
		5 & upwards													
£2 2s. 10d	Deaths.....	Under 5	..	7	5	1	..	..	..	..	..	..	..	19	12
		5 & upwards	..	1	5	..	..	7							
33·3.	Cases treated in hospital	Under 5	..	98	..	..	..	12							
		5 & upwards													
	Deaths occurring in hospital	Under 5	..	2	..	..	..	2							
		5 & upwards													
PERRY BARR.*	Houses infected	..	..	3	1	..	..	..	..	..	1	..	2		
2,650.	Cases	Under 5	..	1	1										
		5 & upwards	..	16	3	..	..	..	..	..	1	..	2		
£1 2s. 7d.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	1	
		5 & upwards	..	1	1										
76·2.	Cases treated in hospital	Under 5		1											
		5 & upwards	..	15											
	Deaths occurring in hospital..... ..	Under 5													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
QUARRY BANK.*	Houses infected	..	..	54	1	1	..	10	..	..	..	..	11		
7,115.	Cases	Under 5	..	28	..	1	..	..	..	..	..	..	1		
£1 13s. 0d.		5 & upwards	..	41	1	..	..	12	..	..	..	..	10		
8·5.	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	7	5
		5 & upwards	..	1	..	..	..	1	..	..	..	..	..	..	1
	Cases treated in hospital	Under 5													
		5 & upwards	..	..	..	..	..	7							
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
ROWLEY REGIS.*	Houses infected ..	..	..	70	5	6	..	148	..	..	4	..	55		
35,200.	Cases	Under 5	..	48	2	5	..	19	..	..	..	..	9		
£1 6s. 0d.		5 & upwards	..	52	3	2	..	175	..	..	4	..	47		
14·0.	Deaths	Under 5	..	6	1	1	..	2	..	..	..	..	1	45	14
		5 & upwards	..	2	..	1	..	36	..	..	3	..	..	..	1
	Cases treated in hospital	Under 5	..	..	..	..	..	1							
		5 & upwards	..	..	..	..	..	41							
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	..	..	..	..	6							
RUGELEY.	Houses infected	..		1	5	..	..	2	..	..	2	..	1		
4,500.	Cases	Under 5	..	..	2	..	..	..	..	..	..	..	..		
4/5.		5 & upwards	..	1	3	..	..	2	..	..	2	..	1		
Nil.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	7	
		5 & upwards	..	..	1	..	..	..	..	..	1				
	Cases treated in hospital	Under 5	..												
		5 & upwards	..												
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
SEDGLEY.*	Houses infected † ..	..													
15,100.	Cases	Under 5	..	56	17	21	..	79	..	..	1	..	27		
£1 13s. 3d.		5 & upwards													
Nil.	Deaths	Under 5	..	6	..	2	..	1	..	..	..	..	..	1	10
		5 & upwards	..	..	1	..	..	5	..	..	..	..	1	..	1
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
SMETHWICK.*	Houses infected	..	..	142	47	5	..	42	..	..	5	..	66		
50,000.	Cases	Under 5	..	57	19	5	..	..	..	..	..	..	7		
17/10.		5 & upwards	..	120	38	..	..	46	..	..	5	..	60		
Nil.	Deaths	Under 5	..	1	12	..	..	..	..	..	..	..	1	7	8
		5 & upwards	..	2	8	..	..	11	..	..	2	..	1	..	1
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
STAFFORD.*	Houses infected	..	..	26	..	..	..	9	..	..	3	..	13		
20,355.	Cases	Under 5	..	33	..	..	..	22	..	..	3	..	13		
8/8.		5 & upwards													
54·5.	Deaths	Under 5	..	1	..	..	..	2	..	..	1	..	..	17	1
		5 & upwards													
	Cases treated in hospital	Under 5	..	27	..	..	..	3							
		5 & upwards													
	Deaths occurring in hospital.....	Under 5	..	1											
		5 & upwards													

† Not specified.

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
STOKE-ON-TRENT.* 28,176. £2 9s. 4d. 29·8.	Houses infected	..	..	215	48	3	..	56	..	..	8	..	52		
	Cases	Under 5	..	124	32	2	..	3							
		5 & upwards	..	176	77	2	..	73	..	..	8	..	59		
	Deaths	Under 5	..	20	10	1	..	..	..	..	..	..	..	34	6
		5 & upwards	..	2	4	1	..	12	..	..	5	..	..	1	
	Cases treated in hospital	Under 5	..	15	11	1									
		5 & upwards	..	45	44	..	..	30	..	..	..	..	1		
	Deaths occurring in hospital	Under 5	..	7	3										
		5 & upwards	..	..	1	..	..	4							
STONE.* 6,158. 2/5. 33·3.	Houses infected	..	..	2	..	..	..	..	..	..	..	..	3		
	Cases	Under 5	..	2											
		5 & upwards	..	1	..	..	..	..	..	..	..	..	3		
	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards	..	1											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TAMWORTH.* 7,306. 11/3. 66·6.	Houses infected	..	..	14	4	..	..	2	..	..	1	..	8		
	Cases	Under 5	..	3	1										
		5 & upwards	..	13	5	..	..	2	..	..	1	..	8		
	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	1	9
		5 & upwards	..	..	1	..	..	..	..	..	1	..	1		
	Cases treated in hospital	Under 5		3	1										
		5 & upwards	..	11	1										
	Deaths occurring in hospital	Under 5 ...	..	1											
		5 & upwards	..	..	1										

