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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 1897.

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STAFFORDSHIRE COUNTY COUNCIL.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH,

Presented to the Council at the Quarterly Meeting,

November 1st, 1898.

IN this, my ninth 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.

While this is so, I feel it is desirable that members of the Council, who may wish to see at a glance the leading features of certain districts, ought to have the means of doing so, and, in order to admit of this, I have again introduced a summary, in tabular form, and in alphabetical order, of the vital statistics and prominent characteristics of each report. These tables, one for urban and the other for rural districts, will be found at the end.

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

The other general tables 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.

It is satisfactory to be able to record that, in response to the appeals of the County Council, nearly all the annual reports of District Medical Officers of Health are now printed.

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 Heath 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, 1898, 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 1897 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, 210 analyses have been made, of which 144 were sewage effluents, and the remainder samples of river water. 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 was being made of South Staffordshire, for the purpose of reviewing the work of the Sanitary Committee as regards rivers pollution, a similar inquiry having already been conducted in the north of the County with satisfactory results as regards pushing on Authorities either to provide sewage disposal works or improve existing ones. This

inspection has been completed, and the report was presented to the Council by the Sanitary Committee at the quarterly meeting held on Feb. 1st, 1898. Meanwhile, the Sanitary Committee have been in communication with the various Authorities included in the report, most of whom are now taking steps to remedy the serious 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.

Another matter of supreme importance, which has been handed on from last year, is the investigation into the pollution of the Tame, an enquiry which deals with the circumstances of sewage disposal of a population which approaches 1,400,000. The work of this enquiry, which had been in progress for nearly two years, was completed during this year, and the facts and conclusions were set forth in a voluminous report, prepared by myself in conjunction with Mr. Price, the City Engineer of Birmingham. The Joint Committee of the Sanitary Committee and the Corporation of Birmingham have this report now under consideration, and negotiations are in progress between that Committee and the various Authorities within the watershed, with the view of coming to some understanding which will ultimately lead to a considerable improvement in the present highly unsatisfactory condition of the River Tame and its tributaries. Meanwhile, important work has already been initiated and is in progress, the good effect of which will be apparent in the immediate future.

As regards other work under this heading, besides numerous communications with Authorities, and consultations with their officers, 27 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.), Leek, Lichfield, Longton, Newcastle, Perry Barr, Rugeley, Stoke-on-Trent, Tipton, Uttoxeter, West

Bromwich (C.B.), Willenhall, and Wolverhampton (C.B.), Urban Districts; and Lichfield, Newcastle, Stoke-on-Trent, and Wolstanton, Rural Districts.

Local Government Board Inquiries with reference to sewage disposal, at which I was present, were held in the following districts during the year, namely:—Willenhall, Tunstall, Stafford (Urban), and Wolstanton (Rural).

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 Burslem, Cannock, Darlaston, Heath Town, Wednesbury, and Wednesfield Urban Districts, and Cheddleton and Leek Rural Districts.

The Sanitary Committee have not lost sight of the Isolation Hospital question, and although I cannot yet report that any hospital area has been formed under the 1893 Act, negotiations are in progress with this object in the case of several districts both in the north and south of the County. In my last Annual Summary I referred to the fact that model plans of isolation hospitals were in process of preparation by Mr. Hare, in consultation with the County Medical Officer of Worcestershire and myself, and I am pleased to be able to record that two sets of plans for hospitals of different size are now in the possession of the Committee, and will no doubt prove of great value when the prospective schemes for hospital provision throughout the County come forward. These plans, which have been submitted to the expert advisers of the Local Government Board, and have received their provisional and unofficial approval, are to some extent framed on new and, it is thought, improved lines, and it is satisfactory to be able to record that the estimated cost of the buildings is considerably less than the actual cost of similar buildings erected in recent years throughout England.

Since last year a special effort has been made to induce those Authorities in the County who have not yet adopted the Compulsory Notification of Infectious Diseases Act to re-

consider their determination, and with this object I prepared a special report, which was presented to the Council by the Sanitary Committee at the quarterly meeting of Feb. 1st, 1898. So far, I regret to say, no good has resulted from this action.

An important step has recently been taken by the Sanitary Committee 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, the result of bacterial investigation, regarding the true nature of doubtful cases of diphtheria. The scheme was set forth in a report which was presented to the Council, and approved, at the Quarterly Meeting in August, 1898, and I hope to be in a position to report favourably upon the working of the scheme in my next year's Annual Report. In addition to the work shortly detailed above, I have been called in or consulted by Medical Officers of Health and other Officers of Local Authorities on 47 occasions.

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.

For the first time since it has been my duty to collate the annual reports of District Medical Officers of Health for the

information of the County Council, I regret to say the statistics and information from one district—namely Brownhills—are not included. I postponed the preparation of this Report as long as possible, in the hope that the necessary information would be forthcoming, even at the last moment, but notwithstanding numerous urgent and fruitless applications, addressed to the Medical Officer of Health of the district, I was obliged to deal with Brownhills, so far as this Report is concerned, as if the district formed no part of the Administrative County. This has occasioned a most unfortunate break in the continuity of the published statistical records, and in considering this year's figures the fact must not be overlooked that the omission of those which relate to Brownhills Urban District has been taken into account.

Area and Population.

As regards the area of the County, and the areas of the constituent districts, I have no alteration to record this year.

The estimated aggregate population (excluding Brownhills) 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 1897.	Increase.	Decrease.
*Urban	537,797	589,548	51,751	...
Rural	217,349	228,486	11,137	...
* Total.....	755,146	818,034	62,888	...

* Excluding Brownhills.

Births.

The mean birth-rate of the whole Administrative County, and of the urban and rural districts respectively, for the nine years 1889-97, is 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*
Staffordshire	Combined Urban & Rural	33·5	32·7	35·7	35·1	35·7	34·3	35·1	34·2	33·5
	Urban	35·2	34·5	37·3	36·3	36·6	35·4	36·2	35·4	34·8
	Rural	29·5	28·6	31·6	32·2	33·3	31·6	32·0	31·2	30·3
England and Wales		31·1	30·2	31·4	30·5	30·8	29·6	30·3	29·7	29·7
Large Towns in England		30·9	30·4	32·5	31·8	31·8	30·6	31·2	31·2	30·6

* Excluding Brownhills.

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 five instances in the case of urban districts—viz., Bilston, Fenton, Heath Town, Short Heath, and Smallthorne—the rates exceed 40 per 1,000 of the population. It will be noticed that in all these cases the populations are made up of artisans.

The Medical Officer of Health of Stafford specially referred in his report for 1896 to the progressive decrease in the birth returns, and in his report for 1897, in referring to the exceedingly low birth-rate in the Borough for that year (namely 26·8), he states that the figure is not only below the average for the decennium, but lower than in any year within the period covered by the available returns.

In Tipton, where the rate amounted to 35·6, the Medical Officer of Health points out that during the past ten years it has only once been lower.

In the Walsall Rural District, where the rate was 29·4, the Medical Officer of Health refers to it as the lowest rate

recorded during the past ten years, and says he is unable to offer any satisfactory explanation of the circumstance.

Deaths.

Excluding Brownhills, the number of deaths registered in the Administrative County in 1897 amounted to 14,569, as compared with 13,898 in 1896, 14,644 in 1895, 12,754 in 1894, 14,507 in 1893, 14,514 in 1892, and 15,361 in 1891.

In the following table comparative figures for the past nine 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

† Certain proportion of Urban residents included.

* Excluding Brownhills in the case of the year 1897.

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 shown 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 1897.	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 of former years.
						Measles.	Whooping Cough.	Diarrhœa.	Diseases of Respiratory Organs.	
Bilston	**24·7**	23,500	12·5	4·12	Working class.	..	..	Very considerble	Considerable.	Mean for 8 years, 22·3.
Burslem ..	**24·5**	34,663	13·4	5·68	,,	..	Considerable.	Considerable.	Slight.	Mean for 21 years, 22·3.
Darlaston ..	**24·5**	15,327	19·1	5·93	,,	Considerable.	..	Very considerable.	Slight.	Mean for 10 years, 22·8.
Longton ..	**23·5**	39,104	19·5	4·60	,,	..	..	..	..	Mean for 8 years, 23·7.
Heath Town	**23·2**	7,700	10·4	6·75	,,	Considerable.	Very considerable.	..	Slight.	Mean for 8 years, 19·7.
Willenhall..	**22·9**	18,669	14·9	6·15	,,	Considerable.	..	Very considerable.	..	Mean for 10 years, 20·5.
Short Heath	**22·7**	3,472	3·2	4·03	,,	Considerable.	Considerable.	..	..	Mean for 10 years, 16·7.
Fenton	**22·3**	21,000	13·1	4·80	,,	..	..	Considerable.	..	Mean for 8 years, 21·0.
Smallthorne	**21·6**	5,900	11·1	3·38	,,	..	Considerable.	..	Considerable.	Mean for 8 years, 16·7,
Sedgley	**21·1**	15,100	4·0	4·30	,,	..	Considerable.	..	..	Mean for 8 years, 20·3.
Tunstall ..	**20·9**	16,658	20·0	2·52	,,	..	..	..	..	Mean for 8 years, 22·9.

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

As regards Short Heath and Smallthorne, it would be a mistake, owing to the very 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, 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. In Short Heath, at any rate, both measles and whooping cough contributed considerably to the high rate, and neither of these diseases, under existing circumstances, can be considered very amenable to preventive measures.

As regards Bilston, the Medical Officer of Health in former years has attributed the usual high death-rates to the absence of a suburban residential population, and this year he states that deaths among infants chiefly explain the high rate. It will be seen from the above table that deaths from diarrhœa and lung diseases contributed largely to this year's rate.

In Burslem, both whooping cough and measles, and in a small degree lung diseases, are to blame for the rate of 24·5, at the same time, the mean rate in this district for a period of no less than 21 years amounts to 22·3.

The Medical Officer of Health of Darlaston, beyond pointing out that the rate there was the highest which had been recorded since 1881, does not make any comments upon the fact, but it will be seen from the summary table that measles and diarrhœa, and, to a smaller extent, lung affections, have contributed to this year's high rate.

In Longton, the death-rate this year amounted to 23·5, a figure which, although high, is slightly less than the mean in that district, which is 23·7.

In Heath Town, as the Medical Officer of Health points out, the high rate of this year is mainly to be attributed to the prevalence of measles and whooping cough.

In Willenhall, the excessive rate this year is to be attributed largely to measles and diarrhœa; in Fenton to diarrhœa; and in Sedgley to whooping cough.

In Tunstall, on the other hand, there are no special features in the returns to explain the rate, and it will be noticed that, unsatisfactory though it is, it compares favourably with former years, the mean rate for the past eight years being 22·9.

Among the other urban reports in which comments appear regarding the death-rates may be mentioned those of Quarry Bank and Rugeley, where the rates were exceptionally low, namely, 14·7 and 13·5 respectively.

The Medical Officer of Health of Lichfield Rural District also calls attention to the low rate recorded for the year (13·5), and points out that it is the lowest among his records, which go back to 1884.

Uncertified Deaths.

In most of the reports figures are given showing the number of uncertified deaths. These seem to have been high at Bilston, where 15 persons died uncertified, nine of whom were very young children.

Infant Mortality.

The infant mortality in the urban districts of the County is still maintained at a lamentably high figure. This year's figures compare badly with those of last year, and, indeed, with the mean for the nine years during which these reports have been prepared, as will be seen from the following table :—

Deaths in children under one year per 1000 registered births.

	Bilston.	Burslem.	Darlaston.	Fenton.	Heath Town.	Longton.	Short Heath.	Tunstall.	Wednesbury.	Willenhall.	Urban Districts in County.	Large Towns in England.
1889	204	197	207	162	204	216	154	211	194	178	161	161
1890	182	217	191	192	200	231	109	220	176	156	176	171
1891	210	171	235	193	252	224	221	232	162	179	175	167
1892	219	189	215	186	221	231	228	198	150	189	174	163
1893	202	194	221	193	158	225	146	206	173	207	179	181
1894	175	190	174	251	143	238	142	173	134	223	163	152
1895	224	182	221	216	222	234	61	288	191	186	181	182
1896	181	216	183	196	171	235	102	194	174	187	171	167
1897	226	232	255	231	202	253	215	234	205	229	187	177
Mean Rate.	202	199	211	202	197	232	153	217	173	192	174	169

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

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.

Under this heading, the Medical Officer of Health of Bilston, where the infant mortality rate amounted to 226, writes:—"The special cause of the great excess this year undoubtedly is the epidemic of diarrhœa already alluded to. If the deaths due to this were deducted, the number, while still too high, would not be above what I have regretfully to confess seems to be the normal standard here.

"In my report last year I pointed out, with regard to child insurance, that of the children who died 156 were insured, and the number dying under one year of age was 157. This year the figures, which have again been kindly supplied to me by the Registrar, similarly approach one another very closely. Of the 304 children under five years of age who died during 1897, 204 were insured, and the number of infants who died before reaching the age of one year was 214."

In Burslem, where the rate amounted to 232, prominence has been given to the subject by the Medical Officer of Health in previous annual reports, but in this year's report the question is not specially dealt with.

The Medical Officer of Health of Darlaston, where the enormous rate of 255 was recorded, does not refer specially to the question under this heading, but in discussing the prevalence of diarrhœa he calls attention to its fatality among children, as mentioned later in this Report.

As regards Fenton and Heath Town, where the infant death-rates were high, the question does not receive special mention in the reports.

As regards Longton, which it will be seen from the above table has the highest mean infant mortality rate in the County, the Medical Officer of Health writes :—" The infantile mortality is still a very serious matter, and I am much afraid must continue so as long as the present domestic circumstances exist, viz., the mothers going to work and, in many instances, exposing their infants to inclement weather while taking them to the nurse and bringing them home again, so depriving the infants of their natural food, and as a substitute some unwholesome food is given, the consequences of such treatment, added to the cesspool nuisance, as I have often explained, being degeneracy in vital power and proneness to disease of any kind ; for instance, in the vital statistics you will find 40 deaths from diarrhœa and dysentery, of which number 39 were under five years, and in the large majority of these cases the deaths were due to improper feeding, exposure, and unhealthy surroundings."

The Medical Officer of Health of Short Heath attributes the excessive infant mortality in that district chiefly to the prevalence of infantile diarrhœal ailments. It will be seen from the table that the rate in this district is very variable, in fact in 1895 it only amounted to 61. Such varying rates are to be expected in all districts with small populations; it is all the more important therefore, in such cases, to consider the mean rate of a series of years in drawing any conclusions from the statistical returns.

The Medical Officer of Health of Tunstall writes :—" Infantile mortality is again, I regret to say, in a pitiable condition, and occupies one-half the total number of deaths. It is also very discouraging to report a very considerable increase in the record, when compared with the preceding year.

" 156 deaths occurred in children under one year, and 45 at ages between one and five years. The infant mortality under one year is in the proportion of 234 per 1000 births registered, and is 40 per 1000 more than that recorded for the preceding year.

"An epidemic of summer diarrhœa, proving particularly fatal to young children, which occurred in August and September, and an increased number of deaths from premature birth, will account to some extent for the high rate above stated.

"I fear it is hopeless to expect much improvement in the infantile death-rate till children among the lower classes are reared with more intelligent care for their feeding, and greater regard for the cleanliness of their surroundings than is at present displayed."

The Medical Officer of Health of Wednesbury points out with reference to the infant mortality rate, which amounted to 205, that the chief single cause was the great prevalence of diarrhœa.

To this cause also, the Medical Officer of Health of Willenhall attributes the excessive infant mortality in that district.

So much for those districts which are included in the high infant death-rate table. Reference has now to be made to other districts whose Medical Officers of Health call special attention to the question in their reports.

The Medical Officer of Health of Cannock Urban District calls attention to a reduction in the infant death-rate this year, and expresses satisfaction that the lectures originally given by Miss Lonsdale have been continued by Mrs. Grier and Mrs. Hosegood.

The Medical Officer of Health of Coseley, where the rate amounted to 167, writes as follows:—"The reduction in infantile mortality should be striven for as the most potent means of lowering our death-rate. More than one-third of the total number of deaths are in infants under one year of age, and twice as many children die in the first year of life as in the four years following. As the spread of knowledge, amongst the poorer classes, of the treatment of infants must help in this direction, I would suggest that your Council should take steps to have a course of free health lectures given in the district.

"In addition to efforts in this direction, the restriction of the spread of epidemics by the provision of an isolation hospital (which is sorely needed) will also tend to bring the death-rate to a more satisfactory level."

In Quarry Bank, where the lowest rate has been recorded of any year during the past ten years, namely 104, the Medical Officer of Health attributes this to four probable causes:—(1) the absence of zymotic disease; (2) greater care in the feeding and nursing of infants—the result of a house-to-house distribution of pamphlets; (3) improvement in the water-supply; and (4) meteorological conditions, &c., beyond our control.

In Rowley Regis, where the rate amounted to 181, the Medical Officer of Health states that the mortality "still keeps deplorably high," but that, "bad as it is, there is a slight improvement on last year's returns."

In Rugeley the mortality of 196 is said to be the highest in the decade, owing chiefly to whooping cough and diarrhœal diseases.

In Smethwick the rate of 168 was the same as the previous year's rate, and it is said that diarrhœa chiefly contributed to it.

In Stoke-on-Trent the increased rate of 191 is attributed to the prevalence of diarrhœa in August and September.

In discussing this subject, the Medical Officer of Tamworth Urban District, where the rate amounted to 193, says:—"This is the highest infant mortality rate registered within recent years. The deaths include three from measles, one from whooping cough, ten from diarrhœa, six from diseases of the respiratory organs, and twenty-one from other diseases. In many instances death has been brought about by carelessness, either in regard to exposure to cold, or ignorance as to the proper rearing and feeding of the infants, and in some instances to inherent delicacy of constitution, the time of their survival amounting to only a few days or hours, seven deaths having occurred under one month.

"This distressing subject is one of vital importance to the well-being of the inhabitants, and every individual effort should be made to discover and remedy the causes, insanitary and other, which keep up the rate of infantile mortality so abnormally high, in spite of all the sanitary measures which have been hitherto adopted with the object of improving the health of the community and lowering the general death-rate."

In referring to the infant death-rate in Uttoxeter Urban District, the Medical Officer of Health expresses the conviction that a proposed course of lectures will be productive of good.

As regards rural districts, the Medical Officer of Health of Cannock (Rural) points out that diarrhœa has been the fatal disease of the year, owing to the meteorological conditions, operating principally in ill-ventilated courts with accumulations of filth and decomposing organic matter in thickly-populated areas.

The Medical Officer of Health of Cheadle Rural District writes:—"The infant mortality is practically the same as that of last year, viz., 24·3 per cent., and were it not for the epidemic of diphtheria in the district, the rate would have been much smaller. Caverswall has 27 under one year, 21 under five years, making a total of 48 out of 89 of all ages; whereas, Cheadle has 14 under one year, 6 under five years, making a total of 20 out of 94. Thus it will be seen that the Caverswall rate more than doubles that of Cheadle.

"The majority of mothers in both cases are employed in manufactories, those of Caverswall have to leave their children for the whole of the day, as they go to Longton, a distance of between two and three miles from their homes, and, consequently, cannot attend to their children during the day; whereas at Cheadle the mothers live in the town, near their place of employment, and attend to their children during the intervals of working hours."

The Medical Officer of Health of Newcastle Rural District writes:—"The actual infant death-rate is 138 per 1000 of the births registered, and it is curious that the figures are

exactly the same as last year. In previous reports I have had to chronicle, with regret, a continued high infant mortality. In a rural district one would naturally expect a better state of affairs in this respect. No severe epidemic of any form of disease incidental to childhood took place throughout the year, so that to again record so high a mortality is very unfortunate. The great majority of the causes of death in very young children are diseases of the digestive system, and this in turn is due to injudicious forms of feeding, and neglect and ignorance in the treatment of the common and milder forms of illness where no medical advice is asked for. Poverty and, perhaps, overcrowding in some of the more populous parts of the district are also causes to be reckoned with. I hope, however, with all the educational facilities, and a better idea on the part of the general public of elementary sanitation, that future reports will record a gradually diminishing infant mortality."

In the Walsall Rural District, where the infant death-rate amounted to 196, the Medical Officer of Health writes as follows:—"As was pointed out by your former Medical Officer, there appear to be two main causes for such a high rate of infant mortality, viz., (1) improvident and early marriages; (2) errors in diet and clothing—solid food being given too early to infants whose food should be entirely milk.

"A more satisfactory state of things will only obtain when the wives of the artisan class understand more about the proper feeding, nursing, and clothing of infants.

"I notice that in some urban districts in the County a lecturer is appointed by the County Council to deliver courses of free health lectures to women. I feel convinced that if it were possible to arrange for similar instruction to be given in your and other rural districts, it would, in course of time, materially lessen the infantile mortality."

In the Wolstanton Rural District the increase in the infant death-rate is said to be due, to some extent, to diarrhœa.

The Council will remember that I conducted an inquiry six 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 nine 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
9 years, 1889-97	207	175	165

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 nine 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

On comparing the figures of the individual zymotic diseases for this year with those for 1896, it will be found that the urban districts are chiefly responsible for the increased rate, and that it is to diarrhœa, more especially, that the increase is to be attributed.

As regards urban districts, the Medical Officer of Health of Quarry Bank points out that the rate there, which only amounted to 0·56, is by far the lowest which has been recorded during the past twelve years, the mean rate for which period amounted to 2·32.

As a contrast to most other districts where diarrhœa contributed so largely to the zymotic death-rate, may be mentioned Biddulph, where the Medical Officer of Health calls attention to the remarkable absence of deaths from that affection.

With the exception of Perry Barr, where the zymotic death-rate of 1·9 is said to have been entirely owing to measles, diarrhœa is recorded as being the chief cause of the increased rates, combined in certain cases with whooping cough and scarlet fever.

Among the rural district reports, in Cannock diarrhœa is said to have been the chief contributory cause of the zymotic death-rate; in Lichfield whooping cough; and in Walsall whooping cough and diarrhœa.

Special Zymotic Death-rate.

Small-pox.—It is satisfactory to be able to record that no deaths have resulted this year from this disease, which was so prevalent and fatal three years ago.

Measles.—This disease, which appears annually in most districts, has, taking the Administrative County as a whole, been much less prevalent, judging by the death returns, than in 1896.

In the Administrative County, 254 deaths occurred from measles, as compared with 631 in 1896, equal to a rate per 1000 of the population of 0·31, as against 0·77. Of these deaths, 192 occurred in the urban districts, or 0·32 per 1000, and 62 in the rural districts, producing a rate of 0·27 per 1000. In the following table corresponding figures are given for the past nine years:—

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

* Excluding Brownhills.

In Bilston, where eleven deaths occurred, it is said that the cases were numerous but not of a severe type.

In Coseley, the Medical Officer of Health states that since the epidemic of 1895—in which almost every susceptible child suffered and 60 deaths occurred—there have been comparatively few cases until the last six months of 1897, when several schools were closed on account of this disease.

In Darlaston, where several schools were closed in consequence of measles, the death-rate is said to have been the highest since 1887.

In Sedgley the disease seems to have been much less fatal than in 1896, only one death having resulted from it compared with 23.

Among the rural district reports which refer to the disease as being prevalent may be mentioned those of Eccleshall, Tutbury, Uttoxeter, and Wolstanton. In the last-named district no less than 31 deaths resulted from this cause.

The Medical Officer of Health of Tutbury Rural District writes:—"Measles was very prevalent and very fatal in some parts of the district, more especially in Tutbury, during the latter part of the year.

"In Hanbury several cases occurred early in November, and on November 4th I recommended the closure of the schools. As it is almost impossible in the houses of the poorer classes to provide effectual separation of the sick from the healthy, it is commonly necessary to exclude all children in an infected house from school attendance, but when the disease is epidemic and of a nature involving danger to life, it is usually advisable to close the schools, although this is a step seriously interfering with education. In a parish like Hanbury, with a small and scattered population, closure of the schools is generally attended with good results, and limits the spread of the disease. In this parish I think I may say it had the desired effect.