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
TETTENHALL.*	Houses infected	..	..	11	1	..	..	3	..	..	..	..	3		
5,584.	Cases	Under 5	..	5	..	..	..	1	..	..	..	..	1		
8/-		5 & upwards	..	6	1	..	..	2	..	..	..	..	2		
46·6.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	6	
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	2	
	Cases treated in hospital	Under 5	..	4											
		5 & upwards	..	2	..	..	..	1							
	Deaths occurring in hospital	Under 5	..	2											
		5 & upwards													
TUNSTALL.*	Houses infected	..	..	62	9	4	..	21	..	..	4	..	9		
16,807.	Cases	Under 5	..	41	1	4	..	2	..	..	..	..	3		
17/8.		5 & upwards	..	31	8	..	..	19	..	..	4	..	6		
18·6.	Deaths	Under 5	..	3	1	2	..	..	..	..	..	..	..	56	3
		5 & upwards	..	2	..	..	..	4	..	..	2				
	Cases treated in hospital	Under 5	..	6											
		5 & upwards	..	9	1	..	..	3							
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	..	..	..	..	1							
UTTOXETER.	Houses infected	..	..	1	2	1	..	3	..	..	..	..	3		
5,000.	Cases	Under 5	..	1	2										
5/-		5 & upwards	..	..	..	1	..	3	..	..	..	..	3		
Nil.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	1	
		5 & upwards	..	..	..	1	..	1							
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													

URBAN—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
WEDNESFIELD.*	Houses infected	..	..	7	2	..	..	1	..	..	1				
5,200.	Cases	Under 5	..	9	2	..	..	1	..	..	1				
		5 & upwards	..												
6/3.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	2
		5 & upwards	..	..	..	..	..	1	..	..	1				
75·0.	Cases treated in hospital	Under 5	..	9											
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
WILLENHALL.*	Houses infected ..	..	..	37	27	..	..	37	..	..	1	..	16		
18,938.	Cases	Under 5	..	9	5	..	..	6	..	..	..	..	2		
		5 & upwards	..	36	22	..	..	36	..	..	1	..	16		
17/6.	Deaths	Under 5	..	1	1	..	..	2	..	..	..	..	1	1	26
		5 & upwards	..	2	1	..	..	8	..	..	1	..	1	..	1
2·6.	Cases treated in hospital	Under 5													
		5 & upwards	..	2	1										
	Deaths occurring in hospital	Under 5													
		5 & upwards													

RURAL.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
BLORE HEATH.‡	Houses infected	..	..	..	3	..	..	2	..	..	..	..	1		
2,149.	Cases	Under 5	..	..	1										
9/3.		5 & upwards	..	..	4	..	..	2	..	..	..	..	1		
Nil.	Deaths	Under 5													
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
CANNOCK.*	Houses infected	..	..	109	8	3	..	7	..	..	2	..	38		
15,965.	Cases	Under 5	..	62	1	3	..	..	..	..	..	..	4		
£2 3s. 8d.		5 & upwards	..	156	10	..	..	7	..	..	2	..	34		
2·9.	Deaths	Under 5	..	2	1	2	..	..	..	..	..	..	..	..	3
		5 & upwards	.	1	2	..	..	2	..	..	1	..	1		
	Cases treated in hospital	Under 5	..	1											
		5 & upwards	..	6											
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
CHEADLE.	Houses infected † ..	..													
22,500.	Cases	Under 5	..	14	43										
17/1.		5 & upwards	..	17	51	..	..	17	..	.	2	..	10		
Nil.	Deaths	Under 5	..	1	7	2	..	..	..	..	..	..	..	13	
		5 & upwards	..	..	11	1	..	1	..	..	..	.	..	2	
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													

‡ Tent available. † Not specified.

RURAL—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
ECCLESHALL.*	Houses infected	..	..	43	13	..	..	3	..	..	1				
6,151.	Cases	Under 5	..	19	5										
£1 18s. 7d.		5 & upwards	..	53	14	..	..	3	..	..	1				
56·3.	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	1	1	..	..	1							
	Cases treated in hospital	Under 5	..	14											
		5 & upwards	..	39											
	Deaths occurring in hospital	Under 5	..	1											
		5 & upwards	..	1											
GNOSALL.	Houses infected † ..	..													
5,024.	Cases	Under 5	..	3	1										
14/11.		5 & upwards	..	14	9	..	..	..	..	..	..	..	3		
Nil.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	3										
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
KINGSWINFORD.*	Houses infected	..	..	42	1	..	..	10	..	..	1	..	16		
19,741.	Cases	Under 5	..	13	1	..	..	..	..	..	..	..	3		
11/4.		5 & upwards	..	47	..	..	..	12	..	..	1	..	13		
31·5.	Deaths	Under 5	..	1	1	..	..	..	..	..	..	..	1	5	6
		5 & upwards	..	1	..	..	..	3	..	..	1	..	..	4	
	Cases treated in hospital	Under 5	..	2											
		5 & upwards	..	18	..	..	..	3							
	Deaths occurring in hospital	Under 5													
		5 & upwards													

† Not specified.

RURAL—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
LICHFIELD.*	Houses infected	..	..	116	1	..	..	16	..	..	1				
24,699.	Cases	Under 5	..	41	1	..	..	3	..	..	..	..	5		
		5 & upwards	..	76	5	..	..	16	..	..	3	..	13		
16/6.	Deaths	Under 5	..	1	1	..	..	..	..	..	..	..	..	6	7
		5 & upwards	..	3	..	..	..	1	..	..	1	..	..	1	
20·4.	Cases treated in hospital	Under 5	..	6											
		5 & upwards	..	22	..	..	..	1							
	Deaths occurring in hospital	Under 5													
		5 & upwards													
MAYFIELD.	Houses infected	..	..	8	..	..	..	..	..	..	..	..	4		
4,160.	Cases	Under 5	..	3											
		5 & upwards	..	8	..	..	..	..	..	..	..	..	4		
9/-	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	
		5 & upwards	..	1	..	..	..	..	..	..	..	..	..	2	
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
NEWCASTLE.	Houses infected	..	..	85	14	2	..	9	..	..	2	..	20		
7,079.	Cases	Under 5	..	40	5	..	..	2	..	..	..	..	1		
		5 & upwards	..	87	13	2	..	11	..	..	2	..	20		
£3 4s. 7d.	Deaths	Under 5	..	2	2	..	..	..	..	..	..	..	..	1	2
		5 & upwards	..	1	1	1									
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital..... ..	Under 5													
		5 & upwards													

RURAL—continued.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
SEISDON.*	Houses infected	..	..	40	5	..	..	5	..	..	1	..	6		
13,636.	Cases	Under 5	..	17	2	..	..	..	..	..	..	..	2		
		5 & upwards	..	28	5	..	..	5	..	..	1	..	4		
11/9.	Deaths	Under 5	..	2	..	..	..	..	..	..	..	..	..	6	2
		5 & upwards	..	..	..	..	..	1	..	..	..	..	1	..	2
59·6.	Cases treated in hospital	Under 5	..	14											
		5 & upwards	..	20											
	Deaths occurring in hospital.....	Under 5	..	2											
		5 & upwards													
STAFFORD.*	Houses infected ..	..	..	9	4	..	..	2	..	..	..	..	1		
10,800.	Cases	Under 5	..	8	2										
		5 & upwards	..	7	3	..	..	2	..	..	..	..	1		
5/3.	Deaths.....	Under 5	..	1											
		5 & upwards	..	1	..	..	..	..	..	..	1				
36·3.	Cases treated in hospital	Under 5	..	3											
		5 & upwards	..	5											
	Deaths occurring in hospital	Under 5	..	1											
		5 & upwards													
STOKE-ON-TRENT.*	Houses infected	..	..	6	..	..	..	4	2	..	..	..	1		
5,434.	Cases	Under 5	..	6											
		5 & upwards	..	..	..	..	..	4	2	..	..	..	1		
6/-	Deaths	Under 5													
		5 & upwards													
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													

District, Population, Cost of Notification per 1000 of Population, Percentage of cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
STONE.*	Houses infected	..	..	9	6	1	..	3	..	..	1	..	5		
8,847.	Cases	Under 5	..	10	7	1									
11/10.		5 & upwards	..	5	8	..	..	5	..	..	1	..	5		
11·4.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	4	1
		5 & upwards	..	..	..	..	..	2	..	..	1				
	Cases treated in hospital	Under 5	..	2											
		5 & upwards	..	2											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TAMWORTH.*	Houses infected † ..	..													
5,396.	Cases	Under 5													
2/3.		5 & upwards	..	2	..	..	..	1	..	..	1	..	1		
66·6.	Deaths	Under 5													
		5 & upwards	..	..	..	..	..	1	..	..	1				
	Cases treated in hospital	Under 5													
		5 & upwards	..	2											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TUTBURY.	Houses infected	..	..	9	1	..	..	1	..	..	..	..	4		
9,435.	Cases	Under 5	..	7	2										
5/6.		5 & upwards	..	7	..	..	..	1	..	..	..	..	4		
Nil.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	2	13
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	1	
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5 ..													
		5 & upwards													

† Not specified.