"In the middle of November an outbreak occurred in Tutbury, and in the month of December assumed very alarming proportions, and I determined to recommend the closure of the schools. I cannot say that this was attended by much benefit. The disease spread rapidly, and a large proportion ended fatally, death being due in most instances to pulmonary complications (pneumonia, bronchitis). Whooping cough being epidemic in the parish, many children were suffering from the two complaints at the same time.

"The disease prevailed during the month of December, and in spite of every precaution it was possible to take, only disappeared for want of human material. It was painfully evident during the epidemic that bad and careless nursing contributed in no small degree to the high mortality, and although measles is not influenced by any ordinary sanitary conditions, I am strongly of the opinion that unhealthy surroundings, leaky drains, sewer gas, and impure water supply, all of which conditions prevail in the village, rendered the children puny and so deficient in stamina that many succumbed to the disease, when, under happier circumstances, they might have been able successfully to fight against it.

"Measles is most fatal in children under two years of age, but the greatest incidence of the disease is between two and five. After the fifth year the liability to attack diminishes, which indicates the danger of the popular idea of mixing the healthy children with the sick 'to let them all have it together.' By guarding them from infection until after five years of age, the liability to attack and the danger of a fatal termination may be considerably lessened.

"There are many sources of difficulty to contend with in the prevention of this disease. As I have mentioned on a former occasion, it is most infectious during the catarrhal stage, when it is often mistaken for an ordinary cold, and precautionary measures are not taken until too late. It is scarcely practicable to enforce compulsory isolation in hospital; the expense would be enormous, and the advantages hardly compensatory. It has been contended that school closure as a means of prevention is not of much use, and during the recent epidemic at Tutbury this was the case; but in scattered and thinly-populated parishes at all events it is of great importance."

Scarlet Fever.—In the Administrative County, 180 deaths occurred from scarlet fever, as compared with 186 in 1896, equal to a rate per 1000 of the population of 0·22 in both cases. Of these deaths, 150 occurred in the urban districts, or 0·25 per 1000, and 30 in the rural districts,

producing a rate of 0·13 per 1000. In the following table corresponding figures are given for the past nine years:—

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

* Excluding Brownhills.

The Medical Officer of Health of Bilston, in discussing the causes of the prevalence of scarlet fever in that district, says:—"The difficulties in dealing with this and other infectious diseases have frequently been described. Parents often will not isolate the children nor keep their neighbours out of the house. They sometimes endeavour to suppress the existence of such cases, and do not call in a medical man. When such are discovered they plead ignorance of the nature of the complaint! In one instance a doctor was called in to attend a child who had suffered an injury, only to discover four other children with scarlet fever, one of whom was actually 'peeling'! It is easy to understand therefore how the disease is almost permanent in the district."

As regards Brierley Hill, where 45 cases were notified in 29 houses, resulting in six deaths, the Medical Officer of Health writes as follows:—"Scarlatina has been endemic in the district for the past five years, and I do not think there is much probability of its being otherwise, unless better means of isolating the cases as they occur is adopted. As I pointed out in my last annual report, it is quite impossible to isolate efficiently in nine-tenths of the cases.

"There is not the accommodation sufficient to prevent the mixing of the infected with the healthy in the ordinary artizan dwelling, and this, added to the indifference to sanitary measures, which I find amongst that class of the population, makes the task of stamping out the disease an almost insuperable one—without hospital isolation.

"During 1896, cases were notified every month. In 1897, it is in the early and later months that the disease was most prevalent, as reference to Table III. will shew; and at one period—from April to June—I had some reason to hope we had got rid of it. All the cases as they occur are visited by the Sanitary Inspector, and he reports to me. If necessary, notice is then given to the schools, with the request that no child affected, or any children from the same house, shall be permitted to return to school, until satisfactory evidence of fitness to do so is produced. Disinfectants have been liberally supplied free of cost. The parents have been warned against spreading the disease, and the houses and clothing afterwards have been fumigated and disinfected. The school teachers and Attendance Officer have, I believe, done their best to keep the infection out of the schools. The cases have never been so numerous in any one month as to justify the closing of the schools.

"With all these precautions carefully and intelligently carried out it might be possible to stamp out the disease; but there is an ever-recurring leakage going on, and I attribute this—1st, to cases of a mild type, which escape notification, and by attendance at school spread the infection; 2nd, to the great importance which attaches to the average attendance at the elementary schools; 3rd, to the want of co-operation with, and intelligent application of, the instructions given as to isolation amongst the working classes.

"Whilst scarlet-fever has been prevalent in this district, it has also been equally prevalent in the surrounding districts. It is chiefly owing to this that the disease has returned to us when we had apparently succeeded in suppressing it, and no doubt we have in the same way introduced it to our neighbours, through the visiting of friends, and though I have no doubt these visits do frequently occur, they are generally stoutly denied.

"With all these factors working against us, the continuance and recurrence of the disease is not very surprising, and I would again urge upon your consideration the desirability of

permitting the present isolation hospital to be opened for the reception of these cases. I believe that by adopting this recommendation we shall be able, in a very short time, to stamp out the disease."

The following remarks of the Medical Officer of Health of Cannock Urban District might equally appropriately have been introduced later, in discussing the question of isolation hospital accommodation:—"While we can congratulate ourselves on a low death-rate, we cannot do so with regard to this scarlatinal epidemic, which bids fair to be endemic in this district, and which has more than doubled during the year 1897, when compared to its prevalence in the preceding year.

"This is a mining district in which more house accommodation is urgently needed, so that we find at present the working-class households generally too crowded, and under such circumstances home isolation from this disease is practically impossible.

"I advised last year the temporary use of the small-pox hospital for isolation of cases occurring in or near crowded centres, so as to minimise, as much as possible, the spread of infection, and the Urban District Council assented to this, but the matter was subsequently allowed to drop at a meeting of the Small-pox Hospital Joint Committee, composed of members of the Urban and Rural Sanitary Authorities.

"The only reliable means of checking the spread of this disease in this district is hospital isolation.

"Disinfectants and written instructions have been provided for at three different stations in the district, but unless there is proper isolation of patients, disinfectants are practically valueless, and I may go so far as to say that their use in such cases, to a certain extent, induces the belief that they are all-sufficient to limit the spread of the disease, and people drift into negligent exposure.

"The advantages of hospital isolation are manifold and obvious when we consider that the removal of the first case in each house limits the spread of the disease, that the cost of notification is reduced, and that there would be better nursing,

and in more healthy surroundings. The patient, moreover, need not be confined long in one room, and school attendance of the other members of the family could be resumed in a week after removal of patient to hospital, and disinfection of the home premises.

"With regard to the prejudice that exists amongst parents against the removal of infected children to an isolation hospital, I would point out to them that there is a double gain in protecting a child from infection in early years because he becomes less and less susceptible to attack from his fifth year upwards, and the longer the attack is delayed the less danger is there of life and complications in the disease."

As regards Darlaston, the Medical Officer of Health points out that he cannot contend against the disease in the absence of an isolation hospital and an efficient disinfecting apparatus. His remarks appear under another heading, page 47.

The following remarks of the Medical Officer of Health of Smethwick are of interest, especially in relation to the voluntary arrangement among workpeople with the view of preventing the spread of infectious diseases:—"Owing to the mild type of scarlet-fever that has prevailed, I am afraid there has been a more or less general tendency to laxity as to isolation of the patient by those in charge; and, indeed, it must be confessed this is not to be wondered at, for, in the course of my investigations, I have frequently found that no real bodily illness has accompanied the attack, and that very often there has only been a slight rash lasting for a few hours, on the disappearance of which the child has to all appearances been quite well. In some instances the doctors have confirmed the correctness of the original diagnosis by observing subsequent symptoms. But very frequently their professional attendance has not been invited after the first few visits, and the consequent absence of direct medical control has been only too willingly and readily wrongly interpreted as implying that all danger had passed away. As a matter of fact, in a large number of cases, the only controlling influence has been that exercised by official action—that is, the visits of

the Medical Officer of Health and the Sanitary Inspector, the forwarding to each infected house, immediately on receipt of a notification, of the usual printed notices and recommendations, and the systematic and methodical information that is afforded to the School Board of all fresh cases, and, where it seems required, to employers also—in connection with which I may here refer to some remarks I made in a former report about certain voluntary arrangements that had been made by the people employed in some of our large works for the provision of an infectious fund, out of which those of them in whose houses outbreaks of infectious disease might occur might be compensated for their required abstention from work during the period of infectiveness by receiving a proportion of their wages. It was thought at that time that the plan might probably fall through, but this has not happened, it has continued in operation in all the works then mentioned with one exception, and appears to have worked satisfactorily in preventing the spread of infection in them.

"That this arrangement should have stood the test of time as long it has, shews, I think, that a considerable section of our working-class population is fully awake to the advantages and necessity of isolation in outbreaks of infectious disease, and prepared to make a personal sacrifice to secure even such a limited degree of protection as it affords. This representative attitude and action should serve as an encouraging incentive—apart from statutory obligations and general questions of utility and the promotion of public health—to the District Council to supply the complement of the Infectious Diseases Notification and Prevention Acts, which they so wisely have long adopted, by the provision of their natural and intended corollary—an isolation hospital."

As regards rural districts, the Medical Officer of Health of Cannock states that "until isolation hospitals are provided it will be impossible to cope with this disease."

The Medical Officer of Health of Lichfield Rural District states that "scarlet fever, of late years, appears to have

assumed a much milder form and to have become less fatal, and probably, on the whole, less prevalent than in former years."

Diphtheria.—In the Administrative County, 249 deaths occurred from diphtheria, as compared with 161 in 1896, equal to a rate per 1000 of the population of 0·30, as against 0·19. Of these deaths 190 occurred in the urban districts, or 0·32 per 1000, and 59 in the rural districts, producing a rate of 0·25 per 1000. In the following table corresponding figures are given for the past nine years :—

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

* Excluding Brownhills.

The Medical Officer of Health of Fenton, where the disease was very prevalent and fatal, 112 cases having been notified, of which 35 proved fatal, writes as follows:—"Diphtheria has been comparatively rare in Fenton until the last few years; this disease was the subject of a special report to your Council in June last. I was then of opinion, after careful enquiries, that the milk supply was not responsible for these cases, nor could I attribute the unusual number of cases to defective drains. I thought that personal communication had a great deal to do in the way of causation, many of the families being related. I meet with so many instances of terrible carelessness on the part of persons having charge of patients suffering from infectious diseases, instructions are ignored, so that all attempts at house isolation are almost useless.

"I entertain sanguine hopes of good results from the use of the disinfector. It will then be well to remove to the isolation hospital a much greater number of cases. By doing this, and afterwards by disinfecting the bedding, etc., of the

patients, we may expect to be able to operate with greater success against preventable diseases generally."

In Handsworth, where 46 cases occurred in 43 houses, the Medical Officer of Health points out that no sanitary defects were discovered in the case of 14 houses, but in the others, with the exception of an imported case, wet and offensive privies, untrapped or defectively-trapped drains, or drains ventilating in the neighbourhood of windows, and damp walls were met with. In one case, one month before the disease appeared, the cellar had been flooded with foul sewage. The Medical Officer of Health also intimates that he has provided the necessary means for, and is prepared to undertake, the bacteriological examination of throat discharges in suspected cases.

The Medical Officer of Health of Smethwick embodies in his annual report a special report on an outbreak of diphtheria in that district, from which I quote the following:—"In speculation, therefore, as to the cause of this outburst of diphtheria, it is certain that although a large proportion of the total attacks recorded during the period under notice occurred amongst children of school age, still, eleven persons over fourteen years of age, none of whom had been in any way associated with any of these children, or been, so far as could be ascertained, exposed to direct infection, and none of whom had had any communication with one another, were the subjects of primary attacks. These circumstances seem to show very clearly that there was no one source of infection, indeed they point to the assumption that there were many sources of infection, and I believe that many persons were going about while suffering from mild and unsuspected diphtheria at a time when influenza and common colds and sore throats were extremely prevalent, and innocently spreading the infection."

The following quotation from the same report is introduced in order to illustrate useful measures which may be adopted with the view of checking the spread of this and other infectious diseases, more especially as regards the assistance which school authorities may give in that direction:—"The preventive

measures adopted were those that are usually carried out in cases of infectious disease. The Infectious Diseases Notification and Prevention Acts are both in force in the district. On receipt of a notification, the Medical Officer of Health acquaints the Sanitary Inspector of the fact, who sends a card of printed instructions for the guidance of those in charge of infectious cases, with printed copies of Section 126, Public Health Act, 1876, and Secs. 7 and 13 of the Infectious Diseases Prevention Act, 1890. The Medical Officer of Health sends a written notice to the School Board apprising them of the outbreak, and, where necessary, a similar notice to employers of labour. By arrangement with the School Board no child is allowed to return to school until a certificate has been received from the Sanitary Inspector that the premises have been disinfected, and this disinfection is carried out at the termination of the period of infectiveness in all pronounced cases by the Sanitary Inspector. The premises are visited as soon as practicable after the receipt of the notification by either the Medical Officer of Health or the Sanitary Inspector, and verbal advice given.

"In the event of death, the Registrar forwards a notice at once to the Medical Officer of Health, and the premises are visited at once either by him or the Sanitary Inspector, and special instructions are given to prevent the spread of the disease. The cemetery keeper is warned, and the corpse is not allowed to be taken inside the mortuary chapel, and a special disinfection of the premises and stoving of the bedding is enforced. In all cases the premises are examined, and any nuisances that are discovered are as speedily abated as can be. The District Council, by encouraging the conversion of privies into water-closets, and by requiring premises to be connected with the sewers, are ridding the town of dangerous accumulations of filth, and they are now about to erect a destructor, which will still further make for cleanliness."

The Medical Officer of Health of Willenhall under this heading writes as follows :—"Arrangements have been made at Mason University College whereby doubtful cases of diphtheria may be confirmed or otherwise by cultivation

experiments, but the cost, although moderate, is prohibitive for the poorer classes, unless the Council can follow the lead of the Birmingham Corporation and provide the necessary examinations free of cost to members of the medical profession."

With reference to this matter I would point out that the County Council, on the recommendation of the Sanitary Committee, have now made arrangements for the carrying out of such bacteriological investigations free of charge throughout the Administrative County, and it is to be hoped that in all doubtful cases medical practitioners will avail themselves of this most valuable assistance.

A very serious outbreak of diphtheria occurred at Longton, where no less than 582 cases were notified, of which 96 proved fatal. The Medical Officer of Health writes:—"The disease is still with us; in fact there is no doubt it has become endemic, or, in plain words, it has come to stop with us, and if we have a protracted period of dry weather it will break out again, and five or six cases per week will very soon give way to higher figures, so that we should be prepared to isolate."

The Medical Officer of Health of Cheadle Rural District, under this heading, states that "those infected had to be nursed in their own homes, where proper isolation was impossible, and consequently the disease spread to other members of the family."

Whooping Cough.—In the Administrative County, 365 deaths occurred from whooping cough, as compared with 320 in 1896, equal to a rate per 1000 of the population of 0·44, as against 0·39. Of these deaths, 296 occurred in urban districts, or 0·50 per 1000, and 69 in rural districts, producing a rate of 0·30 per 1000. In the following table corresponding figures are given for the past nine years:—

WHOOPING COUGH.		1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Urban	Number of deaths....	261	211	222	420	171	252	175	261	296*
	Rate per 1000.....	0·48	0·38	0·40	0·75	0·30	0·44	0·30	0·44	0·50*
Rural	Number of deaths....	39	68	39	90	33	38	49	59	69
	Rate per 1000.....	0.11	0·26	0·16	0·39	0·14	0·16	0·22	0·26	0·30

* Excluding Brownhills.

In his report for the previous year, the Medical Officer of Health of Bilston referred to the mortality from whooping cough as being exceptionally high, and in this year's report he calls attention to a greatly diminished mortality, the number of deaths for the two years being respectively 17 and 6.

The Medical Officer of Health of Sedgley, on the other hand, states that whooping cough was more fatal in 1897 than in any year within his knowledge.

The Medical Officer of Health of Smallthorne—where among a total of 20 deaths from one or other of the seven chief zymotic diseases whooping cough caused 8 deaths—points out that the serious character of the disease is not sufficiently recognised, and that carelessness and want of thought on the part of parents lead to needless deaths.

Enteric Fever.—This disease, which must be looked upon as entirely preventable, caused 100 deaths, as against 140 in 1896, equal to a rate of 0·12 as compared with 0·17. Of these, 86 occurred in urban, and 14 in rural districts, equalling a rate respectively of 0·14 and 0·06. In the following table corresponding figures are shown for the past nine years:—

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

* Excluding Brownhills.

In the report of the Medical Officer of Health of Brierley Hill certain remarks appear which reflect serious discredit upon those who are responsible for enforcing the provisions of the Public Health Acts in that district. It appears that in no less than four cases enteric fever appeared in houses which had previously been attacked, and in which, on the second occasion, "precisely the same insanitary conditions" which were reported in the first instance still existed. With reference

to these cases the Medical Officer of Health writes:—"Notice was given the owners to abate the nuisances complained of, but the notices were ignored, *and no further steps were taken to compel the owners to carry them out.* No excuse is sufficient to justify the continuance of a dangerous nuisance—especially is this so after enteric fever has occurred on the premises—and I think it is time some of the property owners in this district were made to understand that they cannot disregard your authority with impunity. If after due consideration you authorise notice to be given to abate a nuisance, the notice having once been given, should be promptly followed up, and carried to a satisfactory conclusion."

From that portion of the quotation which appears in italics (which are mine) it would seem that the fault rests with the Authority, in that they did not enforce their orders, and the remarks of the Medical Officer of Health cannot be too strongly impressed upon them. It is a melancholy experience at all times to find that dangerous sanitary defects are allowed to exist until disease or death calls attention to them, but still more is it to be deplored when the Authority require two such warnings to induce them to fulfil their statutory duties.

The Medical Officer of Health of Coseley, in discussing the origin of cases in that district, refers to unpaved yards and the usual accompaniment of pools of slop-water in the immediate neighbourhood of houses as a likely cause, and says "as long as such conditions as these exist, the occurrence of sporadic cases of this disease is inevitable."

In Newcastle, where 21 cases were notified during the year, the Medical Officer of Health suggests various possible causes. Six cases were traced to infection from a previous case in the house, two were associated with faulty drains, seven were associated with bad sanitary surroundings, three were imported, and in three cases no cause could be assigned.

In Rowley Regis, where 18 cases occurred in 16 houses and caused four deaths, the Medical Officer of Health points

out that most of the cases were associated with defective drainage or polluted well-water.

The Medical Officer of Health of Sedgley gives a similar explanation of 49 cases which occurred in that district causing six deaths.

Under this heading the Medical Officer of Health of Smethwick congratulates his Authority on the progress which has been made in connecting the houses with the sewers and in the abolition of old privies, and says:—"I have long considered that privies and ashpits—and such unpaved and undrained curtilages as the rapid growth of the district fosters—are largely responsible for the storage of the specific typhoid poison, and this view has been corroborated by recent experimental analyses of such tainted soils, and acting on this belief special pans have for some years been provided for the reception of stools of typhoid patients, and, latterly, of their urine also, since it has been shown that this cannot be looked upon as innocuous. Strict injunctions have been laid down as to the thorough cleansing of privies that were deemed to have become infected, so as to ensure, by scraping away all incrustations from the brickwork, as thorough a cleansing as possible, and after that had been done the application of hot limewash to the brickwork.

"Further, when re-construction of such privies could be reasonably required, the removal of the surrounding contaminated soil has been insisted on. To the adoption of these precautionary measures, I attribute the abolition of several centres of endemic typhoid fever. But now that by the completion of the sewers a new order of things has been inaugurated, it is the routine practice in all cases of typhoid outbreaks in privy houses to endeavour to secure the substitution of water-closets, and so once for all rid the premises of danger. The result of this action shown by the figures I have presented may not unreasonably be deemed its justification."

The Medical Officer of Health of Newcastle Rural District enters pretty fully into the probable causes of enteric fever in

the district, and points out that the majority of the cases occur at Madeley. Regarding this village he states that much remains to be done to improve its sanitary surroundings, and urges his Authority to "take the matter into their serious and careful consideration."

The Medical Officer of Health of Walsall Rural District writes with reference to certain cases in that district as follows:—"On visiting the premises, I found in all the cases some sanitary shortcomings. In the Pelsall cases, in one instance the privies near to the house were very foul, and the water-supply insufficient; in the other the drains were carried under the house; whereas in the Aldridge cases, in one instance the water was found to be contaminated with sewage matter, and in the other, the privy receptacle was large, containing a considerable quantity of liquid filth, and entirely unventilated."

Diarrhœa.—In the Administrative County, 932 deaths occurred from diarrhœa, as compared with 513 in 1896, equal to a rate of 1·13, as compared with 0·62. Of these, 806 occurred in urban, and 126 in rural districts, equalling a rate respectively of 1·37 and 0·55. In the following table corresponding figures are shewn for the past nine years:—

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

* 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 great increase in diarrhœal deaths in 1897 is, no doubt, to be accounted for by the long continued hot weather 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 Bilston, in discussing the conditions which are likely to lead to a high diarrhœal death-rate, says:—"It will be obvious how essential it is that saturation of the ground, particularly near to human dwellings, from deficient or absent spouting, surface-water, by leakages from ashpits, cesspools, &c., should be avoided. Further, there are other conditions intimately associated with a high death-rate from diarrhœa that perhaps concern a health authority even more—density of population and buildings, want of cleanliness, light and ventilation, foul emanations from ashpits, drains and sewers, accumulations of filth, manure, &c., have all a causal relation to diarrhœa. For this, among other reasons, close overcrowded and dirty courts, and back-to-back houses, are evils that ought to be abolished."

The Medical Officer of Health of Darlaston writes:—"It will be seen that by far the greatest number of deaths occurred in the month of August, the period of the year when the earth's temperature is greatest, thus favouring the growth of those organisms upon which the disease depends. As another contributing cause of diarrhœa is the decomposition which takes place in those accumulations of refuse which our privy-midden system involves. So vitiated does the atmosphere in and around the ill-ventilated dwellings of the poor become, that not only is general ill-health frequently produced but consequent contamination of milk and other food in close and often dirty pantries also results. But, undoubtedly, the most common cause is to be found in the ignorance of mothers as to the elementary principles of infant feeding. Of the 35 deaths under five years of age, 26 occurred within the first year of life, a period when the troubles of dentition render them additionally susceptible to the evil effects of careless feeding.

Several cases have come under my personal care in children whose mothers are employed in factories, thus implying the use of artificial feeding in the mother's absence.

"There is yet another cause that I think favours death from diarrhœa, at any rate in the very young, I refer to the seeking of medical advice too late: there seems to exist a popular prejudice against arresting the attack too soon, with the result that, in many cases, the child is in a state of hopeless collapse when medical aid is sought."

The Medical Officer of Health of Fenton lays stress upon the importance of keeping the soil in the neighbourhood of houses as free from pollution as possible, and says, regarding this point :—" It is of the greatest possible importance that the conditions of all newly-laid drains should be known to your chief officers, who should be instructed to pass none that are not laid on the most approved sanitary principles; the danger of subsoil pollution will then be greatly lessened."

The Medical Officer of Health of Handsworth writes in similar terms as follows :—" 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 Newcastle Urban District writes:—"The mortality from diarrhœa is again very high; 40 deaths were registered as due to this disease, and it is chiefly accounted for by the fact that diarrhœa was epidemic in August and September, and another cause, in my opinion, is the injudicious feeding of artificially-fed infants, and the general ignorance with regard to the proper feeding of infants and young children. It is a significant fact that nearly all the deaths registered as due to diarrhœa were those of infants and young children."

The Medical Officer of Health of Rowley Regis points out that the death-rate from diarrhœal diseases in that district was the highest which has occurred within the past ten years.

Most of the reports call attention to the general prevalence of diarrhœal affections, but those of the Medical Officers of Health of Quarry Bank and Sedgley both record a diminished prevalence. In the former it is said that a marked diminution in diarrhœal deaths has taken place in the last two years, and in the latter reference is made to the fact that the low diarrhœal death-rate recorded in 1896 had been maintained in 1897.

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.