District, Population, Cost of Notification per 1000 of Population, Percentage of Cases treated in Hospital.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.
UTTOXETER. 7,950. 3/5. Nil.	Houses infected	..	..	..	5	..	..	1	..	..	1	..	4		
	Cases	Under 5	..	..	3	..	..	1							
		5 & upwards	..	..	2	..	..	..	..	..	1	..	4		
	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	..	5
		5 & upwards	..	..	1	..	..	..	..	..	1				
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WALSALL. 10,577. 19/7. Nil.	Houses infected	..	..	48	7	..	..	4	..	..	2	..	11		
	Cases	Under 5	..	23	2										
		5 & upwards	..	38	7	..	..	4	..	..	2	..	7		
	Deaths	Under 5	..	3	2	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	1	..	..	..	..	..	1				
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WOLSTANTON.* 34,059. £1 2s. 4d. 27·2.	Houses infected	..	..	123	18	2	..	59	..	..	4	..	24		
	Cases	Under 5	..	66	9	2	..	4	..	..	..	..	2		
		5 & upwards	..	117	15	..	..	64	..	..	4	..	22		
	Deaths	Under 5	..	13	6	..	..	..	..	..	..	..	..	59	9
		5 & upwards	..	5	2	..	..	10	..	..	1	..	..	2	
	Cases treated in hospital	Under 5	..	9	1										
		5 & upwards	..	39	3	.	..	23							
	Deaths occurring in hospital..... ..	Under 5	..	2											
		5 & upwards	..	1	1	..	..	3							

Summary of Sanitary Inspectors' Work.

URBAN.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.					Precautions against infectious disease.						
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Amblecote. 3,340.	Inspections & observations made	..	..	6	..	..	..	..	..	..	..	25	5	..	4			1	..	1	..	1	..	43	..	..	..	..	..	..	7					
	Formal notices by authority	..	..	6	..	..	..	..	..	..	..	25	5	..	4			1	..	1	..	1	..	43												
	Nuisances abated after notice	..	..	4	..	..	..	..	..	..	..	20	5	..	4			1	..	1	..	1	..	36												
Audley. 13,000.	Inspections & observations made	..	..	2	..	..	52	130	44	12	..	80	..	..	125			4	7	..	..	..	..	456												
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	..	..			..	7	..	..	..	..	7												
	Nuisances abated after notice	..	..	2	..	..	..	..	..	..	..	..	..	..	..			4	..	..	..	..	..	6	..	..	..	..	..	..	1					
Biddulph. 5,575.	Inspections & observations made	..	..	..	..	..	..	..	8	4	..	135	..	5	12	..	..	..	..	..	..	..	..	164												
	Formal notices by authority																																		
	Nuisances abated after notice	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7					
Bilston. 23,500.	Inspections & observations made	15	35	8	4	48	41	43	101	81	66	11004	26	15	16	..	28	10	10	27	..	2	4	11584												
	Formal notices by authority	..	..	..	3	..	..	..	..	..	4	1	..	1	..	..	..	..	..	..	..	..	..	9												
	Nuisances abated after notice	..	..	8	3	..	..	..	..	..	4	1	26	1	..	..	..	10	..	27	..	..	..	80	1	..	..	..	..	..	36	2					
Brierley Hill 12,120.	Inspections & observations made	175	..	9	..	..	23	21	10	9	105	3928	3	10	29	5	2	34	4	17	..	..	..	4384												
	Formal notices by authority	18	..	9	..	..	Inspected quarterly and found satisfactory.				...	..	..	..	29	..	..	..	..	..	..	..	..	56												
	Nuisances abated after notice	18	..	9	..	..					..	..	..	..	29	..	..	..	..	..	..	..	..	56	1	..	..	3	3	49	44					

URBAN—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Brownhills. 12,536.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Burslem. 35,095.	Inspections & observations made	83	639	16	13	132	90	38	30	90	60	2500	56	1500	360			5	40	35	45	3	84	5819											
	Formal notices by authority	25	145	6	3	..	2	1	..	1	8	215	18	180	244			3	4	8	1	3	35	902											
	Nuisances abated after notice	25	145	6	2	..	2	1	..	1	7	215	18	180	244			3	4	8	1	3	35	900	..	..	..	..	..	109	213	36				
Burton-on-Trent. 51,664.	Inspections & observations made	35	37	8	..	11	110	67	71	48	1	74	32	13	448			23	48	..	..	..	237	1263											
	Formal notices by authority	1	6	..	..	..	..	..	..	..	..	8	..	..	43	..	3	..	4	..	..	..	..	65											
	Nuisances abated after notice	62	52	11	..	..	..	..	..	..	..	272	42	17	431	1	114	20	68	..	..	..	264	1354	1	..	..	40	38	61	593	3	..	..	2	2
Cannock. 22,000.	Inspections & observations made	..	31	29	..	15	..	..	..	297	76	270	7	..	207		19	..	9	..	..	..	..	960											
	Formal notices by authority	..	23	10	1	2	...	..	..	3	1	41	3	..	140		7	22	5	..	..	..	..	258											
	Nuisances abated after notice	..	23	9	1	2	..	..	..	3	1	39	3	..	137		7	17	5	..	..	..	..	247	2										
Coseley. 22,000.	Inspections & observations made	123	78	14	29	..	43	175	112	173	179	171	39	..	4	..	32	134	8	3	..	1	16	1334											
	Formal notices by authority	100	71	14	29	..	..	16	1	4	1	117	..	..	3	..	32	..	8	3	..	1	16	416											
	Nuisances abated after notice	100	71	14	12	..	..	16	1	4	1	117	..	..	3	..	32	..	8	3	..	1	16	399	..	..	..	2	2	..	130					