In my last Annual Report I called attention to the large number of cases of erysipelas which were invariably notified in the Newcastle Rural District. The Medical Officer of

Health of that district calls attention in his report for this year to a greatly diminished number of such cases, although the number is still high compared with other districts.

Puerperal Fever.—In the Administrative County, 21 deaths were attributed to puerperal fever, as against 33 in 1896. In only a few of the reports is any special reference made to the circumstances attending the cases.

In Handsworth, where two cases occurred in apparently healthy houses, no probable cause of origin could be traced.

In Willenhall, where a death occurred, the Medical Officer of Health points out that the woman was attended by the same midwife who attended the confinement in a fatal case the previous year.

Influenza.—Although it would appear from the reports under review that influenza prevailed in most parts of the County, particularly during the early and late months of the year, 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.

Special reference is made to the prevalence and mildness of the disease by the Medical Officers of Health of Bilston, Cannock, Coseley, and Quarry Bank, Urban Districts, and Seisdon and Tutbury, Rural Districts.

In Rowley Regis, where many cases occurred, the Medical Officer of Health states that the disease frequently assumed a typhoid type.

In Tipton the disease was not so prevalent, and in Wednesbury it is said to have become practically endemic.

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, and this year I have to record a further decline, the figures for 1897 being 2609, as against 2734 in 1896.

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

Phthisis.—I have no comments to make under this heading beyond referring to a commendable practice which is followed in the Biddulph Urban District of disinfecting all houses in which deaths from phthisis have occurred.

Rabies.—The following account, which appears in the report of the Medical Officer of Health of Tamworth Rural District, is introduced, *in extenso*, because the occurrence of cases of hydrophobia is comparatively rare, and it may be of service to give further publicity to the measures which were so wisely taken, and with such complete success, by the Rural District Council of Tamworth :—"On February 7th a girl, aged 16, was attacked by a large shepherd dog at Twogates, and bitten through her clothes on the leg. The dog continued its course, and shortly afterwards flew at a child aged 3½, who was crossing the road at Wilnecote, and bit him through the upper lip. Later on it attacked a man aged 69, at Stonidelph, and seized and bruised his leg, and in trying to push the dog away the man's fingers on both hands were badly bitten and lacerated. It then went on to Polesworth, where two young men were attacked by it and both bitten on the thighs. The dog was seen on the next day at Amington, and was followed and discovered in a field in an excited state, running up and down the hedge side, howling feebly, thick saliva sticking to its jaws, biting and tearing at the grass, and was then shot. Mr. Olver made a post-mortem examination, and was quite satisfied the dog had suffered from rabies, and to confirm his opinion, forwarded the brain to Professor McFaydean, Royal Veterinary College, London, and some time after received the following letter of serious import from the alarming nature of its evidence—

"Royal Veterinary College, Camden Town, N.W.,
"February 25th, 1897.

"Dear Mr. Olver,—I hasten to inform you that symptoms of rabies are to-day apparent in one of the rabbits inoculated from the dog's brain which you forwarded on the 11th inst.

"Yours faithfully,

"H. Olver, Esq., F.R.C.V.S., "J. McFAYDEAN.
"Trescoe, Tamworth."

"It was at once decided to send the three persons bitten to Paris for treatment at the Pasteur Institute as soon as funds could be procured to defray the expenses. The Rev. J. E. H. Blake, Vicar of Wilnecote, undertook the management of the fund, and all the correspondence in connection with soliciting subscriptions, making all arrangements for the journey, and the payment of travelling, hotel, and all other expenses. Dr. T. W. Hime, of Bradford, kindly gave us the benefit of his experience, and, by his advice, the Hotel Henri IV., Rue Gay-Lussac, was selected. For the first few days the patients attended at the Institute twice daily, and afterwards once a day. Owing to the nature and position of his injuries, the boy's case was considered to be the most serious, and he was consequently under treatment longer than any of the others, and for the whole of the three weeks. The sum of £51 9s. 2d. was collected, and included a grant of £15 from the Warwickshire County Council, a donation of £10 given by Mrs. Hutton, and £3 given by the Atherstone Magistrates. All who were asked contributed readily, but valuable time was lost before sufficient funds could be collected and the final arrangements made for starting, and it was not until March 9th that the patients, accompanied by the other two cases from Polesworth, started for Paris in charge of Miss Griffin, of George Street, Tamworth, whose valuable services were fortunately available. As regards the treatment at the Pasteur Institute, it need only be said that it was at first necessarily severe owing to the time which had elapsed since the injuries were inflicted. The patients were detained under treatment for three weeks, and have since remained in good health. From the balance sheet presented by Mr. Blake, it appears that when all expenses were paid there remained a balance of £5, and it is proposed to give this to the Pasteur Institute as a donation, the patients having been treated free!"

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. Tipton Urban.
Smallthorne 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 1000 of the inhabitants for each of the past eight 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.

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.

Under this heading comments appear in some of the reports which it may be useful to refer to. The Medical Officer of Health of Rowley Regis writes :—" Valuable information is obtained from the head teachers of the elementary schools, supplying me (gratuitously) weekly, with returns of the number of scholars absent from their respective schools from any infectious disease. This information is extremely useful in the case of the unnotified infectious diseases."

The Medical Officer of Health of Smethwick writes :— " The district has now for eight years experienced the operation of the two statutory enactments that have been framed for enabling Sanitary Authorities to become aware of the existence

of cases of infectious sickness and to make provision for preventing the spread of infection. These Acts—the Notification and the Prevention Acts—have during this period been administered without any appreciable friction."

The Medical Officer of Health of Wednesbury writes :— "It only now remains for me to conclude this report by appending my perennial remarks respecting the Notification of Infectious Diseases Act, and the isolation hospital. The annual discussion took place as to the advisability of adopting the Notification Act in Wednesbury, and it was negatived. I cannot help thinking that the adverse vote would have been reversed if it had been clearly realised that the adoption of the Act does not necessarily mean the inclusion of all diseases mentioned in the Act. No one more strenuously than myself will exclude from the list of notifiable disease, such as do not admit of more efficient treatment as a result of notification than without it. Thus I would not recommend notification of measles and whooping cough, since their notification does not make them any the more manageable. But surely such diseases as typhoid fever and small-pox, scarlatina and diphtheria should be notified to the Health Authority as soon as they appear, so that causal defects in sanitation may be removed, and disinfection of infected premises be carried out when the proper times arrived. I would once more earnestly commend this matter to the further careful consideration of members of the Council, so that when the next discussion upon the subject takes place they may perhaps see their way to giving the Act their support, in so far as it will be for the good of the town."

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—for example, in the case of Tipton.

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 Biddulph and Cannock to 91·7 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 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.

In Biddulph, where a temporary hospital was built some years ago for small-pox cases, the Authority have decided to use the building for the isolation of other infectious cases at the discretion of the Medical Officer of Health.

The following remarks, which appear in the report of the Medical Officer of Health of Bilston, indicate how essential it is that the strictest vigilance should be exercised in the management of such institutions :—" At the end of 1896 two patients suffering from scarlet fever remained in the cottage hospital, and 56 were admitted during this year, 21 being

children under 5 years of age. Five children died, three from scarlet fever and two from measles.

"The introduction to the hospital of the latter was most unfortunate. A boy who had been admitted on November 5th with scarlet fever contracted measles three weeks after, and died on December 9th. Two other cases of scarlet fever also took the same complaint, and one, a girl of 4 years, admitted on November 18th, died of measles on December 18th. When these facts were brought to my notice I at once declined to allow any more patients to be admitted into the hospital until those already in were discharged cured and the building was thoroughly fumigated.

"I understand the medical attendant at the cottage hospital ascribes this outbreak to the carelessness of the friends of patients in visiting, and the taking of clothes, presents, &c. to them. The latter should be absolutely prohibited, and everything required in the shape of food, toys, &c. provided on the premises. It must be remembered that this 'hospital' consists of some old converted cottages, and was only meant for use temporarily. It has now been in occupation, however, for some 15 or 16 years, and it would seem desirable that the scheme of a conjoint hospital for combined districts, suggested by the County Council, or some other equally, or more, suitable should be proceeded with. An iron structure was erected on the site some years ago for additional purposes, but even with that there are no conveniences to deal adequately with infectious disease, such as an isolation room for doubtful cases, proper day and sleeping rooms for nurses, means by which parents can satisfactorily and yet safely enquire about the condition of their children, &c. Further, the site is too small and too near the town to be suitable for a permanent institution, and it seems to me not at all advisable to spend more money on the present buildings."

Attention is directed in the same report to the great need for an efficient disinfecting apparatus, and the Medical Officer of Health states that the present method of disin-

fection is not only useless, but worse than useless, as it gives false security.

I have already referred to the urgent need for isolation provision in Cannock Urban District under the heading scarlet fever, page 26.

Under the heading scarlet fever, the Medical Officer of Health of Darlaston writes:—"I am convinced the two most potent factors concerned in the dissemination of scarlet fever are, in the first place, the non-recognition on the part of parents of the mild cases, and secondly, the utter disregard for its infectious character, as shown by the way in which inter-communication with neighbours and other children is permitted. This leads me to the expression of the hope that the question of a proper infectious diseases hospital will be entertained by your Council in the not distant future in which to isolate the early cases. Home isolation in our crowded communities is absolutely useless, as all the members of the family are allowed to intermix, and although the Sanitary Inspector may disinfect the house as a routine process, the bed, bedding, etc. still remain dangerous foci of infection; add to this the intercourse with neighbours and their children, and we have a train of evils that obviate any attempt to check the progress of an epidemic. The above facts suggest the necessity for a new disinfecting apparatus, as the one we now possess is useless."

The Medical Officer of Health of Heath Town writes:—"Your isolation hospital is not large enough for Heath Town and Wednesfield districts; several times during the year it was very much over-crowded, and several cases were treated at home, with danger of spreading the disease and thereby defeating the object for which it was instituted, viz., avoiding an epidemic of the disease."

It appears that the Quarry Bank District Council, like other Councils in whose districts provision has only been made for the isolation of small-pox cases, are considering the advisability of using such a building for the isolation of other infectious cases.

The Medical Officer of Health of Rugeley again urges his Authority to provide an efficient disinfecting apparatus, and mentions two instances in which a second case of infectious disease occurred in the same house, apparently from infected bedding or clothing. In the same report the following remarks appear with reference to the provision of an isolation hospital:—"The question of providing an isolation hospital for the district is still unsettled, and nothing has resulted, so far, from the application made by this Urban District Council to the County Council, to form Rugeley and the adjoining parishes into a combined area for isolation purposes. In reply to an enquiry made by me to the Medical Officer of the County Council, I am informed that he has been in communication with the Local Government Board, and has succeeded in obtaining their approval of specimen plans of hospitals, prepared by an architect engaged by the County Council, which, in his opinion, are more economical and better than those hitherto recommended by the Local Government Board; that the Committee of the County Council have not finally considered the plans, but that when this is done he has no doubt the whole question as regards isolation hospitals throughout the county will be re-opened, and that Rugeley will have first place, seeing that an application has already come from that district."

In referring to the question of controlling the spread of infectious disease, the Medical Officer of Health of Smethwick says:—"It is to be hoped that the District Council will soon feel themselves free to deal with the question that has so long been under their consideration, viz., the provision of an infectious diseases hospital—through which they would be in a position to control these diseases throughout their whole course, to relieve individuals of much personal inconvenience, and to efficiently safeguard the health of the community."

The Medical Officer of Health of Stoke-upon-Trent Urban District writes:—"There is no provision made for the disinfection of bedding, &c. at the present within the borough. It

would be a great advantage if the Sanitary Committee were to erect a disinfecting chamber. In one case last year the cost of disinfecting the bedding was more than equivalent to the value of the bedding if it had been destroyed."

The Medical Officer of Health of Stone Urban District writes:—"The hospital, so far as your district is concerned, has been of great use during the epidemic of scarlet-fever, but its efficiency is still impaired by the want of some disinfecting apparatus. When additional wards are added, so as to enable other infectious diseases to be treated at the same time, it will, I hope, be found possible to erect one of Thresh's Disinfecting Chambers, such as was seen in working order at Wolverhampton by some members of your Authority, who are also members of the conjoint Hospital Board."

The Medical Officer of Health of Tipton expresses the hope that the reduction which has been made in the charges for the treatment of infectious cases in hospital will tend to encourage isolation. The question of making any such charge at all has been referred to in my previous Annual Reports, and it is to be regretted that the District Council in question has not yet determined to come into line with other councils and make no charge for isolation, unless exceptional attendance or accommodation is provided.

The Medical Officer of Health of Tunstall writes:—"Only two cases of scarlet fever and three cases of typhoid were removed to the hospital. There is still considerable prejudice against having the cases treated at the infectious hospital. I shall do my utmost to break down this feeling in the future, and, if necessary, will put into force the means at my disposal to more effectually isolate the cases of infectious disease."

The Medical Officer of Health of Wednesbury writes:—"So far as the question of an isolation hospital is concerned, I almost fear that, after my past experience, I waste the paper upon which these sentences are written. At the same time, I should be failing in my duty if I omitted all mention of the matter. It is now more than 14 years since I received the appointment of Medical Officer of Health in this town, and

during that time the discussion of an isolation hospital scheme has been almost an annual affair. Up to the present time, however, no practical result has been arrived at. As will be seen from a foregoing table, vaccination has to all intents and purposes become a dead letter, so that we may regard the outbreak of small-pox merely as a matter of time. But, apart from this disease, we ought to be in a position at any time to deal with cases of scarlatina, where such do not admit of effective isolation in their own homes. Only the other day I was attending a bad case of this disease in New Town, where the mother was trying to perform the double office of sick nurse and shopwoman in a small confined huckster's shop. Does not this state of things constitute a crying shame in an age when the value of isolation is so fully recognized? It may be replied that my duty in such a case would have been to have closed the shop for five or six weeks. Such a step, however, was not so easy in practice, seeing that the woman was a widow, and depended to some extent upon her shop for her support. Clearly our duty is to take steps which will enable us to deal with such cases by isolating them. Is it too much to hope that in the near future the Wednesbury Health Authority will really provide the means of dealing with these urgent cases?"

The Medical Officer of Health of Wednesfield, for which district a temporary building has been provided in conjunction with Heath Town, urges the Joint Hospital Committee to carry out certain structural and other alterations, and provide a disinfecting apparatus. He also states that there is not so much objection on the part of the public to making use of the hospital.

The Medical Officer of Health of Willenhall points out that "no progress has been made this year, either by the Council or the County Council, towards providing a much-needed isolation hospital."

Among other urban districts, whose Medical Officers of Health strongly urge their Authorities to make efficient

provision for the isolation of infectious cases, may be mentioned Coseley, Sedgley, and Short Heath.

In Tamworth, where a hospital has been erected for the joint use of the urban and rural districts, it is very satisfactory to find that considerable additions and improvements in the buildings have been carried out at a cost of £545, and the Medical Officer of Health states that the hospital is now in "thorough working order."

As regards rural districts, the Medical Officer of Health of Eccleshall (Rural) writes:—"It is unfortunate that there are only two wards in the isolation hospital at Yarnfield; its usefulness is much impaired thereby, as it is impossible to send in diseases of a different nature for treatment at the same time. I could have sent in several cases of diphtheria, in the outbreak above mentioned, had not the wards of the hospital been occupied by scarlet fever cases. And what should we do here if we had a case of small-pox in one of our common lodging-houses and the hospital wards were occupied with scarlet fever? The efficiency of the hospital is, to my mind, also much impaired by the absence of a disinfecting apparatus. The disinfection of bedding and clothing is at present very inefficient; if there were an apparatus at the hospital we might send them there in the ambulance for disinfection. I have noticed more than once that there appears to be a fresh outbreak of the disease on a patient's return home from the hospital; this, in my opinion, points to the want of a proper apparatus for disinfection of clothing before leaving, and I hope your Council may see their way to provide one during the coming year."

The Medical Officer of Health of Stone Rural District writes, with reference to the same hospital, as follows:—"Out of 27 scarlet fever notifications, only four were removed to Yarnfield, and of 18 diphtheria cases, only one. More of the latter might have been isolated, but the hospital has not the means of treating more than one class of infectious disease at the same time, as there are only two wards. In my previous reports I have pointed out how embarrassed I frequently am

in consequence of the absence of a disinfecting chamber for bedding, clothing, &c. Your Committee visited Wolverhampton and saw Thresh's Steam Disinfecting Apparatus at work, which would admirably answer our purpose, but the initial expense appeared to be an insuperable difficulty. As an alternative, an order was made giving me power to destroy the infected clothing of patients if necessary, and re-imbursing them the value, but in practice it is very difficult to carry out."

The Medical Officer of Health of Walsall Rural District writes :—" In cottage houses, of which class nearly the whole of Pelsall consists, it is impossible for isolation and disinfection to be carried out satisfactorily or completely. In many of the cases the sick child is kept in the downstairs room during the day for the sake of convenience, and taken upstairs at night, thus infecting the whole house; and neighbours and their children run in and out at frequent intervals, and often carry infection away with them. If it were possible to isolate by removal of the first cases occurring, I am convinced that an epidemic, such as we have just experienced, would, as it were, 'be nipped in the bud.'"

It appears from the report of the Medical Officer of Health of Seisdon Rural District that considerable improvements have recently been effected, and additions made, in the case of the adapted building which is used for isolation purposes in that district.

The Tutbury Rural District Council have, it appears, chosen a site for an isolation hospital in a central part of the district.

Among other reports of Medical Officers of Health of rural districts which contain strong recommendations as to the provision of isolation accommodation, may be mentioned those of Mayfield and Newcastle.

Vaccination.—In many of the reports attention is directed to the inefficient 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 dishonesty in the case of certain practitioners.

I do not propose to make any comments upon the provisions of the new Vaccination Act on this occasion, beyond mentioning the fact that the medical profession generally, and the public health branch of it in particular, are grievously disappointed at the fragmentary outcome of the report of the Royal Commission. Leaving out of the question the celebrated conscience clause, concerning which opinions may legitimately differ, there are points of vital importance with which it was hoped the Act would deal, but which are still left to future legislation, the chief of these being (1) provision for compulsory re-vaccination, and (2) the transference of the administration of the Act from Boards of Guardians to Sanitary Authorities.

As regards the reports under review, the following are a few of the comments which appear :—

The Medical Officer of Health of Darlaston writes :—" The old prejudice against the operation is as strong as ever, and as the greater portion of those certified as successful represent but two, and in some cases one mark, I fear that the next visitation of small-pox will find our community ill prepared to resist its ravages, and that the work of combating it will be enormously increased."

The Medical Officer of Health of Short Heath writes as follows under this heading :—" As the births registered in 1896 were 136, and in 1897 were 153, whilst the children who died under a year old in the same years were respectively 14 and 33, and the children vaccinated 43 and 68, it follows there has been great neglect of a public duty on the part of many parents by their failure to have their children vaccinated, and on the part of the legally-constituted Authority whose plain duty it is to enforce the Vaccination Acts. Such apathy is discouraging to Medical Officers of Health in their efforts to promote the public health, and such neglect is bound in due time to be followed by another epidemic of small-pox and all the scare, the misery, and the financial stress which follow in the trail of so dreadful a scourge."

The Medical Officer of Health of Tipton writes :—" The actual number of successful vaccinations would appear to be very favourable compared with some other districts, but unfortunately it is the almost universal practice in the parish to call a child successfully vaccinated where the operation has only been performed in one place. This is not proper protection, as most of those so vaccinated will discover in a few years' time if they become exposed to the contagion of small-pox. Proper protection is where the child has been vaccinated in four places. Such children are safe till they are 12 years old, when they should be re-vaccinated. If there is one thing more sure than any other in the history of preventive medicine, it is that vaccination, when properly performed, is an absolute protection from small-pox. The two Public Vaccinators vaccinate in four places ; the consequence is that mothers will not bring up their children, and it is no unusual thing for their vaccination station to be empty."

The following figures appear in the report of the Medical Officer of Health of Wednesbury :—

Births Registered.	Successfully Vaccinated.	Insusceptible.	Dead Unvaccinated.	Medical Postponement.	Removals Known.	Removals Unknown	Defaulters.
930	132	2	158	12	—	—	626

The Medical Officer of Health says :—" As will be seen from the foregoing table, vaccination has to all intents and purposes become a dead letter, so that we may regard the outbreak of small-pox merely as a matter of time."

The following is extracted from the report of the Medical Officer of Health of Wednesfield :—" In my report for the year 1896 I was a little sanguine that—owing presumably to calf-lymph being used exclusively at the public station—the number of vaccinations was gradually increasing, but I regret to say this has been far from being the case during the year 1897, and the number of them has diminished to a very low ebb indeed. In years gone by the vaccination station at Heath Town was often crowded with people bringing their children

for this purpose, but things are very much changed since then, as it is not at all unusual to find no one at all at the station for weeks in succession.

"There were 134 births in Wednesfield during the year, and very probably more than 300 in Heath Town, which would bring up the total to at least 434, and out of this number *only* 68 were vaccinated at the public station. This, I venture to affirm, is a very serious state of affairs, and one which should receive the earnest attention of the Council.

"The following statistics will furnish a good object lesson on the subject, and show more accurately the falling off in numbers:—

1891.	146 vaccinations.	1895.	63 vaccinations.
1892.	116 ,,	1896.	82 ,,
1893.	90 ,,	1897.	68 ,,
1894.	169 ,,		

So it will be seen that, with the exception of 1895, the number of vaccinations recorded in 1897 was the lowest for the last seven years. It will be noticed that the number was considerably higher in 1894, but that was on account of the epidemic of small-pox which then existed. It will be admitted that the above figures shew very clearly the decadence of vaccination in the district, and should another epidemic occur the consequences would probably be disastrous, like in previous epidemics we have experienced in the neighbourhood. As the body having charge of the public health, the Council, in my opinion, would be well-advised if they would bring the matter before the Board of Guardians, and try to get them to put this wholesome Act in force. As mentioned in my last annual report, the District Council is, in the opinion of many Medical Officers, the proper body to have charge of all measures relating to the prevention of disease, including vaccination."

The Medical Officer of Health of Willenhall writes:—"The number of children registered as born in 1896 and 1897 was 1369. The number of deaths of children less than a year old was 284. The number vaccinated in the same year was 565, whilst 14 cases were said to be insusceptible. It, therefore,

follows there has been a great neglect of vaccination, both by parents and the Authority whose duty it is to enforce the Vaccination Acts, and, judging by newspaper reports, it seems as though that Authority, which is not a health authority, intends to persist in the neglect of its clear statutory duty."

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 Heath of Bilston writes:—"Contamination of the subsoil of dwellings, and the erection of houses on 'made soils' should be avoided. The subsoil of dwellings erected on disused refuse tips is fouled by organic matter of both animal and vegetable origin, and by the gaseous products of its decomposition. In the model bye-laws of the Local Government Board it is directed that no such site should be built on until all filth is removed by excavations or otherwise. Even then there should always be added a layer of good Portland cement concrete over the site and proper damp-proof courses. Subsoil around a dwelling and—by the diffusion of gases—under the dwelling may be contaminated by leakage from drains, privies, cesspools, &c., near the house, or by soakage from unpaved backyards, on which filth falls or is thrown, and these should all be prevented.

"The provision of decent tenements, on open sites, for the very poorest classes would be a great boon. The wretched dwellings now in use are hotbeds of disease, and a menace therefore to the whole community."

The Medical Officer of Health of Coseley writes:—"As I mentioned in last year's report, there are many dilapidated and unhealthy houses in the district, with which it is very difficult to deal; but the matter must be faced and dealt with, mostly in a gradual manner. This year we have closed 21

houses which were unfit for human habitation. Overcrowding is very prevalent and still more difficult to deal with, since the abatement of this nuisance in one place is speedily followed by its appearance in another.

"The fact of the matter is that the erection of new dwellings is required, the present supply not being equal to the demand, especially in the centre of the district. This must also be remembered as a factor which effectually prevents any increase taking place in the population."

Later in the same report, under the heading "Inspection," the Medical Officer of Health says:—"During the year I made a detailed inspection of portions of Bradley, and reported on insanitary properties in Hall Green Street, Allen's Row, and Wootton Square, due to defective roofs, absence of eaves-spouting, neglect of whitewashing, and inefficient ventilation of some of the houses. Some of these houses were let separately, back and front, and I recommended that the owners be advised that this would not be allowed to be continued in future. The owners, in some cases, were poor and derived little money from their property. Many of the defects have, however, been remedied, and some of the houses which were past repair, or which the owners neglected to repair, have been closed; and some other properties, which had been allowed to fall into dilapidation, are being made habitable."

"The Medical Officer of Health of Quarry Bank writes:—"Twelve cases of overcrowding have been discovered, all but one of which were abated after notice. Two houses were condemned as unfit for habitation, but these by no means represent the number in this condition. On the area affected by mining operations many houses have been demolished, and still more are so ruined as to be rendered uninhabitable, whilst nearly every house has been damaged to a greater or less degree. A new street is being constructed from High Street to Coppice Lane, which will provide house accommodation for many that are dislodged. Apart from mining operations,

absence of spouting and surface drainage renders many houses damp and unhealthy."

With reference to an area in Rowley Regis known as "Tibbett's Gardens," the Medical Officer of Health of the district writes as follows:—"This locality, which has for a long time been a standing menace to the health of the district, is now to be dealt with in a comprehensive scheme, which is to include the making of a new street through it, and provision for its efficient drainage."

From the following remarks which appear in the report of the Medical Officer of Health of Rugeley, it would seem that the Authority are not particularly active in following up formal notices in the case of insanitary property by further action in cases of default:—"I visited a number of old cottages in Brereton Road, Marlpits, Horse Fair, Elmore Street, and Floodgate, the condition of the whole of which I reported as being more or less dilapidated, and in some instances as surrounded by unwholesome conditions in the form of offensive privies, inefficient drainage, and want of sufficient ventilation; many of them had no back entrance, and the roofs of most of them were very rotten and leaky. Notices have been served on the owners, but except in one or two instances nothing has been done to remedy these conditions."

The following paragraph from the report of the Medical Officer of Health of Tamworth points to useful prospective work on the part of the Corporation of that borough under the Housing of the Working Classes Act, 1890:—"With reference to the proposed purchase of Bradbury Square, the owner has been requested to fix a price, but has not done so as yet. The Town Clerk has meanwhile prepared a petition to the Local Government Board for an order sanctioning the scheme, and the Corporate Seal has been affixed thereto. It will be remembered that the scheme contemplates the removal of some old dilapidated houses, and other improvements under the Act. Attention has also been given to the condition of other cottage property in the borough, and to the subject of overcrowding."

The Medical Officer of Health of Willenhall states that probably a larger number of houses were built than in any year during the past twenty, but that still the supply is insufficient.

As regards rural districts, the Medical Officer of Health of Kingswinford calls attention to many damp houses—particularly at Pensnett and Brockmoor—caused by absence of eaves spouting.

In the rural districts of Leek and Stone considerable attention seems to have been paid to the questions of overcrowding and insanitary property.

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 Biddulph, as in other places, the system of scavenging by contract has proved unsatisfactory, and the Authority have wisely determined to undertake the work by means of their own staff, the new arrangement to come into force in July, 1898.

In Burslem, it appears that ordinary water-closets or waste-water closets are still being insisted upon in the case of new property, and that the conversion of privies into water-closets of one or the other type is proceeding.

In Coseley, notwithstanding the fact that the Authority undertake the refuse removal, more frequent and more systematic removal is said to be necessary.

In Darlaston, it would seem that a considerable amount of work has been done in the direction of re-constructing old privies, and the Medical Officer of Health writes:—"Although from a sanitary standpoint we are still advancing,

the greatest difficulty in the way of progress undoubtedly is the existence of the privy-midden system, favouring as it does the accumulation of excreta and general refuse for indefinite periods in the vicinity of most of the houses; and it is, in consequence, all the more gratifying that the reconstruction referred to is being taken in hand. In the course of my inspections I have been surprised at the enormous size of many of the ashpits; they are in nearly every case much too large, and are unprotected from the rain, in addition to containing excreta as well; they should be smaller, protected from the wet, and allowed to receive dry refuse only; their smaller size would make the frequent removal of their contents more practicable than under the present conditions."

I venture to suggest that in following the policy referred to the Darlaston District Council are making a fatal mistake, for by thus perpetuating the privy system they are allowing an excellent opportunity of substituting the more wholesome water-carriage system, which is now being so generally adopted in urban districts, to pass, and are thus indefinitely delaying sanitary progress in the district.

In Fenton, it appears that a system for the more frequent removal of refuse and night-soil is called for.

In Handsworth, satisfactory progress is being made in the direction of the abolition of privies, 267 having been converted into water-closets during the year, after notice, in addition to many that have been so converted on the suggestion of the Sanitary Inspector. At the same time, it is not so satisfactory to find that the dry ashpit system is being continued. Sooner or later, throughout the towns of Staffordshire, movable receptacles for dry refuse, and short intervals of removal, will become general, and it is to the more important towns in the County we naturally look for initiation in all such progress. Handsworth has a destructor now in process of erection; the Authority might very well take this suggested initiative in the south of the County, for it would not add appreciably, if at all, to the cost of refuse collection.

In Newcastle, 158 water-closets have been substituted for 94 faulty privies and cesspools during the year, and in all new buildings water-carriage is introduced; thus the old privy system is gradually being abolished.

The Medical Officer of Health of Quarry Bank writes :— "The employment of a contractor for night-soil removal has again been throughout the year the cause of much uneasiness, owing to the heavy arrears of work usually on hand. The difficulty of securing good tips within reasonable distance has no doubt harassed the contractor, but apart from this it is certain that the work would be better done under the direct control of the Council.

"The improved model adopted during the year on which all new ashpits and privies are to be constructed, will tend to minimise the evils of the present system. As soon, however, as the long-delayed sewerage scheme has been completed, it will be advisable to modify this model so as to allow water-closets to be affixed to all new buildings, and, as occasion arises, to existing ones. The present privies and ashpits are in too many instances not only badly constructed, but very dilapidated, and although mining operations are an extenuating circumstance in many cases, they are by no means so in as many others."

The Medical Officer of Health of Rowley Regis states that efforts are being made in that district to introduce the water-carriage system, but that it will be years before the midden closets are entirely dispensed with. As regards the question of removal he writes :—"I beg to say in regard to the night-soil removal, that the work continues to be done much better than was the case a few years ago, but it still has its difficulties, and complaints about tips and the difficulty about securing suitable sites for tips, shews that at the best it is a very unsatisfactory and troublesome part of the Council's work, requiring a great amount of ingenuity on the part of the Council and its officers to secure anything like decency."

With reference to ashes and refuse removal at Rugeley, the Medical Officer of Health writes :—"These, I am sorry to

say, have not been removed with the regularity which, in my opinion, they ought to have been, and there has been friction between the Inspector of Nuisances and the contractor on this account, the former having very properly refused his certificate for payment until the work was completed up to date.

"I have also myself observed large heaps of ashes, probably containing night-soil, lying in the public streets as late as 11-30 a.m.—a very dangerous proceeding. If this state of things goes on, I think it would be both safer, and, probably, more economical if the District Council took this matter into their own hands, lest a great evil should arise; at any rate, I commend it to their careful consideration. I would repeat what I stated last year, that a number of old ashpits in the district should be reduced in size, roofed in, and otherwise made to comply with the provisions of the bye-laws."

The Medical Officer of Health of Smallthorne writes:—"During the year numerous complaints have been made of leaking privies and ashpits. Almost every privy in the district is much too large, allowing the contents to accumulate for weeks. I have advised you that these be made much less, and water-tight, and that the contents be removed more frequently, also that night-time be chosen for the removal."

Considerable attention has been paid to this matter in Smethwick, as will be seen from the following extract from the report of the Medical Officer of Health:—"In accordance with your wishes I have also paid especial attention to the important subject of privy conversion, than which none of the matters that you are dealing with is of more vital moment or more desirable from both a sanitary and financial point of view. The privy, from the modern sanitary standpoint, is neither more nor less than an abominable nuisance and a standing danger to health, and now that you have, at so much pains and expense, overcome the difficulties that seemed at one time almost insurmountable, and perfected an elaborate scheme of sewerage, its days may be considered to be numbered, though, as there are still, in spite of all that has been done, some 5,000 of them in rampant activity for mischief, it must be confessed

that they will for a long time yet constitute a grave anxiety. In efforts for sanitary improvement, I take it that the safest methods are those which are calculated to ensure quiet reform without any risky revolutionary tactics, and, in dealing with this matter, these lines have been pursued. By the exercise of tact and patience, difficulties have been overcome, objections removed, prejudices disposed of, and a large number of property owners convinced that the substitution of a water-closet in place of a naturally constantly decaying privy is a real economy; and, not the least satisfactory circumstance in connection with the substantial progress that has been made in this direction is, that it has been amicably accomplished. Too much credit cannot be awarded to the Sanitary Inspector who has been the chief instrument in this salutary work, for what has been effected. An eloquent testimony to his assiduity is the fact that during the year 347 privies and ashpits have been abolished. As the result of these conversions of privies to water-closets, and in consequence of the requirement of the District Council that all new dwellings shall be provided with water-closets, there are now over 2000 water-closets in existence, all connected with the sewers. A great gain also has been an increase in the number of movable receptacles for domestic rubbish, which have taken the place of the ashpit. There are about a thousand of these now in use, and they are removed every fortnight. The work of connecting house drains with the sewers has been pushed on, and 360 houses which formerly discharged into the street gutters, have been so connected.

"A further step, the importance of which cannot be overrated, has been taken in connection with excrement removal; it is that the District Council have now undertaken the direct responsibility themselves of the scavenging work which has hitherto been delegated to a contractor. The reports of the Medical Officer of the Local Government Board on night-soil removal, without, I believe, a single exception, show that the work is never properly done unless it be undertaken by the Sanitary Authority, and performed by their own workmen. The District Council took over the work on the 1st of November,

and at once were confronted with a large accumulation of arrears in addition to the daily influx of fresh applications. They immediately provided themselves with the means of coping with the necessities of the work, and at the present time a staff of 40 men with 18 horses are employed in this particular department. Some idea of the demands on the night-soil department is furnished by the detailed particulars contained in the Sanitary Inspector's annual statement. From this officer I find that during the year under notice there were emptied 5,094 ashpit middens, and 8,453 privies over and above the emptying of the tubs previously referred to, and also that the closets of works and elementary schools were scavenged 88 times.

"Before concluding this subject, I may just point out that practically 250 houses have been ridded of privies and ashpits during the year, 60 of which are situated in the Northern, 90 in the Southern, and 100 in the South-Eastern Sub-districts."

In Stafford, where by far the greatest progress has been made in this direction, the whole town being now practically under the water-carriage system (about one-half ordinary water-closets, and the other half slop-water closets), the Medical Officer of Health writes:—"Many of the new slop-water closets have been blocked, but not more than has been the usual experience in other towns during the first year or two of their adoption."

The following extract from the report of the Medical Officer of Health of Tamworth is worthy of note, particularly as regards the danger which is likely to result from dried refuse being carried by the wind into houses:—"The work connected with the emptying of the pans, ashpits, and privies has in itself been efficiently performed during the year, but the way in which the details are carried out leaves much room for improvement. There are several large midden ashpits so situated that the contents have to be wheeled out and deposited on the streets in a heap previous to removal, much of the liquid filth finding its way into the sewers, and the whole giving rise to a most horrible stench. The dried dust from the streets is

liable for some days after to be blown into dwellings and shops where food and meat are exposed for sale. It is a matter of satisfaction that your Sanitary Committee have decided in several of the worst of these cases to do away with the present arrangement and substitute water-carriage. In order to facilitate the ready removal of the dry ashes and street refuse, it is proposed to erect a bridge over the river Anker, at the site of the old Castle Mill weir, in order to provide means of access for carting ashes and sweepings across to what is known as 'The Trunk,' a branch of the river Tame, which until recently joined the waters of the Anker above the mill, but which is now stanked off. This Trunk will be gradually filled up, and when covered over with soil will in time make good ground. Application has been made to the Local Government Board for their sanction to borrow the sum necessary to complete the work, the re-payment of the loan, with interest, to be spread over a term of years."

The Medical Officer of Health of Tettenhall writes:—"The most important undertaking of the Sanitary Authority, since the sewerage scheme, is the public cleansing of middens, which was adopted this year."

In this connection, in a report by the Sanitary Inspector of Tettenhall, which is included in the report of the Medical Officer of Health, the Authority are informed that the time is fast approaching when they will have to provide a destructor.

In Tunstall, 40 water-closets have been substituted for old cesspits, but it appears that the majority of these are hand-flushed, and concerning these the Medical Officer of Health, very wisely, writes as follows:—"This may be an improvement upon the cesspits, but it is not by any means a satisfactory substitute."

Among other reports of Medical Officers of Health of urban districts, in which particular reference is made to this important question, may be mentioned those of Short Heath, Stoke-on-Trent, and Stone.

As regards rural districts, the Medical Officer of Health of Cannock (Rural), in dealing with refuse removal, says:—

"The only safe mode of dealing with this question is for the Council to employ men to do the work in proper hours, and in an efficient manner. In rows of houses this is a serious matter. One frequently sees in the district, at all hours of the day, most offensive accumulations, which should be removed, and the premises disinfected in the early hours of the morning. In such a season as 1897, such nuisances, with damp and overladen ashpits, give rise to diarrhœa, more especially, and quickly send up the death-rate. Would it not be possible in this matter for the District Council to delegate their powers to the local parish councils, and make them responsible for the systematic disposal of ashpit refuse?"

The Rural District Council of Cheadle seem to have done good work in the direction of providing for the more efficient removal of refuse, as appears from the following quotation from the report of the Medical Officer of Health:—"The District Council has, at last, undertaken the scavenging of the Meir, Adderley Green, Caverswall, Cellarhead, Hulme, and Werrington. This scheme was started in December, 1897, and will be a great boon to the inhabitants of the various districts mentioned."

The Medical Officer of Health of Kingswinford writes, with reference to privy-middens, as follows:—"I note that many of these are of the old-fashioned insanitary type, with a large and deep midden, the bottom of which is generally wet. Amongst the ashes may be found large quantities of vegetable matter, besides slops, and rubbish of every conceivable description.

"The privy-midden is an obsolete and generally condemned system, but in some parts of this district it appears to be unavoidable. I think you should adopt some definite plan of construction for these buildings of reasonable cost, but such as can be generally adopted and insisted upon. The essential conditions are that it should be laid in concrete, one foot thick, and paved. It should be above the level of the ground, covered in, spouted and ventilated, and paved round outside for a distance of two or three feet."

In the Leek Rural District, during the year, from 90 to 100 houses, in the populous parts of Norton, have been provided with pails which are emptied by contract.

In the Mayfield Rural District, it is said that an improvement has been effected in ashpits and cesspits, but that there is still room for improvement.

In the Tutbury Rural District report, the attention of the Authority is again called to the condition of the privies at Anslow schools. In Tutbury proper, since the Parish Council have undertaken the removal of house refuse and night-soil, a decided improvement is said to have taken place.

In the Walsall Rural District, refuse removal is said to be well done at Pelsall and Rushall, under contract, and this year the Authority have adopted a similar system at Aldridge.

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:—

As regards the Cannock Urban District, I would call special attention to the first paragraph of the following extract from the Medical Officer of Health's report, for two reasons, first, because of the excellent practice he adopts, and which is not, as a rule, followed in other districts, of observing and reporting upon the management of the sewage disposal works, and secondly, because of the wisdom shown by the District Council in taking over the management of the farm. The extract is as follows:—"I have paid several visits to the Sewage Farm, and took on each occasion samples of the effluents, which I subjected to quantitative analysis. I am pleased to state that the effluents have steadily improved,

a result which can only be attributed to the fact that the farm is under the direct control of the Urban Council, who have appointed a bailiff to manage the farm.

"It would be a great advantage if the Bridgtown sewage could be pumped from the low point where it enters the farm on to the top part of the farm, where it could be treated by the ridge and furrow system of filtration, and finally turned on to the filter beds if necessary.

"It is gratifying to know that the Local Government Board have sanctioned a loan for the effectual sewering of Heath Hayes and other portions of the district, and that this work is being promptly carried out.

"Chadsmoor and Green Heath are in a very defective condition as regards drainage, and need urgent attention, and so does also Bridgtown."

The Medical Officer of Health of Tipton, in referring to the subject of pollution from waste acid, states that in view of the action taken by the County Council his Authority have refrained from doing anything beyond calling the attention of the various manufacturers to the question. The following extract is taken from a report by the Surveyor of Tipton, which is embodied in the report of the Medical Officer of Health:—"For many years great quantities of solid matter have been allowed to come down the two brook-courses, through Tipton, from the adjoining parishes of Dudley, Coseley, and Sedgley, and we have been at the sole expense of clearing out this solid matter in our parish. Some years ago we took the precaution to construct several large catch-pits in the course, and by periodical cleansing of these were enabled to arrest a very large quantity of the solid matter. I suggested that each of the neighbouring Authorities should be asked to provide similar arrangements in the brook-course through their district, and after a good deal of correspondence and various interviews I am pleased to say that each Authority has now made such provision.

"The extension of the new sewer from Dudley Port station to the Cross Keys was completed, but so far, only,

a few connections have been made. Notices have been served in every case, but there are still many cases where no 'efficient drainage' exists, and which should be dealt with promptly by the Council.

"The drainage of Court 2, Bridge Road, and the portion of Toll End Road adjoining, is now receiving attention.

"The Sewerage Works are in good order, although the gas engine has needed various repairs and renewals, but as this has worked almost continuously for nearly 10 years, there is not much room for complaint. We are still keeping in operation the three experimental filters, although the Coke Breeze Filter has not been a success in our case, but the 'Lowcock' and the 'Garfield' filters are still giving some very good results.

"We have received a report from Dr. Reid, the County Medical Officer of Health, as to the working of these filters, and he suggests that application be made to the Local Government Board for a loan to complete the sewerage of the parish, by dealing with the portion now unsewered, at the different outfalls, by precipitation and artificial filtration by means of Garfield's Coal Filter. I am now preparing plans for a scheme on these lines to present to the Local Government Board, and hope to have same completed in course of a few weeks."

With reference to the above quotation, I understand that the Local Government Board have declined to consider the question of a loan, unless land, in addition to filters, is provided in all cases. This being the case, it is difficult to decide, under the circumstances, what shall be done beyond delaying further proceedings until the report of the Royal Commission on Sewage Disposal, which is now sitting, is presented, when in all probability it will be found that the Local Government Board will modify their present views on this subject.

The Medical Officer of Health of Uttoxeter Urban District writes as follows:—"In my previous annual report, I mentioned that the Council had devoted much time and

attention to this important subject, and that the Council had decided to call in a competent sanitary engineer to advise them. I am now able to state that Mr. Wilcox, of Birmingham, has since presented two alternative schemes, and the Council have had several interviews with Dr. Reid and Mr. Wilcox to ascertain their views. On October 26th, I accompanied the Urban Council to inspect the works for the disposal of the sewage from the City of Lichfield. Dr. Reid and Mr. Wilcox kindly met us there, and explained the various arrangements for dealing with the sewage, and especially by filters."

With reference to the above quotation, the County Council are aware, from the reported proceedings of the Sanitary Committee, that the matter has not progressed much further, and the question is again receiving the attention of that Committee.

The Medical Officer of Health of Willenhall writes :— "During the year 431 houses were connected with the sewers —not, however, in some cases until prosecutions had been instituted. There are now connected with the new sewers 1632 houses, many factories and schools, and all the slaughter-houses. 179 waste-water closets were put in, and the Council, acting on my suggestion, issued a notice that tenants are responsible for any nuisance arising from stoppages of drains or closets, caused otherwise than by defective construction, and stating that on written application they will undertake the clearing of blocked drains or closets, when not caused by defective construction, at a rate of 1/- per man per hour, with a minimum charge of 2/6."

The Medical Officer of Health of Gnosall Rural District writes:—"There is a most decided need for a sewerage scheme for Gnosall and Gnosall Heath. During the past year or two a number of new houses have been built, and as there is no provision for their proper drainage they are adding to the difficulty, by being drained into the roadside ditches. The stream, entering Gnosall at the north end, receives, directly, the drainage from various houses along its course, and is simply a common sewer. The drains from the central part of

the village discharge into an open ditch behind a dwelling house, and there the matter lies stagnant. As a consequence, the occupier of this house has been unable to use the water from his well for many years, as it is contaminated by sewage matter and unfit for consumption."

In the Leek Rural District, it is said that in several instances local pollutions have been remedied as the result of inspection.

The Medical Officer of Health of Kingswinford Rural District writes:—"In the more densely populated parts of the district, with the exception of Amblecote, the most obvious sanitary requirement is a good system of deep drainage.

"In some parts of the district I find that disused wells have been converted into cesspools, and the house drainage turned into them. This practice cannot be too strongly condemned, as it is impossible to give them that thorough emptying and cleaning which such places periodically require. Now that you have adopted Bye-laws, greater control can be exercised over this method of dealing with the house-drainage, and care should be taken, where a cesspool is unavoidable, that the Bye-laws dealing with the situation and construction of such places are strictly observed, so as to ensure efficient and regular cleansing."

With reference to the above quotation, I may state that a sewerage scheme has been prepared which has been submitted by the District Council to the Sanitary Committee, and there is every reason to suppose that it will soon be presented to the Local Government Board for approval.

The Medical Officer of Health of Lichfield Rural District writes as follows:—"A Local Government Inquiry into the proposed system of dealing with the sewage of Chasetown, at which I was present with the County Medical Officer, was held at that place on the 14th July last. The scheme of the Universal Sewage Purification Company has since been sanctioned by the Local Government Board, and tenders have been invited for carrying out the work."

I understand that the work referred to in the above extract is now in progress.

The Medical Officer of Health of Stone Rural District points out that the drainage at Hanford is still in the same state, but that certain improvements have been effected at Milwich by diverting sewage from the stream.

The Medical Officer of Health of Tutbury mentions the circumstances of sewage disposal at Barton-under-Needwood, Branstone, Tatenhill, and Tutbury, and as regards the last-named place recommends delay until the report of the Royal Commission on Sewage Disposal is published.

In the Walsall Rural District the Pelsall and Rushall scheme is now in progress, and the engineer has been instructed to proceed with the scheme for Aldridge, which has received the approval of the Local Government Board.

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.

The Medical Officer of Health of Bilston congratulates his Authority on having recently acquired a new and excellent water-supply, and points out that too much care cannot be exercised in preventing even the smallest contamination.

In Brierley Hill it appears that 78 houses have been connected with the public supply during the year.

The Medical Officer of Health of Cannock Urban District, where 120 houses have been supplied from the mains during the year, writes:—"With regard to well-water supply, I have had occasion to condemn well-water in Bridgtown and Chadsmoor. On August 6th last, acting on information received from Heath Hayes and Littleworth, with regard to

the impurity of the water from the South Staffordshire Waterworks, I visited the Company's reservoir on the Rawnsley Hills, and finding the water impure had it immediately cut off from the above-named districts, which were then supplied direct from the Company's well in the Rugeley road, the water from the latter being excellent. This well usually suffices for the whole of the district, but the exceptionally dry summer called for an additional supply from the reservoir, which had been stagnating under a hot sun, and herein, I think, lay the cause of the impurity. The reservoir has since been emptied and thoroughly cleaned out."

The Medical Officer of Health of Coseley writes:—"I am glad to say that further action has been taken in this matter during the year, and 106 houses have been connected with the public supply. I regret, however, to have to record, notwithstanding the efforts this Council have made, that portions of Cinderhill and Woodcross are still unsupplied with pure water. I quote the following from my December report:—'A case of enteric fever was notified from 3, Johnson's Row, Cinderhill. As the Council are well aware, there is no proper water-supply for that locality. A cistern containing rain-water is the only supply for this row of 15 houses. The people at this house have been in the habit of obtaining drinking-water from a pump some distance off. Until tap-water is supplied, the inhabitants should make a practice of invariably boiling all the water they consume.'"