URBAN—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Darlaston. 15,327.	Inspections & observations made	1	..	14	..	..	43	47	43	52	99	2772	9	..	26	..	52	..	..	1	..	..	8	3167											
	Formal notices by authority	1	..	14	..	..	..	..	..	..	1	..	9	..	26	..	52	..	..	1	..	..	8	112											
	Nuisances abated after notice	1	..	14	..	..	..	..	..	..	1	..	9	..	26	..	52	..	.	1	..	..	8	112											
Fenton. 21,000.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Handsworth 43,500.	Inspections & observations made	114	133	53	..	..	117	75	105	157	..	1704	187	391	1153	108	504	23	..	82	..	14	234	5154											
	Formal notices by authority	34	40	16	..	..	3	12	7	8	..	345	57	105	237	26	202	4	..	27	..	3	79	1205											
	Nuisances abated after notice	32	35	15	..	..	3	12	7	8	..	336	57	105	236	25	194	4	..	27	..	3	76	1175	2	..	..	2	1	95	113				
Heath Town. 7,800.	Inspections & observations made	671	233	176	49	..	63	95	36	103	..	403	192	17	121	32	137	29	17	157	..	..	20	2551											
	Formal notices by authority	72	36	8	3	..	..	..	2	4	..	149	34	..	31	4	44	6	5	29	..	..	2	429											
	Nuisances abated after notice	72	36	8	3	..	..	..	2	4	..	117	34	..	31	4	44	6	5	29	..	..	2	397	..	..	..	1	6	25	39				
Kidsgrove. 4,269.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	

URBAN—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Leek. 15,174.	Inspections & observations made	2	9	4	..	190	4	70	41	21	66	15	8	20	19	1	60		..	..	1	5	25	561											
	Formal notices by authority	2	9	4	..	..	..	..	..	1	4	15	8	20	9	1	60	..	..	..	1	5	25	164											
	Nuisances abated after notice	2	9	3	..	..	..	..	..	1	4	15	8	20	9	1	58	..	..	..	1	4	23	158	..	..	..	1	..	310	12	3				
Lichfield. 7,864.	Inspections & observations made	6	11	4	7	..	8	9	4	10	..	125	32	8	62	7	6	4	15	9	..	2	55	384											
	Formal notices by authority	6	7	4	5	..	3	9	3	4	..	97	29	4	53	4	6	4	9	9	..	2	49	307											
	Nuisances abated after notice	6	11	4	7	..	8	9	4	10	..	113	30	8	62	7	6	4	15	9	..	2	49	364	2	..	..	3	3	..	4					
Longton. 36,069.	Inspections & observations made	..	23	2	1	25	35	8	130	60	..	205	3	28	16	1	105	11	..	..	..	..	104	757											
	Formal notices by authority	..	1	..	1	..	..	..	..	..	..	4	..	..	..	..	4	..	..	..	..	..	..	10											
	Nuisances abated after notice	..	23	2	1	..	..	..	..	..	..	205	3	28	16	1	105	11	..	..	..	..	..	499	..	..	..	16	..	412	275	12	..	..	1	1
Newcastle. 20,100.	Inspections & observations made	430	160	5	7	20	70	70	65	75	..	600	20	96	15	10	6	20	30	4	..	..	..	1703											
	Formal notices by authority	140	120	5	4	..	14	14	3	12	..	175	15	40	4	10	6	10	4	4	..	..	..	580											
	Nuisances abated after notice	130	100	5	2	..	10	10	3	12	..	160	15	40	4	10	6	10	4	4	..	..	..	525	..	18	3	4	1	45	145	5				
Perry Barr. 2,650.	Inspections & observations made	12	1	..	..	..	5	14	..	..	..	447	2	..	2	1	63	..	29	..	..	..	..	576											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	3	..	..	..	..	..	..	4											
	Nuisances abated after notice	2	1	..	..	..	..	..	..	..	..	32	1	..	2	..	17	..	..	..	..	..	..	55	..	..	..	..	..	9	12	2				

URBAN—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.					Precautions against infectious disease.						
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Quarry Bank 7,115.	Inspections & observations made	30	24	14	..	..	20	20	10	12	..	500	20	..	13	..	..	250	23	..	20	..	41	997	..	..	..	13	13	12	66	3				
	Formal notices by authority	26	22	11	..	..	..	..	..	..	..	..	19	..	..	..	..	..	6	..	11	..	..	95											
	Nuisances abated after notice	26	22	11	..	..	..	..	..	..	..	..	19	..	..	..	..	..	6	..	11	..	..	95											
Rowley Regis 35,200.	Inspections & observations made	587	22	16	7	..	71	81	..	40	161	4809	38	79	9	..	3	217	134	18	..	1	..	6293	3	..	..	79	71	212	311					
	Formal notices by authority	135	22	16	7	..	.	..	..	2	10	61	17	..	4	..	3	71	37	13	..	1	..	399												
	Nuisances abated after notice	135	22	16	7	..	..	..	..	2	10	61	17	.	4	..	3	71	37	13	.	1	..	399												
Rugeley. 4,500.	Inspections & observations made	..	..	..	..	8	5	3	10	21	47	11	..	4	3	1	7	2	..	2	8	..	1	133	..	..	..	..	..	..	8	1				
	Formal notices by authority	..	..	..	..	..	..	..	..	..	2	8	..	4	3	1	5	2	..	2	..	..	1	28												
	Nuisances abated after notice	..	..	..	..	..	..	..	..	..	2	11	..	4	2	1	7	2	..	2	..	..	1	32												
Sedgley. 15,100.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Short Heath 3,539.	Inspections & observations made	..	..	..	..	..	14	14	2	6	..	All	..	..	..	..	..	..	..	..	..	..	..													
	Formal notices by authority	..	..	2	3	..	..	..	..	..	..	3	..	..	..	..	..	6	..	..	..	..	..	14												
	Nuisances abated after notice	..	..	1	..	..	..	..	..	..	..	3	..	..	..	..	..	6	..	..	..	..	..	10												