With reference to the water-supply of Cinderhill, I specially reported upon the subject to the Sanitary Committee in April, 1895, and in consequence of that report, which was forwarded to the Local Authority, many communications passed between the Authority and the Committee. It appears that the question of providing this district with water was complicated by negotiations which had taken place between the South Staffordshire Waterworks Company and the Wolverhampton Corporation, but in a letter from the Clerk of the Coseley District Council, dated November 7th, 1895, the Sanitary Committee were informed that all difficulties had been over-

come, as will be seen from the following extract from the letter in question:—"We are informed that an arrangement has now been made by the South Staffordshire Waterworks Company to supply the Wolverhampton Waterworks Company with water from the new reservoir on the Beacon, and it is understood from the Wolverhampton Corporation's Engineer that, as soon as arrangements can be completed, pipes will be laid through Cinderhill and Woodcross to supply these places." Under these circumstances, it is disappointing that nearly three years have elapsed and the district in question is still without a proper water-supply.*

As regards Darlaston, it is satisfactory to find that there are now only five local well supplies, and as these have all been condemned, it is to be hoped that the next annual report of the Medical Officer of Health will record their abolition.

In Handsworth, where a few local wells are still in use, out of seven samples analysed during the year five were condemned, and in four instances private wells were closed and the public supply laid on.

The District Council of Perry Barr would do well to avail themselves more fully of the public supply. There are 86 local wells in the district, some of which are said to be liable to pollution, and these supply 185 houses.

The water-supply of Quarry Bank has been the subject of numerous communications between the Sanitary Committee and the District Council, and the Medical Officer of Health's report for 1897 deals exhaustively with the question in the form of a special report, which was presented to his Authority last December. During the last year or two considerable activity has been displayed by the District Council in abolishing private well supplies. The number of houses in the district are said to be 1,300, and whereas in 1892 only 300

* Since this report was in type, a special report on an outbreak of enteric fever at Coseley has been received, and in a letter accompanying it the Medical Officer of Health states that all difficulties have at last been overcome, and that the public water-supply will at once be laid on to Cinderhill.

of these were connected with the mains, the number of connections at the end of 1897 amounted to 999. With reference to certain parts of the district, the Medical Officer of Health in the special report referred to writes as follows:—"The contention of the South Staffordshire Water Company has been that the amount of water required would not warrant the cost of laying the pipes, and they required certain guarantees from the Council, or from the Earl of Dudley, before they would entertain the question. The inhabitants here, as in other parts, are very anxious to have a public water-supply, and the Council has done all that lay in its power to urge the matter with the Water Company.

"It has long been felt in the district that, considering the monopoly which the South Staffordshire Water Company has to supply your densely populated areas, they might reasonably be asked to waive their right of refusal in the more remote parts, and carry their water to such places as Dunn's Bank, Level Woods, Mearce Coppice, and the Dingle, where the distances to be covered are not altogether out of proportion to the demand, and the emergencies of the case are so great. The Council has been recently gratified by the concessions granted by the South Staffordshire Water Company in conveying their pipes to Birch Coppice, and I learn since commencing this report that overtures are being made by them in respect to Dunn's Bank and Level Woods, which will probably lead to the water being taken to these places in the near future."

The following statement appears in the report of the Medical Officer of Health of Rowley Regis, and I would call particular attention to the fact that of 57 samples of water (I conclude from private sources) analysed, all were condemned, showing the great importance of abolishing private well supplies in urban districts:—"Fifty-seven samples of water have been analysed, and have all been condemned as unfit for use. Two hundred and four houses have been supplied with the South Staffordshire Waterworks Company's water.

"The same grievance still exists in several parts of the district, especially at Blackheath and Old Hill, of intermittent supply of water by the S.S.W.W.Co. Two samples of this company's water, taken at two points in the district, were submitted for analysis and found to be unsatisfactory. I annex a copy of the analyst's certificate.

"No. 1 (sample 63). Taken from reservoir at Rowley. 'This sample of water does not show sewage or animal contamination, but it contains more organic matter (apparently of vegetable origin) than is desirable in a drinking water.'

"No. 2 (sample 64). Taken at Cradley Road. 'This is not a first-rate water, but in its present condition I should not really condemn it.'

"(Signed) E. W. T. JONES, F.I.C.,
"Public Analyst for the County of Stafford, &c."

In Rugeley, 20 houses were supplied with water from the public mains during the year, but there are still 172 houses, out of 934 in the district, dependent upon private well supplies.

In view of the special efforts on the part of the Sanitary Committee, from time to time, to induce the District Council of Sedgley to avail themselves of the public supply to a greater extent, it is very disappointing to find the following paragraph in the Medical Officer of Health's report:—"Greater rapidity is desirable in securing a public water-supply to houses which have none, *e.g.*, Clarence Street, which I have several times brought under your notice and that of the Surveyor during the past year, but I have to day ascertained that this defect still exists, although a public supply is available."

In Stoke-on-Trent, there are still 36 houses dependent upon local wells for their supply.

The Medical Officer of Health of Stone Urban District states that there are still a large number of private wells in the district.

The Medical Officer of Health of Tipton writes :—" I have analysed 13 samples of well-water, all showing evidences of sewage contamination. During the year, 61 houses have been supplied with water from the South Staffordshire Waterworks Company, giving a total of 5,916 houses so supplied. This shows an increase on the two previous years ; in 1894 5,113 houses were supplied, and 5,138 in 1896. I hope that in a few years the whole of the parish will be so supplied, and that pumps and wells will be things of the past. The chemical analysis shows that this water-supply is of exceptional purity ; it is rather hard. The supply is abundant and continuous : at times, as in all similar systems, specimens of organic life may be seen, but this is usually in dead ends or where the supply has not been much used ; occasionally, too, the earth will subside from mining operations, and damage the pipes, thus allowing some earthy particles to appear in the water. Filtering or allowing time for it to subside will put this all right."

In Uttoxeter Urban District, the new public supply seems to have proved insufficient, and the District Council are now seriously considering the best means of supplementing it.

As regards Willenhall, which is supplied by the Wolverhampton Corporation, the Medical Officer of Health writes :— " The water supply was abundant, and I am not prepared to say it was not excellent ; but having regard to the excessive fatality from diarrhœa in July, August, and September, and to the somewhat abnormal number of cases of typhoid fever in 1896 and 1897 ; having regard also to the lamentable history of the great epidemics of typhoid fever at Maidstone and Lynn, and a passage in my annual report for 1892, a copy of which is appended, the Council instructed me to ask the Corporation of Wolverhampton if they would kindly give me copies of the monthly reports, since July, of the analysis of the Corporation water, if such examinations had been made. To this the Town Clerk sent a courteous reply, in which he said ' that reports of the analysis of the Corporation water, such as you desire, have not been issued, as samples have not been taken monthly. Previous to the receipt of your letter it had been arranged that

a bacteriological examination of both river-water and well-water should be made, and on receiving this report a copy of the certificate shall be supplied to you. It is quite true that, at times, water is taken from the river and supplied in conjunction with water from the wells, but the M.O.H. does not attribute the prevalence of diarrhœa to the water thus supplied. . . . . My Committee wish me to point out that an epidemic of diarrhœa prevailed generally throughout England during the months of August and September, and that its cause was attributed to the excessive heat experienced during those months, and not to water supply. As the water supplied to both Wolverhampton and Willenhall is derived from the same source, it follows that if one community is affected it is probable the other would likewise be affected. You may therefore rest assured that my Committee, in the interests of all parties concerned, do take, and will continue to take, every precaution to ensure wholesome water being supplied to this borough and the surrounding districts within their water limits.' So far as Willenhall is concerned, the Council is responsible for securing a proper supply of pure water, and as river water is more liable to pollution than deep well-water, no opportunity should be lost in attempting to get the whole supply from the wells, especially as I have some reason for thinking the supply is enough. If by any chance water does get considerably polluted, even for a short time, the mischief is usually done (as was probably the case at Maidstone) before it is possible to provide the remedy. I am strongly of opinion that the water should be frequently examined, chemically and bacteriologically, and that the reports thereon should be public property alike in the interests of Wolverhampton, Willenhall, Short Heath, Wednesfield, and Heath Town."

The Medical Officer of Health of Cannock Rural District, in referring to a fatal case of enteric fever, which he attributed to contaminated well-water, says :—" In this connection I must again urge the necessity of prompt action to obtain water in Cheslyn Hay. Negotiations have been on foot with the South Stafford Company, but the Company's demands appear to the

ratepayers and their representatives to be severe. The Wyrley Parish Council are in a somewhat satisfactory financial position, and have sought for requisite powers from the District Council to carry out a water scheme, which request has been favourably entertained. With such powers clearly detailed, I have every reason to hope for the speedy solution of a vexed problem.

"Brewood and Penkridge must shortly make plans for drainage and efficient water-supply; the same applies to Wheaton Aston. The Local Government Board have recently issued circulars to the Rural Councils on the necessity of making provision in rural localities for the supply of pure water. Many of the old wells are contaminated, organic matter has percolated through porous soils, and to-day finds us with an abundance of polluted water in our midst, and the only wonder is that the death-rate is not more visibly affected."

In the Cheadle Rural District, it is said that negotiations are in progress with certain mill-owners for the supply of the village of Kingsley with water from springs.

The Medical Officer of Health of Eccleshall Rural District states that, as a rule, cost is the great difficulty which stands in the way of providing wholesome water-supplies. Regarding the requirements of the Public Health Water Act, he writes as follows:—"It is still the rule here for builders of new houses to apply for certificates of efficient water-supply *after the house is built and occupied;* then if the supply is not found satisfactory it is difficult to get it made good. It would be much better if intending builders would obtain a certificate of efficient water-supply *before* commencing to build."

With reference to this I would point out that the best way to insure an observance of the Act is for the Authority to take proceedings against persons who occupy houses without having obtained certificates of proper water-supplies. If one or two such actions were taken, they would serve as a warning to persons who are about to build houses, and induce them to consider the question of water-supply before starting.

The Medical Officer of Health of Gnosall Rural District writes:—"The supply for Gnosall as a whole is deficient in quantity, many of the houses having none; consequently the water has to be brought from public wells at a considerable distance away. There is, however, a large supply of good water at present running to waste from the hill above Audmore, which could be utilised to supply the whole village, and which could be more satisfactorily guarded from contamination than the wells at present in use."

The Medical Officer of Health of Kingswinford Rural District states that he had inspected the Waterworks of the South Staffordshire and Stourbridge Companies, which supply 3,211 houses in the district, and found that the precautions taken to protect the water from pollution were satisfactory.

In the Leek Rural District, owing to an extension of the Potteries Waterworks Company's Mains, the supply in the Norton Sub-District is now said to be generally good, and the supply in the Longnor Sub-District has greatly improved in recent years. The Leek and Leek Frith Sub-districts are well supplied generally.

In the Lichfield Rural District, the Medical Officer of Health has analysed a large number of samples of well-water. The public mains have been carried to houses in Watling Street Road, and at Boney Hay several wells have been abolished in favour of the public supply.

The Medical Officer of Health of Mayfield Rural District states that the water-supply of the village of Waterhouses is now under consideration, and he hopes that a much-needed improved supply will soon be provided.

The Medical Officer of Health of Seisdon Rural District writes as follows:—"I have reported upon the unsatisfactory state of the water-supply in the village of Wombourn for many years, and in my last annual report mentioned that the Bilston District Council had completed their work for the supply of water to Bilston, and that I anticipated that Wombourn would in a short time be possessed of this

advantage. Shortly afterwards the mains were laid down throughout the village, but only quite recently have the connections been made to many of the houses, and the rest are now in course of completion."

The Medical Officer of Health of Stone Rural District writes:—"The village of Oulton is still badly supplied with water, many houses having the greatest difficulty in procuring any. What is used is obtained from local wells, in almost every case polluted by surface drainage leaking into them. Out of 12 samples of water taken from these wells only three proved to be fit for domestic use. The Stone Waterworks Company might readily supply the district, and at a reasonable cost. Rough Close is still a difficulty, and complaints are constantly made to me of the scarcity and bad quality of the supply of water. Water has been laid on to additional houses at Barlaston, Hanford, and Blythe Bridge, from the North Staffordshire Company's Works."

In the Walsall Rural District, out of 13 samples of well-water which were analysed, nine were condemned.

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.

At Biddulph, the slaughter-houses have been inspected and fully reported upon.

At Bilston, the slaughter-houses are said to be clean and satisfactory. A case of seizure of meat is reported by the Medical Officer of Health of this district, in which proceedings were taken which resulted in a fine of £5 and costs.

In Handsworth, notices were served in four instances to abate nuisances in connection with slaughter-houses.

At Rowley Regis there appear to have been two seizures of meat, in one of which proceedings were taken, which resulted in a £5 fine, but in the other, although the meat was condemned, apparently no proceedings were taken.

In Stoke-on-Trent, where it is said all the slaughter-houses are regularly visited, the Medical Officer of Health states that a public slaughter-house would "be a great boon to the town and a decided advantage to the meat purveyors."

In Stone Urban District, the slaughter-houses are said to be as satisfactory as possible considering that so many are so near the dwelling-houses.

The Medical Officer of Health of Tamworth Urban District advocates the introduction of public abattoirs. It would appear from his reports, both for the Urban and Rural Districts of Tamworth, that a more stringent enforcement of regulations is necessary in the case of slaughter-houses.

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.

The following extract from the report of the Medical Officer of Health of Rugeley, for the year 1896, appeared in my previous Annual Report:—"With regard to the bakehouses, I have noted during my visits that most of them were in a bad condition as regards their floors, which, besides being structurally out of repair and very uneven, were also covered with a thick layer of unwholesome dust—a condition which cannot be considered healthy in a building used for the preparation of the most commonly-used food of man."

It is very unsatisfactory to find that since then little improvement has been effected, as will be seen from the following paragraph from the report for 1897:—"With one or two exceptions, no alterations have been made to the floors of the bakehouses, which last year I reported as being, besides structurally out of repair and very uneven, also covered with a thick layer of unwholesome dust—an unhealthy condition in a building used for the preparation of the most commonly-used food of man."

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 Bilston writes that the dairies, &c. are regularly inspected, but that in the case of most of the cowsheds there is room for improvement. He suggests that regulations should be established requiring cubic space in cowsheds of 800 feet per animal.

In Coseley, it appears that regulations have not been established. The Medical Officer of Health for this district states that better control should be exercised over these premises.

In Rugeley, the Medical Officer of Health states that there are ten cowsheds, most of them occupied by one cow only, and that few, if any of them, comply with reasonable requirements.

The Medical Officer of Health of Tamworth Urban District writes as follows:—"The dairies, cowsheds, and milkshops are under the supervision of your Surveyor, and it is very important that the Bye-laws should be enforced. The cleanliness of the dairies, and the purity of the water used in them, should be carefully investigated, as between the distribution of disease and the milk-supply there is often a dangerous relationship."

From this quotation, and from similar remarks under the headings of Bakehouses and Slaughter-houses, it would appear that the supervision of these premises is not as efficiently conducted as it should be. The fact is, it is a physical impossibility for the Surveyor—who is also Surveyor of the Rural District and Sanitary Inspector of both Urban and Rural Districts—to attend to the details of the work of inspection, and both the Urban and Rural Authorities should seriously consider the question of appointing a Sanitary Inspector to devote his whole time to such duties, relieving the Surveyor of work which it is quite impossible he can carry out efficiently.

Lodging-houses.

Only in a very few of the reports is any mention made of the inspection of common lodging-houses.

The Medical Officer of Health of Bilston recommends that the inspection of lodging-houses should be transferred from the Police to the Sanitary Authority. This would be a very desirable change, and there does not seem to be any reason why it should not be carried out, as in Stafford, where until a year ago the police undertook the inspection of lodging-houses, they are now inspected by the Sanitary Inspector, the necessary supervision from a police point of view being secured by giving a police officer the honorary appointment of assistant inspector.

In the report of the Medical Officer of Health of Tamworth Urban District, a detailed special report is given, as the result of an inspection of the lodging-houses, which has resulted in a re-arrangement of licences and structural alterations. The report concludes with a statement that the question of obtaining further and better lodging-house accommodation is under the consideration of the Sanitary Committee, who have directed enquiries to be made as to what is done elsewhere under similar circumstances.

I would point out that the police undertake the inspection at Tamworth also, where the same remarks apply, as in the case of Bilston.

In Lichfield Urban District, also, the police are the inspectors, and the Medical Officer of Health of the district writes:—"The common lodging-houses, six in number, continue under the surveillance of the Superintendent of Police, who reports that they have been frequently visited, and, as far as possible, kept clean and in good order."

Canal Boats.

In a few instances only does the question of canal boat inspection receive notice in the reports under review, and, except in the case of that of the Medical Officer of Health of Stoke-on-Trent Urban District, in none of these are there any

remarks which call for special mention. In this report the Medical Officer of Health writes as follows:—"The Sanitary Inspector has been appointed inspector under the Canal Boats Acts. Stoke is a registration district, having 500 boats on the register. There were six new boats registered during the year. The boats are often overcrowded, and the Acts were infringed many times, though no prosecutions were instituted. No infectious disease was reported from the canal boats."

Seeing that Stoke is so important a canal centre, this neglect of duty on the part of the Authority is all the more serious.

Factories and Workshops.

The provisions of the Factory and Workshops Act, 1891, seem to be receiving more attention in the various districts than hitherto.

Many of the reports refer to inspections under this heading, but, with the following two exceptions, nothing calls for special reference in any of the reports.

The Medical Officer of Health of Stoke Urban District writes:—"The manufacture of pottery, which is the staple trade of the borough, has been carried on during the year in a satisfactory way, and I am pleased to report that there are many improvements being introduced which will prove beneficial to the health of the workpeople. The workpeople suffer from two special ailments—one is caused by the irritating effects of the fine dust, the other by the absorption of metallic poison. In the first place, when attempting to lessen the effects of the class of work, one must hope for help on the part of the individual. I am sorry to say that there is a lack of enthusiasm very often when attempts are made to assist the individual to protect himself. Respirators, though recommended by all authorities, are used but little. There is a feeling abroad that the respirators are irksome and give rise to inconvenience. With regard to the protection of those workers who are liable to disease from the absorption of lead, there are many improvements. Rooms are provided for the workers to eat their food in. There is lavatory accommodation

so that the hands may be cleansed before eating. The workers wear overall-clothes, which they leave on the factory premises. The potter's life is getting a healthier one, owing to the better ventilation and accommodation with which he is provided. I am sorry to say that, in spite of the provision which is made to lessen the evil effects of lead-poisoning, individuals will treat the matter with contempt, and bring eatables into the workrooms, and consume their food without having taken advantage of the washing-room provided."

The Medical Officer of Health of Tipton writes concerning factories and workshops:—"The sanitary arrangements in many are far from satisfactory. It is often a difficult thing to get proprietors to understand the necessity for providing anything but the most primitive arrangements. I have not reported any case during the year, but in several works, if matters are not altered, I shall ask for an order to compel the proprietors to carry out the provisions of the Act."

Mortuaries.

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

In my last Report, I referred with satisfaction to the fact that a mortuary had been provided at Bilston. This provision, however, has not long been allowed to exist, as will be seen from the following paragraph:—"The mortuary provided a year or two ago has actually been removed to make room for a shed for the new ambulance. One is very much needed and could be utilized in many ways, *e.g.*, to remove the dead body in an infectious case from a small house where there is only one sleeping-room. In one instance a child died of scarlet-fever, and, until after the funeral, there was no place in the home, but the kitchen, for the child's parents to sleep in. Had there been a mortuary, the body could have been at once removed to it to await burial."

The provision of an ambulance shed seems hardly an adequate reason for the abolition of so useful a building as a

mortuary, and one would have thought accommodation for the ambulance might have been provided elsewhere.

The Medical Officer of Health of Darlaston writes:—"I beg to renew my request that the town be provided with a suitable mortuary. Medical men are unanimous in admitting that great difficulties surround the performance of post-mortem examinations in private houses, and as the sanitary grounds involved must give the subject additional weight, I trust the idea will be carried out at an early date."

In my last year's Report, I stated that a mortuary was in course of erection in the Rowley Regis District, and that another one would probably soon be built. In this year's report the Medical Officer of Health states that the one has been completed, and that the other will be built as soon as a suitable site can be acquired.

With reference to the prevailing custom of needlessly delaying burials, he writes as follows:—"The custom of keeping the dead for a considerable time (frequently six or seven days) before burial is a serious matter, especially when the death occurs in a small house crowded with inhabitants. The provision of a mortuary may assist, if the people can only be persuaded to avail themselves of it. In all deaths from infectious disease, the provisions of section 8, Infectious Diseases (Prevention) Act, are carried out. In cases of death from non-infectious disease, I am afraid that moral suasion is the only force that we can employ, unless section 10 of the Infectious Diseases (Prevention) Act could be enforced, when 'the dead body of any person is retained in the house, so as to endanger the health of the inmates of that house, &c., &c.' One of the chief causes of the delay, especially amongst the poorer classes, is that a funeral is looked upon as a great ceremony, and the greater the display, the more respect shown to the deceased. Many of the people are in death clubs, from which they draw the means of providing for the funeral, obtaining the mourning clothes, &c. Sunday is a favourite day for burying, as it does not occasion loss of time from work. The

introduction of a little funeral reform, and the substitution of common sense for sentiment would do much to lessen this evil."

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.

Under this heading the Medical Officer of Health of Stoke-on-Trent Urban District writes:—"There is a great deal of pollution of the atmosphere owing to the character of the trade of the borough. It is difficult to say that the smoke in the air caused any case of illness in particular. There is no doubt, however, that the fumes and smoke particles from the ovens and brick kilns must have an effect on the health of the community in general. In two instances smoke nuisances were removed after formal notice had been given to the offenders."

Bye-Laws.

In Handsworth it is said that new street and building Bye-laws are in active preparation.

The Medical Officer of Health of Short Heath states that the Bye-laws which came into operation in 1895 have been of great use.

The Medical Officer of Health of Tipton writes under this heading as follows:—"These have not yet been framed. Our present Bye-laws should be relegated to the archives of the past; no one quite knows their provisions, and certainly they are not in accordance with our present requirements as a Sanitary Authority. I very much hope that during the next twelve months serious action will be taken in this matter."

In Willenhall it is said that new Bye-laws are much needed, and the Medical Officer of Health urges his Council to consider, and present for the approval of the Local

Government Board, those prepared by him in 1895 and 1896.

In Seisdon Rural District new Bye-laws have been submitted for the approval of the Local Government Board.

Adoptive Acts.

The Summary Tables at the end of this Report show the position of the various authorities as regards Adoptive Acts.

The Medical Officer of Health of Handsworth strongly advises the adoption of the Infectious Diseases (Prevention) Act, 1890, the chief reason being "that disinfection can be enforced within 24 hours, whereas at present in some cases the process might be delayed for a month or six weeks."

The Medical Officer of Health of Short Heath recommends the adoption of Part III of the Public Health Acts Amendment Act, 1890.

General Sanitary Work.

Under this heading the Medical Officer of Health of Handsworth writes as follows:—"During the year 4,339 inspections and observations were made for the discovery and abatement of nuisances within the district, 984 formal notices were sent out for the abatement of nuisances, and were in 959 cases followed by the abatement of the nuisances, leaving 25 on the books at the end of the year. This shows an increase in the year of 756 inspections, &c., 339 notices, and of 343 nuisances abated, as compared with the figures for 1896."

The Medical Officer of Health of Tipton writes:—"The Sanitary Inspector has not yet completed the sanitary survey of the district. His time has been so much occupied with other duties, but he has added a substantial increase to the survey book."

The Medical Officer of Health of Willenhall writes:—"At the conclusion of the inspection of workshops, a house-to-house visitation was, on my suggestion, commenced by the Inspector of Nuisances, with special reference; firstly—to the detection and abatement of nuisances generally; secondly—to the special

examination, from a sanitary point of view, of all the ashpits, water-closets, and privies to which there was legal access; thirdly—to the special examination of house-drains, particularly as to their traps, disconnection from the sewers by approved means, and the complete disconnection of sink and bath waste pipes from the drain-pipes; and fourthly — to obtain a record of every case in which the water-supply pipe is fixed against, or in close proximity to, the ashpit or privy wall. To the present time 1,836 houses have been visited. A reference to Table C will convince the Council that such visitations are most necessary, and constitute a great safeguard of the public health. When the inspections have been completed, I shall make further reference to this subject. Thirty nuisances reported to or ascertained by me were dealt with by the Inspector."

Printing of Reports.

I am pleased to say that, with two exceptions, Cheadle and Mayfield Rural Districts, all the Annual Reports of the Medical Officers of Health in the County are now printed. This is a great advance since County Councils were instituted, when only 24 of the 57 Authorities then in existence printed the reports of their Medical Officers of Health. It is to be hoped that I shall be in a position to state next year that the two Authorities now constituting the exceptions to the rule have fallen into line with the others.

GEORGE REID,

County Medical Officer.

Stafford, September, 1898.

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.										Phthisis.	Diseases of Respiratory Organs.
														Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1897.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.			
AUDLEY	12631	13000	1·6	34·7	15·9	170	0·69	..	..	0·15	..	..	0·38	..	0·07	..	0·07	1·07	4·23
BIDDULPH	5290	5550	1·1	31·1	a14·4	104	1·26	..	..	0·18	..	..	0·72	..	..	..	0·36	1·62	2·70
BILSTON	23453	23500	12·5	40·3	24·7	226	4·12	..	0·34	0·08	0·08	0·46	0·25	..	0·04	..	2·93	1·14	5·48
BRIERLEY HILL	11847	12020	11·7	33·1	18·1	187	2·91	..	0·49	0·08	..	0·08	0·41	..	0·08	..	1·74	0·58	3·07
BROWNHILLS	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BURSLEM	31999	34663	13·4	38·5	b24·5	232	5·68	..	0·54	0·14	0·25	0·23	2·27	..	0·14	0·02	2·30	1·38	4·29
CANNOCK	20613	22000	2·7	38·4	c13·5	112	2.09	..	0·54	..	0·09	..	0·36	..	0·04	..	1·13	0·40	2·95
COSELEY	21899	22000	5·5	37·6	18·5	167	2·09	..	0·40	0·04	..	0·27	0·63	..	0·09	..	0·63	0·45	4·68
DARLASTON	14422	15327	19·1	39·0	24·5	255	5·93	..	0·71	..	0·26	1·69	..	..	0·13	..	3·39	1·69	3·91
FENTON	16998	21000	13·1	41·4	22·3	231	4·80	..	..	1·66	0·09	0·14	0·09	..	0·28	..	2·61	1·23	3·71
HANDSWORTH	32756	41600	11·4	24·4	d12·1	139	1·87	..	0·09	0·12	0·02	0·38	0·09	..	0·09	..	1·08	0·84	1·77
HEATH TOWN	7075	7700	10·4	44·2	e23·2	202	6·75	..	0·12	..	0·51	1·16	2·98	..	0·51	..	1·94	1·03	4·54
KIDSGROVE	3841	4214	3·8	31·3	16·3	181	0·47	..	0·23	..	..	..	..	..	..	..	0·23	..	3·08

a Including 2 deaths which occurred outside the district among persons belonging thereto.
b Not including 3 " " " within " " " not belonging thereto.
c " " 18 " " " " " " " " "
d Including 22 " " " outside " " " belonging thereto, and
not including 3 " " " within " " " not belonging thereto.
e Including 8 " " " outside " " " belonging thereto.

URBAN.

Deaths registered during the year 1897, 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.
AUDLEY	222	230	452	109	98	207	77	24	6	9	48	43	..	..	2	..	..	1	..	..	.	..	..	..	5	1	..	..	14	55	20	12	97
BIDDULPH	82	91	173	29	51	*a* 80	18	6	2	4	29	21	..	..	1	..	..	..	..	..	..	..	..	..	4	2	..	..	9	15	12	2	35
BILSTON	502	445	947	308	274	582	214	90	13	21	154	90	..	8	2	2	..	1	..	..	..	..	1	11	6	69	1	..	27	129	25	28	272
BRIERLEY HILL	216	183	399	109	109	218	75	28	9	6	57	43	..	6	1	..	..	1	..	..	1	..	1	1	5	21	..	..	7	37	14	13	110
BROWNHILLS	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BURSLEM	688	648	1336	444	406	*b*850	310	158	36	36	226	84	..	19	5	9	..	5	1	..	1	..	..	8	79	80	3	..	48	149	42	22	379
CANNOCK	448	398	846	174	124	*c*298	95	35	16	12	74	66	..	12	..	2	..	1	..	..	2	..	1	..	8	25	1	..	9	65	17	13	142
COSELEY	400	428	828	205	203	408	139	74	9	20	82	84	..	9	1	..	..	2	..	..	2	..	..	6	14	14	1	..	10	103	23	..	223
DARLASTON	283	315	598	199	178	377	153	74	18	7	75	50	..	11	..	4	..	2	..	..	1	..	1	26	..	52	..	..	26	60	15	6	173
FENTON	447	424	871	243	227	470	202	63	21	23	113	48	..	..	35	2	..	6	..	..	..	..	1	3	2	55	1	..	26	78	26	6	229
HANDSWORTH	513	504	1017	242	263	*d*505	142	58	17	21	144	123	..	4	5	1	..	4	..	..	1	..	..	16	4	45	1	..	35	74	49	13	253
HEATH TOWN	166	175	341	98	81	*e* 1.9	69	45	5	5	30	25	..	1	..	4	..	4	..	..	..	..	..	9	23	15	1	..	8	35	6	9	64
KIDSGROVE	64	68	132	41	28	69	24	11	4	4	13	13	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	13	3	3	48

a Including 2 deaths which occurred outside the district, among persons belonging thereto.
b Not including 3 ,, ,, ,, within ,, ,, ,, ,, not belonging thereto.
c ,, ,, 18 ,, ,, ,, ,, ,, ,, ,, ,, ,,
d Including 22 ,, ,, ,, outside ,, ,, ,, ,, belonging thereto, and
not including 3 ,, ,, ,, within ,, ,, ,, ,, not belonging thereto.
e Including 8 ,, ,, ,, outside ,, ,, ,, ,, 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.					
	Census, 1891.	Estimated to middle of 1897.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.	Diarrhœa and Dysentery.		
LEEK	14128	15037	10·2	27·7	*f*18·1	129	1·59	..	0·06	0·06	..	0·13	1·26	..	0.06	..	..	1·66	2·79
LICHFIELD	7864	7864	2·3	24·4	*g*16·2	119	0·25	..	..	..	..	0.12	0·12	..	..	..	..	1·52	1·14
LONGTON	34327	39104	19·5	36·0	23·5	253	4·60	..	0·02	2·45	0·07	0·33	0·61	..	0·15	..	1·02	1·07	3·60
NEWCASTLE	18452	20000	30·6	33·7	*h*19·0	195	3·10	..	0·15	0·10	0·05	0·40	0·25	..	0·20	..	2·00	1·30	3·90
PERRY BARR	2310	2630	0·6	28·1	*i*14·0	175	1·90	..	..	..	..	1·9	..	..	..	..	..	1·14	1·14
QUARRY BANK	6732	7060	7·1	37·8	14·7	104	0·56	..	0·14	..	..	..	0·14	..	..	..	0·28	0·70	2·97
ROWLEY REGIS	30791	34500	9·4	37·7	*j*17·6	181	1·79	..	0·40	0·02	0·11	..	0·23	..	0·11	..	1·01	0·37	3·82
RUGELEY	4181	4500	7·5	24·8	*k*13·5	196	2·22	..	..	0·44	..	..	1·33	..	..	..	0·44	0·22	2·44
SEDGLEY	14961	15100	4·0	39·2	*l*21·1	150	4·30	..	1·19	0·19	0·13	0·06	1·25	..	0·39	..	1·19	0·86	3·11
SHORT HEATH	2514	3472	3·2	44·0	22·7	215	4·03	..	0·28	0·28	..	1·44	1·44	..	..	..	0·57	1·44	3·45
SMALLTHORNE	5279	5900	11·1	43·5	21·6	186	3·38	..	0·50	..	..	0·33	1·35	..	0·33	..	0·84	0·84	5·59
SMETHWICK	36170	45000	23·9	36·8	16·8	168	2·28	..	0·06	0·35	0·13	0·44	0·02	..	0·13	..	1·26	0·84	3·64
STAFFORD	18732	*20163	19·9	26·8	*m*13·5	140	0·54	..	..	0·04	..	..	0·34	..	0·04	..	0·09	1·33	2·52

f Not including 16 deaths which occurred within the district among persons not belonging thereto.
g ,, ,, 19 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
h ,, ,, 9 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
i ,, ,, 8 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
j Including 11 ,, ,, ,, outside ,, ,, ,, belonging thereto.
k Not including 4 ,, ,, ,, within ,, ,, ,, not belonging thereto.
l ,, ,, 107 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
m ,, ,, 178 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,

* The total estimated population is 21665, but a deduction of 1502 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.
LEEK	220	198	418	128	145	[f]273	54	30	7	10	105	67	..	1	1	..	..	1	..	..	1	..	..	2	19	..	2	..	25	42	29	4	146
LICHFIELD	94	98	192	63	65	[g]128	23	10	6	5	38	46	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	12	9	12	4	89
LONGTON	708	700	1408	480	440	920	357	187	40	21	232	83	..	1	96	3	..	6	..	..	..	..	..	13	24	40	..	..	42	141	48	18	488
NEWCASTLE	338	337	675	207	174	[h]381	132	45	4	15	113	72	..	3	2	1	..	4	..	..	1	..	..	8	5	40	3	..	26	78	18	10	182
PERRY BARR	41	33	74	18	19	[i] 37	13	8	3	1	6	6	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	3	3	2	1	23
QUARRY BANK	130	137	267	59	45	104	28	14	4	4	31	23	..	1	..	..	..	..	..	..	..	..	..	..	1	2	1	..	5	21	3	1	69
ROWLEY REGIS	645	659	1304	302	307	[j]609	237	78	24	24	137	109	..	14	1	4	..	4	..	..	1	..	3	..	8	35	..	..	13	132	24	24	346
RUGELEY	56	56	112	24	37	[k] 61	22	13	3	2	9	12	..	..	2	..	..	..	..	..	..	..	..	..	6	2	..	..	1	11	2	1	36
SEDGLEY	301	292	593	157	162	[l]319	89	56	11	11	78	74	..	18	3	2	..	6	..	..	..	..	..	1	19	18	2	..	13	47	25	7	158
SHORT HEATH	82	71	153	45	34	79	33	19	1	1	11	14	..	1	1	..	..	..	..	..	..	..	..	5	5	2	..	..	5	12	2	1	45
SMALLTHORNE	128	129	257	65	63	128	48	28	4	4	27	17	..	3	..	..	..	2	..	..	1	..	..	2	8	5	1	..	5	33	4	2	62
SMETHWICK	827	830	1657	408	348	756	280	141	35	37	128	135	..	3	16	6	..	6	..	..	..	..	..	20	1	57	..	..	38	164	39	33	373
STAFFORD	279	263	542	160	113	[m]273	76	22	8	18	83	66	..	..	1	..	..	1	..	..	..	..	..	..	7	2	..	..	27	51	25	3	156

[f] Not including 16 deaths which occurred within the district among persons not belonging thereto.
[g] ,, ,, 19 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
[h] ,, ,, 9 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
[i] ,, ,, 8 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
[j] Including 11 ,, ,, ,, outside ,, ,, ,, ,, belonging thereto.
[k] Not including 4 ,, ,, ,, within ,, ,, ,, ,, not belonging thereto.
[l] ,, ,, 107 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
[m] ,, ,, 178 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,

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.					
	Census, 1891.	Estimated to middle of 1897.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.	Diarrhœa and Dysentery.	
STOKE-ON-TRENT ..	24027	27561	16·0	*n* 29·3	*o* 15·9	191	2·28	..	0·21	0·18	..	..	0·10	..	0·29	..	1·48	1·01	2·79
STONE	5754	6103	6·1	30·4	*p* 16·2	145	0·65	..	..	..	..	..	0·16	..	0·16	..	0·32	1·14	2·94
TAMWORTH.....	6614	7213	25·3	27·1	*q* 15·8	193	2·49	..	..	..	0·13	0·69	0·13	..	0·13	..	1·52	1·52	2·77
TETTENHALL.....	5145	5520	4·5	23·5	11·9	115	1·81	..	..	..	..	..	0·90	..	..	..	0·90	0·72	1·63
TIPTON	29314	29800	11·0	35·6	17·4	153	1·94	..	0·26	0·03	0·06	0·10	0·26	..	0·20	..	1·04	0·46	2·91
TUNSTALL	15730	16658	20·0	39·9	20·9	234	2·52	..	0·48	0·12	..	..	0·36	..	0·12	..	1·44	1·32	3·18
UTTOXETER	4800	4800	4·8	29·3	*r* 19·1	163	1·25	..	..	..	..	0·62	0·20	..	..	..	0·41	1·04	2·29
WEDNESBURY	25347	25300	11·8	35·5	19·7	205	2·76	..	0·39	0·07	0·03	0·23	0·35	..	0·15	..	1·54	1·02	2·88
WEDNESFIELD	4949	5020	2·4	26·6	12·1	111	2·39	..	..	0·59	..	0·59	0·19	..	0·19	..	0·79	0·59	1·79
WILLENHALL.....	16852	18669	14·9	38·5	*s* 22·9	229	6·15	..	0·10	0·10	0·05	1·87	0·37	..	0·26	..	3·42	1·33	3·05
Totals and Averages	537797	589548	7·5	34·8	18·6	187	2·91	..	0·25	0·32	0·07	0·32	0·50	..	0·14		1·37	0·98	3·34
33 large towns in England, average population, ..	..	333106	35·5	30·6	19·1	177	2·87	0·00	0·18	0·31	*t*	0·55	0·41	..	0·18		1·24	*t*	*t*

n Not including 28 births which occurred in the Union Workhouse, the parents not belonging to the district.
o ,, ,, 222 deaths which occurred within the district among persons not belonging thereto, and
including 1 death ,, ,, outside ,, a person belonging thereto.
p Not including 9 deaths ,, ,, within ,, among persons not belonging thereto.
q Including 5 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 12 ,, ,, ,, within ,, ,, ,, not belonging thereto.
r Not including 7 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
s Including 16 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 2 ,, ,, ,, within ,, ,, ,, not belonging thereto.
t 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.
STOKE-on-TRENT	420	388	*n* 808	221	218	*o* 439	155	45	15	18	126	80	..	6	5	..	..	8	..	..	..	..	..	..	3	41	2	..	28	77	29	17	223
STONE	90	96	186	49	50	*p* 99	27	5	1	3	30	33	..	..	..	..	..	1	..	..	..	..	..	..	1	2	1	..	7	18	6	5	58
TAMWORTH	102	94	196	56	58	*q* 114	38	8	6	5	30	27	..	..	..	1	..	1	..	..	..	..	..	5	1	11	..	..	11	20	9	8	47
TETTENHALL	60	70	130	27	39	66	15	5	2	1	22	21	..	..	..	..	..	..	..	..	..	..	..	..	5	5	1	..	4	9	4	..	38
TIPTON	498	564	1062	299	222	521	163	81	17	21	111	128	..	8	1	2	..	6	..	..	1	..	1	3	8	31	..	..	14	87	36	26	297
TUNSTALL	356	309	665	193	156	349	156	45	14	12	84	38	..	8	2	..	..	2	..	..	4	..	..	..	6	24	..	..	22	53	21	6	201
UTTOXETER	81	60	141	45	47	*r* 92	23	7	1	4	27	30	..	..	..	..	..	..	..	..	..	..	..	3	1	2	..	..	5	11	8	3	59
WEDNESBURY	463	436	899	270	229	499	185	82	21	17	104	90	..	10	2	1	..	4	..	..	..	..	2	6	9	39	2	..	26	73	30	7	288
WEDNESFIELD	72	62	134	32	29	61	15	11	4	2	16	13	..	..	3	..	..	1	..	..	..	..	..	3	1	4	..	..	3	9	3	1	33
WILLENHALL	355	365	720	222	206	*s* 428	165	79	8	8	109	59	..	2	2	1	..	5	..	..	1	..	2	35	7	64	..	..	25	57	7	4	216
Totals	10377	10156	20533	5731	5248	10979	3852	1685	395	412	2702	1933	..	150	190	45	..	85	1	..	18	..	13	192	296	806	24	..	579	1971	638	313	5658

n Not including 28 births which occurred in the Union Workhouse, the parents not belonging to the district.
o ,, ,, 222 deaths ,, ,, within the district among persons not belonging thereto, and
including 1 death ,, ,, outside ,, a person belonging thereto
p Not including 9 deaths ,, ,, within ,, among persons not belonging thereto.
q Including 5 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 12 ,, ,, ,, within ,, ,, ,, not belonging thereto.
r Not including 7 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
s Including 16 ,, ,, ,, outside ,, ,, ,, belonging thereto, and
not including 2 ,, ,, ,, within ,, ,, ,, 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.
								Smallpox.	Scarlatina.	Diphtheria.	Croup (not Spasmodic).	Measles.	Whooping Cough.	Fevers.			Diarrhœa and Dysentery.		
	Census, 1891.	Estimated to middle of 1897.												Typhus.	Enteric or Typhoid.	Continued.			
BLORE HEATH	2227	2227	6·1	31·4	16·2	114	1·79	..	..	0·89	..	0·44	..	..	..	..	0·44	1·34	2·69
CANNOCK	15894	15821	3·0	35·0	15·9	111	1·70	..	0·12	0·37	0·06	0·12	0·18	..	0·06	..	0·82	0·88	2·21
CHEADLE	22302	..	2·4	31·2	16·8	119	1·79	..	..	1·07	0·13	0·04	0·17	..	0·04	..	0·44	1·12	2·69
ECCLESHALL	5698	6085	5·3	23·1	*a*12·6	113	0·32	..	..	0·32	0·16	..	..	..	..	..	..	0·49	2·46
GNOSALL	4366	5008	5·7	27·7	15·7	36	0·39	..	..	..	..	0·39	..	..	..	..	..	0·59	1·99
KINGSWINFORD	20724	22981	3·7	31·2	*b*17·7	158	1·43	..	0·34	..	0·04	..	0·13	..	0·13	..	0·82	0·73	3·04
LEEK	13998	12898	5·2	31·5	15·5	122	1·00	..	0·15	0·07	0·15	0·15	0·62	..	..	..	..	0·85	2·63
LICHFIELD	*22699	*24699	2·5	32·2	*c*13·5	108	1·17	..	0·12	0·12	0·03	0·20	0·48	..	..	..	0·25	0·52	2·14
MAYFIELD	4160	..	5·8	25·0	14·4	76	0·24	..	..	..	..	..	..	..	..	..	0·24	0·72	3·60
NEWCASTLE	6174	6967	2·8	26·9	14·0	138	2·00	..	0·14	0·71	0·28	0·14	0·14	..	0·28	..	0·58	0·58	3·01

a Not including 1 death which occurred within the district, a person not belonging thereto.

b ,, ,, 53 deaths ,, ,, ,, among persons not belonging thereto.

c Including 13 ,, ,, outside ,, among persons 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	36	34	70	21	15	36	8	2	2	4	7	13	..	..	2	..	..	..	..	..	..	..	..	1	..	1	..	..	3	6	3	..	20
CANNOCK	289	266	555	138	115	253	62	19	13	16	62	81	..	2	6	1	..	1	..	..	..	..	..	2	3	13	2	..	14	35	23	11	140
CHEADLE	351	345	696	201	174	375	83	43	12	15	85	137	..	..	24	3	..	1	..	..	1	..	..	1	4	10	..	..	25	60	32	14	200
ECCLESHALL	58	83	141	45	32	*a*77	16	5	3	4	21	28	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	3	15	8	3	45
GNOSALL	77	62	139	37	42	79	5	6	2	4	28	34	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	3	10	10	6	47
KINGSWINFORD	394	325	719	218	191	*b*409	114	54	11	15	102	113	..	8	..	1	..	3	..	..	..	..	3	..	3	19	..	..	17	70	29	13	243
LEEK	216	191	407	93	107	200	50	21	10	12	55	52	..	2	1	2	..	..	..	..	..	..	..	2	8	..	4	..	11	34	14	15	107
LICHFIELD	426	371	797	192	142	*c*334	86	44	10	13	86	95	..	3	3	1	..	..	..	..	..	..	..	5	12	6	..	..	13	53	37	16	185
MAYFIELD	53	51	104	34	26	60	8	5	2	1	19	25	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	15	9	..	32
NEWCASTLE	91	97	188	59	39	98	26	10	10	2	30	20	..	1	5	2	..	2	..	..	..	..	..	1	1	4	..	..	4	21	2	4	51
SEISDON	161	141	302	102	106	208	51	18	10	10	43	76	..	2	2	..	..	..	..	..	..	..	1	4	6	9	1	..	13	41	21	8	100

a Not including 1 death which occurred within the district, a person not belonging thereto.
b ,, ,, 53 deaths ,, ,, ,, ,, among persons not belonging thereto.
c Including 13 ,, ,, ,, 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.											
														Fevers.					
	Census, 1891.	Estimated to middle of 1897.						Smallpox.	Scarlatina.	Diphtheria.	Croup (not Spasmodic).	Measles.	Whooping Cough.	Typhus.	Enteric or Typhoid.	Continued.	Diarrhœa and Dysentery.	Phthisis.	Diseases of Respiratory Organs.
SEISDON	12371	13416	2·7	22·5	15·4	168	1·71	..	0·14	0·14	..	0·29	0·44	..	..	..	0·67	0·96	3·05
STAFFORD	10320	10760	4·8	23·7	*d* 14·4	46	0·46	..	..	0·18	..	..	0·18	..	0·09	..	..	0·92	2·88
STOKE-ON-TRENT	5122	5472	0·7	28·6	*e* 12·2	178	0·91	..	0·18	..	0·36	..	0·36	..	..	..	0·36	0·18	1·82
STONE	8174	8767	2·6	20·9	*f* 11·2	92	0·79	..	0·11	0·22	..	..	..	..	0·22	..	0·22	0·68	1·25
TAMWORTH Staffs. portion.	4770	5335	4·3	20·6	*g* 11·8	190	Nil	..	..	..	..	..	..	..	..	..	..	1·12	2·62
TUTBURY	9031	9385	2·7	28·5	*h* 12·1	134	1·49	..	..	0·10	..	0·53	0·31	..	..	..	0·53	1·17	2·23
UTTOXETER Staffs. portion.	7227	7950	6·0	27·0	*i* 17·2	111	0·88	..	..	0·37	..	0·25	0·12	..	..	..	0·12	1·50	3·27
WALSALL	9319	10400	1·1	29·4	*j* 15·2	196	2·78	..	0·48	0·19	0·09	0·57	0·76	..	..	..	0·76	0·57	3·36
WOLSTANTON	32773	33853	0·3	39·0	*k* 19·6	177	3·10	..	0·14	0·11	0·17	0·91	0 47	..	0·11	..	1·32	0·73	3·84
Totals and Averages	217349	228486	2·6	30·3	15·7	135	1·57	..	0·13	0·25	0·07	0·27	0·30	..	0·06	..	0·55	0·81	2·79

d Including 5 deaths which occurred outside the district among persons belonging thereto, and
not including 7 ,, ,, ,, within ,, ,, ,, not belonging thereto.
e Not including 14 ,, ,, ,, within ,, ,, ,, ,, ,, ,,
f Including 9 ,, ,, ,, outside ,, ,, ,, belonging thereto.
g Not including 6 ,, ,, ,, within ,, ,, ,, not belonging thereto.
h ,, 6 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
i Including 7 ,, ,, ,, outside ,, ,, ,, belonging thereto.
j ,, 5 ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Not including 46 ,, ,, ,, within ,, ,, ,, not belonging thereto

RURAL—continued.