URBAN—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Smallthorne 6,025.	Inspections & observations made	4	..	..	..	..	14	10	9	5	..	1200	2	5	2	..	..	.	12	1	..	..	..	1264	..	..	..	..	..	..	2					
	Formal notices by authority	4	..	..	..	..	..	..	..	..	..	9	..	2	2	..	..	..	..	1	..	..	..	18											
	Nuisances abated after notice	4	..	..	..	..	..	..	..	..	..	9	..	..	2	..	..	..	..	1	..	..	..	16											
Smethwick. 50,000.	Inspections & observations made	57	..	22	..	..	*260	*52	*207	*90	97	1645	18	35	514			29	15	3	8	..	..	3052											
	Formal notices by authority	23	..	5	..	..	..	..	..	..	10	302	4	4	415			3	..	1	..	..	..	767											
	Nuisances abated after notice	23	..	5	..	..	..	..	..	..	10	282	4	4	395			3	..	1	..	..	..	727	1	..	..	9	3	160	158					
Stafford. † 20,355.	Inspections & observations made	..	..	..	16	40	20	20	70	160	..	..	..	..	..	..	..	..	..	..	..	..	..	1888											
	Formal notices by authority	11	31	8	16	..	..	..	..	..	..	8	5	34	7	5	25	..	4	..	1	2	85	242											
	Nuisances abated after notice	11	25	8	15	..	..	..	..	..	..	..	5	34	7	5	25	..	4	..	1	2	83	225	..	..	..	..	..	81	26					
Stoke-on-Trent. 28,176.	Inspections & observations made	31	23	13	2	55	23	57	..	53	277	308	19	31	42	16	137	32	4	7	31	9	..	1170											
	Formal notices by authority	38	10	6	1	2	3	3	..	4	66	204	10	17	21	12	69	45	2	3	1	3	..	520											
	Nuisances abated after notice	20	11	7	1	2	3	2	..	3	62	171	11	17	20	18	56	48	2	3	..	2	..	459	1	..	..	..	..	22	442					
Stone. 6,158.	Inspections & observations made	6	8	..	..	12	10	9	10	24	24	26	12	..	16	12	10	38	..	2	..	2	70	291											
	Formal notices by authority	3	4	..	..	..	..	1	2	2	2	13	6	..	8	6	5	19	..	1	..	1	140	213											
	Nuisances abated after notice	3	4	..	..	..	..	1	2	2	2	10	6	..	3	5	4	19	..	1	..	1	..	63	..	..	..	95	47	..	Several.					

* Verbal notice given on each inspection when necessary, and notices complied with. † Including Public Institutions.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Tamworth. 7,306.	Inspections & observations made	Inspector's Return not received.																															
	Formal notices by authority																																
	Nuisances abated after notice																																
Tettenhall. 5,584.	Inspections & observations made	Inspector's Return not received.																															
	Formal notices by authority																																
	Nuisances abated after notice																																
Tipton. 30,000.	Inspections & observations made	116	115	14	2	..	136	188	48	100	104	175	21	..	6	30	6	71	17	17	..	20	8	1194										
	Formal notices by authority	..	76	14	2	..	..	..	..	..	..	122	12	..	4	15	6	24	10	10	..	2	8	305										
	Nuisances abated after notice	..	46	12	2	..	..	..	..	..	..	100	12	..	4	15	6	..	10	10	..	2	8	227	..	..	..	20	20	..	6				
Tunstall. 16,807.	Inspections & observations made	430	..	..	5	..	250		30	600	73	53	3	65	54	109	32	..	..	3	..	..	93	1800										
	Formal notices by authority	30	..	..	..	..	A large percentage have been abated by request.								..	..	..	..	..	..	..	..	..	30										
	Nuisances abated after notice	412	..	..	..	..	..	..	..	..	..	53	3	65	54	109	32	..	..	3	..	..	93	824	1	..	..	..	..	..	3				
Uttoxeter. 5,000.	Inspections & observations made	12	2	3	..	..	17		8	8	..	212	7	75	22	5	..	..	4	..	..	..	..	375										
	Formal notices by authority	4	2	3	..	..	..		..	..	..	..	4	2	7	5	..	..	4	..	..	..	..	31										
	Nuisances abated after notice	4	2	3	..	..	..		..	..	..	..	4	2	7	5	..	..	4	..	..	..	..	31	..	..	..	..	..	..	2				

URBAN—continued.