DISTRICT.	Registered Births.			Registered Deaths.			Deaths from all causes at subjoined ages.						Deaths from subjoined causes.																		
	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.	Fevers.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy	Heart Disease.	Injuries.	All other Diseases.
																	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.											
STAFFORD	139	117	256	70	86	*d*156	12	16	7	14	38	69	..	..	2	..	..	1	..	..	..	..	..	..	2	..	..	..	10	31	24	11	75
STOKE-ON-TRENT ..	83	74	157	33	34	*e*67	28	8	..	1	18	12	..	1	..		..	..	..	..	..	..	1	..	2	2	1	..	1	10	9	4	36
STONE	93	91	184	56	43	*f*99	17	6	2	6	33	35	..	1	2	..	..	2	..	..	..	..	..	..	..	2	..	..	6	11	10	15	50
TAMWORTH ..... Staffs. portion.	55	55	110	28	35	*g*63	21	5	2	4	12	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	14	8	3	32
TUTBURY	137	131	268	62	52	*h*114	36	7	7	10	29	25	..	..	1	..	..	..	..	..	..	..	..	5	3	5	1	..	11	21	10	2	55
UTTOXETER ..... Staffs. portion.	110	105	215	67	70	*i*137	24	11	4	10	39	49	..	..	3	..	..	..	..	..	..	..	1	2	1	1	1	..	12	26	23	4	63
WALSALL	156	150	306	82	77	*j*159	60	32	9	8	29	21	..	5	2	1	..	..	..	..	..	..	1	6	8	8	..	..	6	35	11	5	71
WOLSTANTON	699	622	1321	364	302	*k*666	235	96	19	26	162	128	..	5	4	6	..	4	..	..	2	..	..	31	16	45	7	..	25	130	44	18	329
Totals	3624	3311	6935	1902	1688	3590	942	408	135	175	898	1032	..	30	59	18	..	14	..	..	3	..	7	62	69	126	18	..	186	638	327	152	1881

d Including 5 deaths which occurred outside the district among persons belonging thereto, and
not including 7 ,, ,, ,, within ,, ,, ,, not belonging thereto.
Not including 14 ,, ,, ,, within ,, ,, ,, ,, ,, ,,
f Including 9 ,, ,, ,, outside ,, ,, ,, belonging thereto.
g Not including 6 ,, ,, ,, within ,, ,, ,, not belonging thereto.
h ,, ,, 6 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
i Including 7 ,, ,, ,, outside ,, ,, ,, belonging thereto.
j ,, 5 ,, ,, ,, ,, ,, ,, ,, ,, ,,
k Not including 46 ,, ,, ,, 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.
AUDLEY.	Houses infected	..	..	8	3	..	..	2	..	..	1	..	10		
13,000.	Cases	Under 5	..	10	3	..	..	..	..	..	..	..	3		
5/4.		5 & upwards	..	2	..	..	..	2	..	..	1	..	7		
Nil.	Deaths	Under 5	..	..	2	..	..	..	..	..	..	..	..	..	5
		5 & upwards	..	..	..	..	..	1							
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
BIDDULPH.*	Houses infected	..	..	8	1	..	..	..	..	..	..	..	5		
5,550.	Cases	Under 5	..	4											
7/8.		5 & upwards	..	7	1	..	..	..	..	..	..	..	5		
Nil.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	4
		5 & upwards	..	..	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.
BILSTON.* 23,500. 15/6. 44·8.	Houses infected	..	..	77	4	2	..	9	..	..	..	..	19		
	Cases	Under 5	..	112	4	2	..	9	..	..	..	..	19		
		5 & upwards													
	Deaths	Under 5	..	7	1	2	..	..	..	..	..	..	1	10	6
		5 & upwards	..	1	1	..	..	1	..	..	..	..	..	1	
	Cases treated in hospital	Under 5	..	21											
		5 & upwards	..	35											
	Deaths occurring in hospital..... ..	Under 5	..	3											
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	2	
BRIERLEY HILL.* 12,020. 16/- 3·0.	Houses infected	..	..	29	4	..	..	13	..	..	1	..	10		
	Cases	Under 5	..	16	..	..	..	..	..	..	..	..	2		
		5 & upwards	..	29	4	..	..	17	..	..	1	..	8		
	Deaths	Under 5	..	4	..	..	..	..	..	..	..	..	1	1	4
		5 & upwards	..	2	1	..	..	1	..	..	1	..	..	..	1
	Cases treated in hospital	Under 5													
		5 & upwards	..	..	..	..	..	2							
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
BROWNHILLS.*	Houses infected	..													
	Cases	Under 5													
		5 & upwards													
	Deaths	Under 5													
		5 & upwards													
	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.
BURSLEM.* 34,663. £1 8s. 10d. 16·4.	Houses infected	..	..	298	13	3	..	36	1	..	4	..	17		
	Cases	Under 5	..	152	7	2	..	1	1						
		5 & upwards	..	174	6	1	..	35	..	..	4	..	17		
	Deaths	Under 5	..	15	4	8	..	..	1	..	..	..	..	7	79
		5 & upwards	..	4	1	1	..	5	..	..	1	..	..	1	
	Cases treated in hospital	Under 5	..	14											
		5 & upwards	..	48											
	Deaths occurring in hospital	Under 5	..	..	1										
		5 & upwards	..	..	..	..	..	3							
CANNOCK.* 22,000. £3 2s. 2d. Nil.	Houses infected	..	..	274	4	3	..	2	..	..	7	..	44		
	Cases	Under 5	..	188	1	1	..	..	..	..	..	..	4		
		5 & upwards	..	299	3	2	..	2	..	..	7	..	40		
	Deaths	Under 5	..	6	..	1	..	..	..	..	..	..	..	..	8
		5 & upwards	..	6	..	1	..	1	..	..	2	..	1		
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
COSELEY. 22,000. 13/10. Nil.	Houses infected	..	..	60	8	2	..	8	..	..	2	..	15		
	Cases	Under 5	..	77	15	4	..	9	..	..	2	..	15		
		5 & upwards													
	Deaths	Under 5	..	9	1	..	..	..	..	..	..	..	..	6	14
		5 & upwards	..	..	..	..	..	2	..	..	2				
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5 ..													
		5 & upwards													

UBRAN—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.
DARLASTON.* 15,327. £1 4s. 11d. Nil.	Houses infected	..	..	101	..	..	..	8	..	..	1	..	20		
	Cases	Under 5	..	52	..	..	..	1	..	..	..	..	1		
		5 & upwards	..	70	..	..	..	9	..	..	1	..	19		
	Deaths	Under 5	..	9	..	3	..	..	..	..	..	..	..	23	
		5 & upwards	..	2	..	1	..	2	..	..	1	..	1	3	
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
FENTON.* 21,000. £1 9s. 2d. 4·1.	Houses infected ..	..	..	51	88	2	..	31	..	..	3	..	24		
	Cases	Under 5	..	64	112	2	..	39	..	..	3	..	25		
		5 & upwards													
	Deaths	Under 5	..	..	25	2	..	..	..	..	..	..	..	3	2
		5 & upwards	..	..	10	..	..	6	..	..	..	..	1		
	Cases treated in hospital	Under 5	..	1	8										
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
HANDSWORTH.* 41,600. 18/5. 41·3.	Houses infected	..	..	162	43	1	..	23	1	..	2	..	15		
	Cases	Under 5	..	43	11	2	..	..	..	..	..	..	1		
		5 & upwards	..	173	35	..	..	25	1	..	2	..	14		
	Deaths	Under 5	..	3	2	1	..	..	..	..	..	..	..	16	4
		5 & upwards	..	1	3	..	..	4	..	..	1				
	Cases treated in hospital	Under 5	..	17											
		5 & upwards	..	102											
	Deaths occurring in hospital.....	Under 5	..	2											
		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.
HEATH TOWN.*	Houses infected	..	..	65	6	4	..	15	..	..	..	..	4		
7,700.	Cases	Under 5	..	12	4	3									
£1 10s. 6d.		5 & upwards	..	53	2	1	..	15	..	..	..	..	4		
68·6.	Deaths	Under 5	..	.	..	3	..	..	..	..	..	..	..	9	23
		5 & upwards	..	1	..	1	..	4							
	Cases treated in hospital	Under 5	..	6											
		5 & upwards	..	46	..	..	..	7							
	Deaths occurring in hospital	Under 5	..	1											
		5 & upwards	..	..	..	..	..	3							
KIDSGROVE.	Houses infected†	..													
4,214.	Cases	Under 5	..	5	..	2	..	..	..	..	..	..	7		
8/4.		5 & upwards													
Nil.	Deaths	Under 5	..	1											
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
LEEK.*	Houses infected	..	..	69	3	1	..	16	..	..	1	..	6		
15,037.	Cases	Under 5	..	30	1	1	..	..	..	..	..	..	1		
16/9		5 & upwards	..	45	2	..	..	16	..	..	..	..	5		
70·0.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	1	18
		5 & upwards	..	1	..	..	..	..	..	..	1	..	..	1	1
	Cases treated in hospital	Under 5	..	18											
		5 & upwards	..	42	1	..	..	9	..	..	..	..	1	1	
	Deaths occurring in hospital	Under 5													
		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.
LICHFIELD.*	Houses infected	..	..	5	1	..	..	5	..	..	..	..	17		
7,864.	Cases	Under 5	..	..	1	..	..	..	..				2		
10/2		5 & upwards	..	9	..	..	..	5	..	..	..	..	15		
26·6.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	1
		5 & upwards	..												
	Cases treated in hospital	Under 5													
		5 & upwards	..	4											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
LONGTON.	Houses infected	618													
39,104.	Cases	Under 5	..	49	582	10	..	57	..	..	2	..	18		
£2 5s. 11d.		5 & upwards													
Nil.	Deaths	Under 5	..	1	76	3	..	1	..	..	..	..	..	12	23
		5 & upwards	..	..	20	..	..	5	..	..	..	..	..	1	1
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
NEWCASTLE.*	Houses infected	..	..	45	8	..	..	16	..	..	1	..	21		
20,000.	Cases	Under 5	..	76	8	..	..	21	..	..	1	..	21		
15/10.		5 & upwards													
42·8.	Deaths	Under 5	..	1	2	1	..	1	..	..	..	..	..	8	5
		5 & upwards	..	2	..	..	..	3	..	..	1	..			
	Cases treated in hospital	Under 5													
		5 & upwards	..	40	1	..	..	4							
	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.
PERRY BARR.* 2,630. 12/4 91·7.	Houses infected	..	..	6	..	..	..	1	..	..	..	..	1		
	Cases	Under 5	..	3	..	..	..		..	..	..	..			
		5 & upwards	..	8	..	..	..	1	..	..	..	..	1		
	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	5	
		5 & upwards													
	Cases treated in hospital	Under 5	..	3											
		5 & upwards	..	8											
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
QUARRY BANK.* 7,060. 9/2. 10·5.	Houses infected ..	..	..	12	1	..	..	4	..	..	..	..	7		
	Cases	Under 5	..	8	..	..	..	..	..	..	..	..	1		
		5 & upwards	..	5	1	..	..	5	..	..	..	..	6		
	Deaths.....	Under 5	..	1	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards	..	..	..	..	..	2							
	Deaths occurring in hospital	Under 5													
		5 & upwards													
ROWLEY REGIS.* 34,500. £1 7s. 7d. Nil.	Houses infected	..	..	159	6	4	..	16	..	..	4	..	44		
	Cases	Under 5	..	117	1	3	..	1	..	..	..	..	4		
		5 & upwards	..	188	5	1	..	17	..	..	4	..	40		
	Deaths	Under 5	..	5	..	3	..	1	..	..	..	..	1	..	8
		5 & upwards	..	9	1	1	..	3	..	..	1	..	2		
	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.
RUGELEY.	Houses infected	..	..	5	12	..	..	..	..	..	..	..	4		
4,500.	Cases	Under 5	..	4	5										
15/6.		5 & upwards	..	6	9	..	..	..	..	..	..	..	4		
Nil.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	6
		5 & upwards	..	..	2										
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital..... ..	Under 5													
		5 & upwards													
SEDGLEY.*	Houses infected† ..	..													
15,100.	Cases	Under 5	..	205	108	16	..	49	..	..	1	..	23		
£3 6s. 6d.		5 & upwards													
Nil.	Deaths	Under 5	..	15	3	2	..	1	..	..	..	..	..	1	18
		5 & upwards	..	3	..	..	..	5	..	..	..	..	..	..	1
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
SMETHWICK.*	Houses infected	..	..	131	48	..	..	29							
45,000.	Cases	Under 5	..	59	19	4	..	2	..	..	..	..	4		
17/8.		5 & upwards	..	113	44	..	..	29	..	..	..	..	45		
Nil.	Deaths	Under 5	..	3	10	6	..	1	..	..	..	..	..	19	1
		5 & upwards	..	..	6	..	..	5	..	..	..	..	..	1	
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		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.
STAFFORD.* 20,163. 19/4 65·9.	Houses infected	..	..	85											
	Cases	Under 5	..	110	13	..	..	15	..	..	1	..	17		
		5 & upwards													
	Deaths	Under 5	..	..	1	..	..	1	..	..	..	..	..	..	7
		5 & upwards													
	Cases treated in hospital	Under 5	..	89	..	..	..	2							
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
STOKE-ON-TRENT.* 27,561. £1 2s. 2d. 15·2.	Houses infected	..	..	83	27	..	..	39	1	..	1	..	52		
	Cases	Under 5	..	39	11	..	..	12	..	..	..	..	17		
		5 & upwards	..	70	21	..	..	36	1	..	1	..	37		
	Deaths	Under 5	..	3	4	..	..	..	..	..	..	..	..	..	3
		5 & upwards	..	3	1	..	..	8							
	Cases treated in hospital	Under 5	..	4	1	..	..	1							
		5 & upwards	..	12	..	..	..	11	..	..	..	..	1		
	Deaths occurring in hospital	Under 5	..	1											
		5 & upwards	..	..	.	..	..	2							
STONE.* 6,103. £1 8s. 8d. 47·1.	Houses infected	..	..	40	1	..	..	2	..	..	..	..	17		
	Cases	Under 5	..	18	1										
		5 & upwards	..	32	..	..	..	2	..	..	..	..	17		
	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	1
		5 & upwards	..	..	..	..	..	1							
	Cases treated in hospital	Under 5	..	7											
		5 & upwards	..	18											
	Deaths occu rring 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.
TAMWORTH.*	Houses infected	..	..	12	..	1	..	2	..	..	..	..	5		
7,213.	Cases	Under 5	..	5	..	1									
		5 & upwards	..	12	..	..	..	2	..	..	..	..	5		
8/8	Deaths	Under 5	..	..	..	1	..	..	..	..	..	..	..	5	1
		5 & upwards	..	..	..	..	..	1							
78·9.	Cases treated in hospital	Under 5	..	4											
		5 & upwards	..	11											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TETTENHALL.*	Houses infected	..	..	9	6	..	..	1	..	..	..	..	4		
5,520.	Cases	Under 5	..	1	3										
		5 & upwards	..	8	3	..	..	1	..	..	..	..	4		
9/-	Deaths	Under 5	..	..	.	..	..	..	..	..	..	..	..	..	4
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	..	1
25·0.	Cases treated in hospital	Under 5													
		5 & upwards	..	4											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TUNSTALL.*	Houses infected	..	..	91	3	..	..	16	2	..	6	..	15		
16,658.	Cases	Under 5	..	30	1										
		5 & upwards	..	77	2	..	..	16	2	..	6	..	15		
£1 2s. 4d.	Deaths	Under 5	..	6	2	..	..	..	..	..	..	..	..	..	6
		5 & upwards	..	2	..	..	..	2	..	..	4				
3·9.	Cases treated in hospital	Under 5													
		5 & upwards	..	2	..	..	..	3							
	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.
UTTOXETER.	Houses infected	..	..	7	2	..	..	3	..	..	..	..	3		
4,800.	Cases	Under 5	..	1	2	..	..	..	..	..	..	..	1		
8/4		5 & upwards	..	7	..	..	..	3	..	..	..	..	2		
Nil.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	1
		5 & upwards	..	..	..	..	..	..	..	..	..	..	..	2	
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WEDNESFIELD.*	Houses infected	..	..	24	1	..	..	5	..	..	..	..	4		
5,020.	Cases	Under 5	..	33	3	..	..	5	..	..	..	..	4		
£1 2s. 5d.		5 & upwards													
70·7.	Deaths	Under 5	..	..	2	..	..	..	..	..	..	..	..	2	1
		5 & upwards	..	..	1	..	..	1	..	..	..	..	..	1	
	Cases treated in hospital	Under 5	..	29											
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WILLENHALL.*	Houses infected	..	..	29	19	2	..	16	..	..	1	*2	21		
18,669.	Cases	Under 5	..	16	10	..	..	2	..	..	..	2	2		
13/11.		5 & upwards	..	26	9	2	..	15	..	..	1	..	19		
1·2.	Deaths	Under 5	..	1	2	..	..	1	..	..	..	2	..	34	7
		5 & upwards	..	1	..	1	..	4	..	..	1	..	2	1	
	Cases treated in hospital	Under 5													
		5 & upwards	..	1	..	..	..	1							
	Deaths occurring in hospital	Under 5													
		5 & upwards													

* English.

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. ‡ 2,227. £1 1s. 4d. Nil.	Houses infected	..	..	7	7	..	..	1							
	Cases	Under 5	..	2	2										
		5 & upwards	..	7	7	..	..	1							
	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	
		5 & upwards	..	..	2										
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
CANNOCK.* 15,821. £2 0s. 3d. 3·7.	Houses infected ..	..	..	84	8	1	..	1	..	..	..	..	39		
	Cases	Under 5	..	73	2	..	..	..	..	..	..	..	3		
		5 & upwards	..	126	13	1	..	1	..	..	..	..	36		
	Deaths.....	Under 5	..	1	1	..	..	..	..	..	..	..	..	1	3
		5 & upwards	..	1	5	1	..	1	..	..	..	..	..	1	
	Cases treated in hospital	Under 5													
		5 & upwards	..	7	1										
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	..	1										
CHEADLE. 22,302. £1 3s. 9d. Nil.	Houses infected † ..	..													
	Cases	Under 5	..	14	66										
		5 & upwards	..	22	82	..	..	19	..	..	4	..	5		
	Deaths	Under 5	..	..	16	2	..	..	..	..	..	..	..	1	4
		5 & upwards	..	..	8	1	..	1	..	..	1				
	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	..	..	8	5	1	..	2	..	..	..	..	2		
6,085.	Cases	Under 5	..	..	1										
		5 & upwards	..	11	13	1	..	2	..	..	..	..	2		
12/4.	Deaths	Under 5	..	..	1										
		5 & upwards	..	..	1	1									
25·9.	Cases treated in hospital	Under 5													
		5 & upwards	..	7											
	Deaths occurring in hospital..... ..	Under 5													
		5 & upwards													
GNOSALL.	Houses infected † ..	..													
5,008.	Cases	Under 5	..	1											
		5 & upwards	..	1	1	..	..	1	..	..	..	..	1		
2/6.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	2	
		5 & upwards													
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
KINGSWINFORD.*	Houses infected	..	..	90	1	2	..	15	..	..	1	..	15		
22,981.	Cases	Under 5	..	23	..	1	..	1	..	..	..	..	1		
		5 & upwards	..	102	1	1	..	15	..	..	1	..	14		
17/5.	Deaths	Under 5	..	2	..	1	..	1	..	..	..	..	1	..	3
		5 & upwards	.	6	..	1	..	2	..	..	..	..	2		
11·9.	Cases treated in hospital	Under 5	..	4											
		5 & upwards	..	13											
	Deaths occurring in hospital.....	Under 5													
		5 & upwards	..	1											

† 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	..	..	129	14	1	..	6	2	..	..	..	11		
24,699.	Cases	Under 5	..	60	4	1	..	1							
£1 0s. 9d.		5 & upwards	..	108	13	..	..	5	2	..	..	..	11		
2·0.	Deaths	Under 5	..	2	2	1	..	..	..	..	..	..	..	5	11
		5 & upwards	..	1	1	..	..	..	..	..	..	..	..	..	1
	Cases treated in hospital	Under 5	..	1											
		5 & upwards	..	3											
	Deaths occurring in hospital..... ..	Under 5													
		5 & upwards													
MAYFIELD.	Houses infected	..	..	21	..	..	..	..	..	..	..	..	2		
4,160.	Cases	Under 5	..	10											
£1 7s. 7d.		5 & upwards	..	34	..	..	..	..	..	..	..	..	2		
Nil.	Deaths	Under 5													
		5 & upwards													
	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
NEWCASTLE.	Houses infected . ..	..	..	5	14	1	..	18	..	..	..	..	26		
6,967.	Cases	Under 5	..	2	6	1	..	3	..	..	..	..	2		
£1 5s. 6d.		5 & upwards	..	3	10	..	..	20	..	..	..	..	24		
Nil.	Deaths	Under 5	..	..	3	2	..	..	..	..	..	..	..	1	1
		5 & upwards	..	1	2	..	..	2							
	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	..	..	50	3	..	..	3	..	..	..	..	4		
13,416.	Cases	Under 5	..	7	1	..	..	1							
12/6.		5 & upwards	..	50	2	..	..	2	..	..	..	..	4		
60·3.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	2	
		5 & upwards	..	2	1	..	..	..	..	..	..	..	1	2	6
	Cases treated in hospital	Under 5	..	8											
		5 & upwards	..	30											
	Deaths occurring in hospital	Under 5													
		5 & upwards	..	1											
STAFFORD.*	Houses infected	..	..	21	7	..	..	3	..	..	..	..	2		
10,760.	Cases	Under 5	..	11	2	..		3							
10/8.		5 & upwards	..	18	5	..	..	5	..	..	..	..	2		
39·0.	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	..	2
		5 & upwards	..	..	1	..	..	1							
	Cases treated in hospital	Under 5	..	4											
		5 & upwards	..	12											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
STOKE-ON-TRENT.*	Houses infected	..	..	13	4	..	..	1	..	..	..	..	1		
5,472.	Cases	Under 5	..												
8/2.		5 & upwards	..	13	4	..	..	..	..	..	..	..	1		
58·8.	Deaths	Under 5	..	1	..	..	..	..	..	..	..	..	..	..	2
		5 & upwards	..	..	..	..	..	..	..	..	..	..	1		
	Cases treated in hospital	Under 5	..	6	1										
		5 & upwards	..	2	1										
	Deaths occurring in hospital	Under 5	..	6	1										
		5 & upwards	..	2	1										