District and Population.		Dwelling-houses and Schools.			Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.				Precautions against infectious disease.				
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.									Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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 26,000.	Inspections & observations made	29	20	24	5	34	..	42	60	..	88	10	9	32	..	123	8	11	17	..	1	40	563	..	..	..	3	2	32	15				
	Formal notices by authority	29	..	24	5	1	..	1	4	..	88	10	9	32	..	97	2	11	17	..	1	16	347											
	Nuisances abated after notice.....	27	..	24	5	1	..	1	4	..	80	10	9	32	..	123	2	11	17	..	1	40	337						6					
Wednesfield, 5,200.	Inspections & observations made	6	4	24	4	..	..	..	..	..	252	6	..	28	..	..	..	18	..	..	..	18	360											
	Formal notices by authority	4	1	12	2	..	..	..	..	..	39	3	..	14	..	..	..	9	..	..	..	8	92											
	Nuisances abated after notice.....	4	1	12	2	..	..	..	..	..	39	3	..	14	..	..	..	9	..	..	..	8	92						6					
Willenhall, 18,938.	Inspections & observations made	2892				..	30	54	49	2	2113	8	541	359			12	82	12	2	..	471	6727											
	Formal notices by authority	1	1	5	..	..	1	..	..	..	44	2	4	5	..	63	3	15	4	1	..	9	158				2	2						
	Nuisances abated after notice.....	4	8	7	..	..	3	8	10	..	747	4	24	3	..	62	4	16	6	1	..	64	971	2	..	..	2	2	45	63				

RURAL.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Blore Heath. 2,149.	Inspections & observations made	6	5	3	1	..	..	..	..	..	12	12	..	..	..	3	.	21	5	..	..	..	..	68											
	Formal notices by authority	..	..	3	1	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	6											
	Nuisances abated after notice	6	4	3	1	..	..	..	..	..	..	12	..	..	..	2	..	7	2	..	..	..	..	37	..	..	..	7	4						
Cannock. 15,965.	Inspections & observations made	5	4	12	4	1	25	26	15	7	38	28	4	1	10	4	20	12	4	1	..	..	..	221											
	Formal notices by authority	5	4	12	4	1	25	26	15	7	8	28	4	1	10	4	20	12	4	1	..	..	..	191											
	Nuisances abated after notice	5	4	12	4	1	2	1	2	1	8	28	4	1	10	4	20	12	4	1	..	..	..	124	..	..	..	7	7	9	9				
Cheadle. 22,500.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Eccleshall. 6,151.	Inspections & observations made	4	2	1	..	2	46		8	7	..	45	43	..	4		10	8	2	6	..	..	..	188											
	Formal notices by authority	4	2	1	..	..	..		..	..	..	17	35	..	1		8	1	2	6	..	..	.	77											
	Nuisances abated after notice	4	2	1	..	..	..		..	..	..	13	35	..	1		6	1	2	6	..	..	..	71											
Gnosall. 5,024.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	

RURAL—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water.					Precautions against infectious disease.					
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Kingswinford. 19,741.	Inspections & observations made	308	..	18	..	..	15	46	11	24	25	319	21	..	2	..	180	76	4	5	..	..	11	1065											
	Formal notices by authority	..	..	18	..	..	..	..	..	..	..	138	..	..	..	..	4	37	1	1	..	..	..	199											
	Nuisances abated after notice	..	..	18	..	..	..	..	..	..	..	138	..	..	..	..	184	76	5	6	..	..	..	427	..	..	..	12	11	..	64	2				
Leek. 12,898.	Inspections & observations made	13	6	2	6	18	86		..	14	110	90	26	8	40	34	26	28	26	12	..	2	6	553											
	Formal notices by authority	4	3	2	6	..	12		..	2	7	28	4	5	12	10	8	11	5	3	..	2	3	127											
	Nuisances abated after notice	4	2	2	6	..	12		..	2	7	23	3	5	9	8	8	9	4	3	..	2	3	112	..	..	..	8	6	110	25	6				
Lichfield. 24,699.	Inspections & observations made	5	33	8	9	1	124		..	25	155	350	40	3	33	25	149	46	57	8	..	..	21	1092											
	Formal notices by authority	..	..	..	4	..	..		..	..	..	..	..	..	..	..	4	40	..	..	..	..	..	48											
	Nuisances abated after notice	5	33	8	5	..	30		..	5	6	350	40	3	33	25	140	20	57	8	..	..	20	788	..	..	..	..	..	..	116					
Mayfield. 4,160.	Inspections & observations made	10	4	..	3	..	..	..	..	1	..	20	2	2	..	..	13	18	4	..	..	..	20	97											
	Formal notices by authority	5	4	..	3	..	..	..	..	..	..	3	2	2	..	..	7	7	2	..	..	..	20	55											
	Nuisances abated after notice	5	3	..	2	..	..	..	..	..	..	3	2	2	..	..	5	..	2	..	..	..	18	42	..	..	..	..	..	..	16	1				
Newcastle. 7,079.	Inspections & observations made	15	..	..	..	..	9	18	..	5	..	40	..	..	45			6	10	..	..	..	..	148											
	Formal notices by authority	15	..	..	..	..	..	..	..	..	..	..	..	..	45			6	..	..	..	..	..	66											
	Nuisances abated after notice	15	..	..	..	..	..	..	..	..	..	..	..	..	40			5	..	..	..	..	..	60	..	..	..	3	2	..	50					

RURAL—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.					Precautions against infectious disease.						
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Seisdon. 13,636.	Inspections & observations made	48	42	7	..	..	4	63	14	12	105	184	36	2	52	*46	69	191	24	7	..	1	..	907											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	232											
	Nuisances abated after notice	48	42	7	..	..	..	14	..	..	..	184	36	2	52	*46	69	191	24	7	..	1	..	723	..	..	..	23	15	..	42	3	1	1	**1	**1
Stafford. 10,800.	Inspections & observations made	..	..	..	2	..	127		3	7	98	49	10	..	65			..	50	..	..	..	13	424											
	Formal notices by authority	..	..	..	1	..	..		..	..	1	3	5	..	16			..	..	..	..	..	3	29											
	Nuisances abated after notice	..	..	..	1	..	..		..	..	1	3	5	.	16			..	..	..	.	..	3	29	..	..	..	18	7	..	18					
Stoke-on-Trent. 5,434.	Inspections & observations made	8	6	..	11	..	252	..	12	24	..	106	7	..	..	..	11	84	94	1	..	..	..	616											
	Formal notices by authority	..	..	..	11	..	..	..	..	..	..	34	..	..	..	..	11	..	..	..	..	..	..	56											
	Nuisances abated after notice	8	6	..	11	..	..	..	..	..	..	106	7	..	..	..	11	..	40	1	..	..	..	190	..	..	..	..	..	..	6					
Stone. 8,847.	Inspections & observations made	1	3	1	..	..	97		9	8	100	25	123	..	4		27	9	..	..	..	..	..	407											
	Formal notices by authority	1	1	1	..	..	..		..	..	9	9	94	..	2		18	3	..	..	..	..	..	138											
	Nuisances abated after notice	1	1	1	..	..	..		..	..	9	7	94	..	2		16	1	..	..	..	..	..	132	1										
Tamworth. † 5,396.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	

* Houses drained. ** Obstruction of Inspector (Canal Boats). † Staffordshire portion.

RURAL—continued.

District and Population.		Dwelling-houses and Schools.				Lodging-houses.	Dairies and Milkshops.	Cowsheds.	Bakehouses.	Slaughter-houses.	Canal Boats.	Ashpits and Privies.	Deposits of refuse & manure.	Water-closets.	House drainage.			Water supply.	Pigstics.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & water.					Precautions against infectious disease.						
		Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.										Defective Traps.	No disconnection.	Other faults.								Seizures of unwholesome food.	Samples of food taken for analysis.	Samples of food found adulterated.	Samples of water taken for analysis.	Samples of water condemned as unfit for use.	Lots of infected bedding stoved 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.
Tutbury. 9,435.	Inspections & observations made	7	52	4	..	..	..	114	..	6	..	292	71	8	87	13	49	10	52	29	..	..	187	981											
	Formal notices by authority	..	..	1	..	..	..	..	..	..	..	..	1	..	4	.	..	4	1	..	..	..	..	11											
	Nuisances abated after notice	..	..	1	..	..	..	..	..	..	..	..	1	..	4	..	..	4	1	..	..	..	..	11	..	..	..	11	8	..	8	1				
Uttoxeter.* 7,950.	Inspections & observations made	5	7	2	1	..	195		12	11	..	95	17	22	30	9	3	45	17	2	..	..	..	473											
	Formal notices by authority	3	5	2	1	..	7		..	..	..	16	10	3	23	7	3	12	..	2	..	..	..	94											
	Nuisances abated after notice	3	5	2	1	..	7		..	..	..	16	8	1	18	7	3	10	..	2	..	..	..	83	..	..	..	16	2	..	3	2				
Walsall. 10,577.	Inspections & observations made	8	..	16	..	..	41	52	3	5	55	549	7	2	126	..	49	14	6	..	..	..	..	933											
	Formal notices by authority	3	..	5	..	..	..	..	..	1	..	44	4	..	28	..	..	..	..	..	..	..	..	85											
	Nuisances abated after notice	8	..	16	..	..	..	..	..	1	..	41	7	..	54	..	..	..	..	..	..	..	..	127	..	..	..	14	13	..	73					
Wolstanton. 34,059.	Inspections & observations made	16	..	13	78	..	9	521	329	337	60	629	45	31	97	25	232	8	25	27	..	..	269	2751											
	Formal notices by authority	8	..	5	28	..	..	..	1	..	...	219	21	14	47	9	110	3	11	13	..	..	125	614											
	Nuisances abated after notice	8	..	5	28	..		..	1	..	..	219	21	14	47	9	110	3	11	13	..	..	125	614	..	..	..	1	1	162	162				

* Staffordshire portion.