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.
STONE.*	Houses infected	..	..	22	17	..	..	6	..	..	..	..	3		
8,767.	Cases	Under 5	..	16	9										
17/8.		5 & upwards	..	20	9	..	..	5	..	..	..	..	3		
8·4	Deaths	Under 5	..	1	1										
		5 & upwards	..	..	1	..	..	2							
	Cases treated in hospital	Under 5													
		5 & upwards	..	4	1										
	Deaths occurring in hospital.....	Under 5													
		5 & upwards													
TAMWORTH.*	Houses infected ..	..	..	9	..	..	..	1	..	..	..	..	3		
5,335.	Cases	Under 5	..	4											
8/11.		5 & upwards	..	11	..	..	..	1	..	..	..	..	3		
75·0.	Deaths.....	Under 5													
		5 & upwards													
	Cases treated in hospital	Under 5	..	3											
		5 & upwards	..	9											
	Deaths occurring in hospital	Under 5													
		5 & upwards													
TUTBURY.	Houses infected ..	..	..	9	2	..	..	1	..	..	..	..	1		
9,385.	Cases	Under 5	..	6											
5/-		5 & upwards	..	9	2	..	..	1	..	..	..	..	1		
22·2.	Deaths	Under 5	..	..	..	..	..	..	..	..	..	..	..	5	3
		5 & upwards	..	..	1										
	Cases treated in hospital	Under 5	..	2											
		5 & upwards	..	2											
	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.
UTTOXETER.	Houses infected	..	..	8	3	..	..	2	..	..	1	..	2		
7,950.	Cases	Under 5	..	2	2										
		5 & upwards	..	9	5	..	..	2	..	..	1	..	2		
7/3	Deaths	Under 5	..	..	1	..	..	..	..	..	..	..	..	2	1
		5 & upwards	..	..	2	..	..	..	..	..	..	..	1		
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WALSALL.	Houses infected	..	..	73	8	1	..	4	..	..	..	..	9		
10,400.	Cases	Under 5	..	50	3	1	..	..	..	..	..	..	2		
		5 & upwards	..	76	10	..	..	4	..	..	..	..	7		
£1 16s. 9d.	Deaths	Under 5	..	3	1	1	..	..	..	..	..	..	1	6	8
		5 & upwards	..	2											
Nil.	Cases treated in hospital	Under 5													
		5 & upwards													
	Deaths occurring in hospital	Under 5													
		5 & upwards													
WOLSTANTON.*	Houses infected	..	..	65	13	8	1	46	1	..	6	..	50		
33,853.	Cases	Under 5	..	28	5	9	..	3	..	..	..	..	3		
		5 & upwards	..	59	10	..	1	50	1	..	6	..	50		
16/7.	Deaths	Under 5	..	1	2	6	..	..	..	..	..	..	..	28	16
		5 & upwards	..	4	2	..	..	4	..	..	2	..	..	3	
30·5.	Cases treated in hospital	Under 5	..	4	..	..	.	1							
		5 & upwards	..	20	..	..	1	32							
	Deaths occurring in hospital	Under 5 ..													
		5 & upwards	..	3	..	..	..	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
Audley. 13,000.	Inspections & observations made	..	..	3	3	..	50	129	Frequently visited.	Frequently visited.	..	129	..	..	129	..	..	11	4	..	..	..	..	458											
	Formal notices by authority	..	..	..	..	..	..	..			..	..	..	..	..	..	..	..	..	..	..	..	..	..											
	Nuisances abated after notice	..	..	3	1	..	..	..			..	129	..	..	129	..	..	..	4	..	..	..	..	266											
Biddulph. 5,550.	Inspections & observations made	..	..	..	..	..	..	..	7	4	..	60	..	..	7	..	..	..	..	..	..	..	..	78											
	Formal notices by authority																																	
	Nuisances abated after notice	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21					
Bilston. 23,500.	Inspections & observations made	21	37	2	..	48	55	56	38	116	57	10341	23	15	26	..	49	..	5	5	..	1	3	10898											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	3											
	Nuisances abated after notice	..	..	2	..	..	..	..	..	..	..	..	23	2	..	.	1	..	..	5	..	..	..	33	2	..	..	..	..	..	51					
Brierley Hill 12,020.	Inspections & observations made	270	8	11	..	..	15	17	12	10	102	4015	..	12	3	2	1	42	2	9	..	1	..	4532											
	Formal notices by authority	12	..	11	..	..	Inspected quarterly and found satisfactory.				..	..	..	..	3	..	..	..	..	..	..	..	..	26											
	Nuisances abated after notice	12	..	11	..	..					..	..	..	..	1	..	..	..	..	..	..	..	..	24	..	..	..	3	3	37	32				
Brownhills.	Inspections & observations made	..	6	2	1	..	Periodically inspected.				25	1695	3	..	11	..	20	140																
	Formal notices by authority	..	6	2	1	..					3	..	3	..	11	..	20	37																
	Nuisances abated after notice	..	6	2	1	..					3	..	3	..	11	..	20	140	..	..	..	..	..	..	..	..	..	3	3	1	4				

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.		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.			Animals improperly kept.					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.
Burslem. 34,663.	Inspections & observations made	64	421	26	48	132	80	36	34	60	59	2000	52	800	175			19	58		20	13	46	4143										
	Formal notices by authority	8	28	5	17	..	6	2	5	2	3	148	7	128	53			1	2		..	1	5	421										
	Nuisances abated after notice	8	28	5	17	..	6	2	5	2	3	148	7	128	53			1	2		..	1	5	421	1	..	..	..	..	62	307	6				
Cannock. 22,000.	Inspections & observations made	22	1	1	2	2	..	..	..	14	49	3032	4	..	22	..	..	3	6	..	..	..	..	126											
	Formal notices by authority	14	1	1	2	..	..	..	..	1	1	Emptied by contractor.	4	..	22	..	..	2	6	..	..	..	..	54											
	Nuisances abated after notice	14	1	1	1	..	..	..	..	1	1		4	..	20	..	..	1	6	..	..	..	..	50	..	..	..	..	3						
Coseley. 22,000.	Inspections & observations made	156	53	26	21	..	32	151	105	157	173	129	34	..	5	..	17	106	6	8	..	1	22	1202											
	Formal notices by authority	156	53	26	21	..	..	18	2	2	2	103	..	..	5	..	17	..	6	8	..	1	22	442											
	Nuisances abated after notice	156	53	26	21	..	..	18	2	2	2	103	..	..	5	..	17	..	6	8	..	1	22	442	1	..	..	7	7	..	50	6				
Darlaston. 15,327.	Inspections & observations made	4	..	13	..	..	52	52	42	52	146	2603	6	46	48	..	..	..	3	..	..	..	6	3073											
	Formal notices by authority	4	..	13	..	..	..	.	..	..	2	..	6	46	48	..	..	..	3	..	..	..	6	128											
	Nuisances abated after notice	4	..	13	..	..	..	..	..	..	2	..	6	46	48	..	..	..	3	..	..	..	6	128	..	..	..	5	5	..	38	1				
Fenton. 21,000.	Inspections & observations made																																		
	Formal notices by authority																																		
	Nuisances abated after notice																																		

Suggested form of Inspector's Return not adopted.

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.
Handsworth 41,600.	Inspections & observations made	120	47	43	..	..	103	58	93	135	..	1348	128	373	1023	135	483	32	..	73	..	18	127	4339											
	Formal notices by authority	37	15	9	..	..	2	5	3	4	..	274	36	100	299	39	169	7	..	20	..	3	32	984											
	Nuisances abated after notice	35	15	9	..	..	2	5	3	4	..	263	36	98	221	39	167	7	..	20	..	3	32	959	1	..	..	7	5	194	215					
Heath Town. 7,700.	Inspections & observations made	415	74	197	32	..	51	83	21	97	..	513	101	23	379			36	23	79	..	..	73	2197											
	Formal notices by authority	32	18	6	2	..	..	..	..	..	..	37	11	12	72			1	..	10	..	..	14	215											
	Nuisances abated after notice	30	18	6	2	..	..	..	..	..	..	32	11	12	72			1	..	10	..	..	14	208	1	..	..	..	2	64	64	4				
Kidsgrove. 4,214.	Inspections & observations made	Suggested form of Inspector's Return not adopted.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Leek. 15,037.	Inspections & observations made	4	3	5	..	208	4	80	59	25	40	38	17	19	3	3	58	..	..	1	1	20	17	605											
	Formal notices by authority	4	3	5	..	..	..	..	..	1	2	16	17	19	3	3	58	..	..	1	1	2	17	152											
	Nuisances abated after notice	4	3	5	..	..	..	..	..	1	2	14	16	16	3	3	56	..	..	1	1	2	15	142	..	..	..	..	..	439	26	5				
Lichfield. 7,864.	Inspections & observations made	7	6	3	8	..	19	13	14	13	..	154	27	9	64	6	34	3	12	3	1	2	45	443											
	Formal notices by authority	7	5	3	8	..	3	1	..	2	..	131	13	7	23	10	18	3	10	3	1	2	34	284											
	Nuisances abated after notice	7	6	3	8	..	3	1	..	2	..	131	13	7	23	10	18	3	10	3	1	2	34	285	1	..	..	2	2	..	9					

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.
Longton. 39,104.	Inspections & observations made	4	15	4	1	20	30	6	120	40	..	183	8	6	133			4	..	..	..	..	61	635										
	Formal notices by authority	3	4	4	1	..	..	..	..	..	..	20	..	..	1			..	..	..	..	..	..	33										
	Nuisances abated after notice	4	15	4	1	..	..	..	..	..	..	183	8	6	133			4	..	..	..	..	61	419	2	..	..	7	1	359	618	12				
Newcastle. 20,000.	Inspections & observations made	470	170	6	4	30	80	80	60	70	..	550	15	80	10	12	8	16	25	6	..	..	..	1692										
	Formal notices by authority	148	110	6	4	1	6	2	2	14	..	160	10	15	8	12	8	6	6	3	..	..	..	521										
	Nuisances abated after notice	137	96	6	4	..	6	2	2	13	..	150	10	10	8	12	8	6	6	3	..	..	..	479	..	17	1	3	..	20	65	2				
Perry Barr. 2,630.	Inspections & observations made	26	1	..	1	..	8	14	..	..	..	874	3	..	..	..	33	..	34	..	..	..	..	994										
	Formal notices by authority	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2										
	Nuisances abated after notice	1	1	..	1	..	..	..	..	..	..	106	3	..	..	..	31	..	1	1	..	..	..	145	..	..	..	..	..	5	10					
Quarry Bank 7,060.	Inspections & observations made	29	27	12	3	..	15	15	14	12	..	600	45	4	12	16	..	300	25	..	26	3	45	903										
	Formal notices by authority	29	14	12	3	..	..	..	2	1	..	..	24	..	..	4	..	130	5	..	3	2	20	249										
	Nuisances abated after notice	26	12	11	2	..	..	..	2	1	..	..	23	..	..	4	..	125	5	..	3	1	20	235	..	..	..	10	9	24	24	2				
RowleyRegis 34,500.	Inspections & observations made	382	18	9	8	..	90	118	..	69	142	4287	21	43	..	15	..	168	13	11	..	..	..	5394										
	Formal notices by authority	96	18	9	4	..	2	1	..	..	5	87	21	..	..	12	..	27	13	11	..	..	..	306										
	Nuisances abated after notice	95	18	9	4	..	2	1	..	..	5	87	21	..	..	12	..	27	13	11	..	..	..	305	2	..	..	57	57	827	233					

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.
Rugeley. 4,500.	Inspections & observations made	1	..	1	6	8	10	..	7	34	45	12	1	3	4	1	3	12	..	..	..	1	1	150										
	Formal notices by authority	1	..	..	1	..	..	..	..	..	..	12	1	3	4	1	3	..	..	..	..	..	1	27										
	Nuisances abated after notice	1	..	..	..	..	..	..	..	..	..	12	1	3	4	1	3	..	..	..	..	..	1	26	..	..	..	1						
Sedgley. 15,100.	Inspections & observations made	Suggested form of Inspector's Return not adopted.																															
	Formal notices by authority																																
	Nuisances abated after notice																																
Short Heath 3,472.	Inspections & observations made	..	..	..	..	..	21	21	3	9	..	All	..	..	..	..	..	6	..	..	..	..	6											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	1	7										
	Nuisances abated after notice	2	..	1	1	..	..	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	6	15	..	..	..	4	4	..	..	1			
Smallthorne 5,900.	Inspections & observations made	..	57	..	..	..	20	14	8	5	..	1121	2	31	10	..	8	..	50	..	..	..	10	1336										
	Formal notices by authority	..	57	..	..	..	..	..	..	..	...	..	..	..	10	..	8	..	..	..	..	..	..	75										
	Nuisances abated after notice	..	57	..	..	..	..	..	..	..	..	..	..	..	10	..	8	..	..	..	..	..	..	75	..	..	..	..	..	..	35				
Smethwick. 45,000.	Inspections & observations made	8	..	..	..	..	*280	*39	*200	*64	159	1542	20	50	684			23	25	..	12	..	216	3322										
	Formal notices by authority	..	..	..	..	..	..	..	..	..	6	318	Verbal	9	342			1	Verbal	..	..	..	72	748										
	Nuisances abated after notice	2	..	..	..	..	..	..	..	..	6	291	5	9	304			1	10	..	..	..	72	700	..	..	..	1	1	95	95	1			

* Verbal notice given on each inspection when necessary, and notices complied with.

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.
Stafford. † 21,665.	Inspections & observations made	26	51	..	..	37	76	76	80	170	..	1042	..	..	..	2	..	..	..	..	..	2	..	2223											
	Formal notices by authority	26	51	4	16	..	..	..	..	9	..	6	6	30	..	1	41	..	..	25	1	2	30	248											
	Nuisances abated after notice	26	49	4	16	..	..	..	..	9	..	6	6	30	..	..	31	..	..	25	1	2	29	234	1	..	..	..	..	186	72	..	..	..	1	1
Stoke-on-Trent. 27,561.	Inspections & observations made	22	33	14	9	26	9	26	1	26	241	131	12	12	23	..	33	1	3	7	..	5	..	634											
	Formal notices by authority	22	36	14	9	2	2	2	..	1	36	139	12	12	23	..	38	3	3	9	..	4	..	367											
	Nuisances abated after notice	21	22	14	9	2	1	1	..	..	22	99	11	12	23	..	36	..	3	9	..	2	..	287	..	..	..	1	1	12	85	1				
Stone. 6,103.	Inspections & observations made	4	12	2	..	8	6	2	12	16	26	12	6	4	42	30	64	46	6	..	4	..	..	302											
	Formal notices by authority	2	6	1	..	..	..	..	1	1	26	6	2	..	21	15	32	46	..	..	..	..	..	159											
	Nuisances abated after notice	2	3	1	..	..	..	..	1	1	26	4	2	..	19	15	30	9	..	..	..	..	..	113				46	27		Several.					
Tamworth. 7,213.	Inspections & observations made	1	22	3	15	5	5	4	11	10	..	43	5	25	22	30	19	..	7	4	1	5	53	290											
	Formal notices by authority	1	10	3	..	5	..	1	4	5	..	37	5	5	1	30	17	..	7	4	1	5	59	200					*						
	Nuisances abated after notice	1	12	3	..	4	..	1	4	4	..	33	5	5	20	21	17	..	7	4	1	4	40	186	..	..	..	..	..	..	20	2				
Tettenhall. 5,520.	Inspections & observations made	..	1	..	..	..	..	35	32	16	.	84	11	10	9	13	15	18	19	..	..	..	58	321											
	Formal notices by authority	..	1	..	..	..	..	..	..	..	..	4	..	..	..	9	..	1	5	..	..	..	1	21											
	Nuisances abated after notice	..	1	..	..	..	..	..	..	..	..	84	11	10	9	13	15	18	19	..	.	..	58	238	..	..	..	1	1	..	10				.	

† Including Public Institutions.

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.
Tipton. 29,800.	Inspections & observations made	110	101	12	10	..	136	188	48	100	63	132	6	2	2	17	20	11	4	5	..	2	8	977											
	Formal notices by authority	101	..	5	10	..	..	1	..	..	..	66	5	2	2	17	20	11	4	5	..	2	8	259											
	Nuisances abated after notice	90	..	4	10	..	..	..	..	..	..	50	5	2	2	17	20	7	3	4	..	1	8	223	2	..	..	11	11	..	6					
Tunstall. 16,658.	Inspections & observations made	272	..	1	3	..	300		25	525	84	6424	..	66	67	..	140	..	..	..	..	..	..	..												
	Formal notices by authority	25	..	..	..	..	A large percentage of these are abated by request.						..	..	..	..	..	..	..	..	..	..	..	..	25											
	Nuisances abated after notice	272	..	1	3	..							..	66	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5					
Uttoxeter. 4,800.	Inspections & observations made	5	3	4	7	..	18	12	8	7	..	157	3	77	17	12	3	..	2	1	..	..	2	338												
	Formal notices by authority	5	3	4	7	..	..	..	..	..	..	..	2	..	5	7	2	..	2	1	..	..	1	39												
	Nuisances abated after notice	5	3	4	7	..	..	..	..	..	..	..	2	..	5	7	2	..	2	1	..	..	1	39	..	..	..	..	..	..	5					
Wednesbury 25,300.	Inspections & observations made																																		
	Formal notices by authority	Suggested form of Inspector's Return not adopted.																																	
	Nuisances abated after notice																																		
Wednesfield. 5,020.	Inspections & observations made	8	..	16	2	..	Inspections made but no record kept.		..	..	..	250	6	..	2	..	16	..	16	6	..	..	6	328												
	Formal notices by authority	4	..	8	1	..			..	..	..	36	3	..	1	..	8	..	8	3	..	..	3	75												
	Nuisances abated after notice	4	..	8	1	..			..	..	..	125	3	..	1	..	8	..	8	3	..	..	3	164	..	..	..	..	..	..	4					

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. Defective Traps.	House drainage. No disconnection.	House drainage. Other faults.	Water supply.	Pigsties.	Animals improperly kept.	Offensive trades.	Smoke nuisances.	Other nuisances.	Totals.	Food supply & Water. 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.	Precautions against infectious disease. 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.
Willenhall, 18,669.	Inspections & observations made	Foul conditions.	Structural defects.	Overcrowding.	Unfit for habitation.	..	20		62	56	..	1792	14	540	200			8	65	16	..	2	34	6058	1	..	..	..	..	27	41	2				
	Formal notices by authority	..	1	6	3	..			..	1	..	22	2	4	..	..	60	..	..	..	..	..	10	109											
	Nuisances abated after notice.....	1	1	8	*1	..	1		10	11	..	547	7	27	1	..	45	4	5	8	..	1	16	694											

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* and 3 in part.

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. 2,227.	Inspections & observations made	1	3	4	2	..	..	..	..	..	11	10	..	1	1	..	15	8	3	..	..	..	..	59											
	Formal notices by authority	1	1	3	2	..	..	..	..	..	..	4	..	..	1	..	7	3	1	..	..	..	..	23											
	Nuisances abated after notice	1	2	1	1	..	..	..	..	..	..	7	..	..	1	..	8	..	3	..	..	..	..	24	..	..	..	3							
Cannock. 15,821.	Inspections & observations made	4	4	3	2	3	40	40	81	6	82	28	6	..	5	..	21	8	6	1	..	..	20	360											
	Formal notices by authority	4	4	3	2	..	..	..	..	..	..	28	6	..	5	..	21	8	6	1	..	..	20	108											
	Nuisances abated after notice	4	4	3	2	..	..	..	..	..	..	28	6	..	5	..	21	8	6	1	..	..	20	108	..	..	..	..	..	1	35	4				
Cheadle. 22,302.	Inspections & observations made	Suggested form of Inspector's Return not adopted.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Eccleshall. 6,085.	Inspections & observations made	2	4	4	..	2	37		8	7	..	48	30	..	..	8	30	7	5	..	..	..	..	192											
	Formal notices by authority	2	1	4	..	..	..	..	..	..	...	13	19	..	..	1	19	2	5	..	..	..	..	66											
	Nuisances abated after notice	2	1	3	..	..	..	..	..	..	..	11	17	..	..	1	16	1	5	..	..	..	..	57	..	..	..	2							
Gnosall. 5,008.	Inspections & observations made	Suggested form of Inspector's Return not adopted.																																
	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 stored 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. 22,981.	Inspections & observations made	340	..	13	..	..	13	50	10	26	23	373	20	4	5	1	170	61	4	5	..	..	4	1122											
	Formal notices by authority	..	..	13	..	..	..	..	..	..	..	190	..	..	..	..	..	40	3	..	..	..	..	246											
	Nuisances abated after notice	..	..	13	..	..	..	..	..	..	..	190	..	..	..	..	..	61	3	..	..	..	..	267	..	..	..	8	4	..	99					
Leek. 12,898.	Inspections & observations made	12	4	2	8	16	92		..	8	106	72	22	14	40	25	25	30	30	14	..	3	8	531											
	Formal notices by authority	6	2	2	8	..	4		..	1	13	30	4	6	8	6	6	6	5	2	..	3	4	116											
	Nuisances abated after notice	6	3	2	6	..	4		..	1	11	26	4	5	8	6	4	6	4	2	..	3	3	104	..	..	..	6	4	66	18	2				
Lichfield. 25,519.	Inspections & observations made	10	19	4	7	1	122		..	25	159	290	49	2	37	42	91	30	45	16	..	..	37	989											
	Formal notices by authority	..	..	..	..	..	..		..	..	..	2	..	..	..	1	1	..	..	..	..	..	..	4											
	Nuisances abated after notice	10	15	4	7	..	25		..	9	7	290	49	2	35	40	89	25	45	16	..	..	35	703	..	..	..	..	..	..	129					
Mayfield. 4,160.	Inspections & observations made	2	2	1	2	..	..	..	..	..	..	6	2	1	..	10	..	4	1	..	..	..	14	45											
	Formal notices by authority	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2											
	Nuisances abated after notice	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	5	8	..	..	..	..	..	..	8	1				
Newcastle. 6,967.	Inspections & observations made	20	3	..	..	..	8	20	..	6	..	50	..	..	50			60	20	..	..	..	..	237											
	Formal notices by authority	20	2	..	..	..	..	..	..	..	..	..	..	..	45			60	..	..	..	..	..	127											
	Nuisances abated after notice	12	1	..	..	..	..	..	..	..	..	..	..	..	40			55	..	..	..	..	..	108	..	..	..	7	6	..	60					

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. 13,416.	Inspections & observations made	49	31	8	..	..	3	76	12	12	105	162	29	3	37	47	59	77	30	1	..	..	..	741											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	255											
	Nuisances abated after notice	49	31	8	..	..	..	7	..	..	..	162	29	3	37	47	59	77	30	1	..	..	..	540	..	..	..	2	2	..	53	2				
Stafford. 10,760.	Inspections & observations made	2	..	6	..	..	111		..	..	87	79	..	..	..	..	80	26	140	..	..	..	..	531											
	Formal notices by authority	2	..	2	..	..	2		..	..	1	22	..	..	..	..	24	7	3	..	..	..	..	63											
	Nuisances abated after notice	2	..	2	..	..	2		..	..	1	22	..	..	..	..	48	7	3	..	..	..	..	87	..	..	..	26	7	..	33					
Stoke-on-Trent. 5,472.	Inspections & observations made	920				..	116	..	..	..	..	56	2	..	..	17	..	..	2	..	..	..	..	1113											
	Formal notices by authority																																		
	Nuisances abated after notice	23				..	..	..	..	..	..	56	2	..	..	17	..	..	2	..	..	..	..	100	..	..	..	..	..	..	1	1				
Stone. 8,767.	Inspections & observations made	3	8	4	..	..	93		9	8	86	37	130	..	..	14	17	4	2	..	..	..	..	415											
	Formal notices by authority	3	6	4	..	..	..		..	..	15	15	114	..	..	3	10	1	2	..	..	..	..	173											
	Nuisances abated after notice	3	5	4	..	..	..		..	..	12	11	108	..	..	3	9	1	2	..	..	..	..	158	1	..	..	..	..	..	1					
Tamworth.* 5,335.	Inspections & observations made	8	15	24	2	..	30	12	7	6	49	45	4	8	28	..	36	15	31	2	1	8	108	439											
	Formal notices by authority	8	18	24	2	..	5	3	7	3	..	30	4	5	20	..	30	20	30	2	1	8	150	370											
	Nuisances abated after notice	8	15	20	2	..	5	3	7	2	..	19	4	5	18	..	20	10	30	2	1	..	93	264	..	..	..	20	18	..	109	3				

* 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.	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.
Tutbury. 9,385.	Inspections & observations made	3	33	1	5	..	..	117	..	6	..	279	55	2	66	56	15	3	29	56	..	..	142	868											
	Formal notices by authority	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13												
	Nuisances abated after notice	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	..	..	..	10	7	13	13					
Uttoxeter.* 7,950.	Inspections & observations made	9	5	4	3	..	182		12	11	..	78	12	18	17	12	3	30	12	4	..	..	..	412											
	Formal notices by authority	3	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7												
	Nuisances abated after notice	3	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	17	12	1	9	5				
Walsall. 10,400.	Inspections & observations made	Inspector's Return not received.																																
	Formal notices by authority																																	
	Nuisances abated after notice																																	
Wolstanton. 33,853.	Inspections & observations made	7	9	3	45	..	536		341	347	41	531	23	21	65	28	281	86	26	3	..	..	161	2554											
	Formal notices by authority	3	4	1	21	..	1	4	..	..	..	182	11	9	31	13	139	41	12	1	..	..	78	551											
	Nuisances abated after notice	3	4	1	21	..	1	4	..	..	..	182	11	9	31	13	139	41	12	1	..	..	78	551	..	..	..	1	1	126	126				

* Staffordshire portion.

URBAN.

Table of Vital Statistics for the year 1897; showing also the practice in each District with regard to the printing of Annual Reports, the Adoptive Acts in force, and the prominent features in the Medical Officers' Reports.

DISTRICT AND MEDICAL OFFICER.	Area in Acres.	Population estimated to middle of 1897.	Birth-rate per 1000 of Population.	Death-rate per 1000 of Population.	Deaths in Infants under one year per 1000 registered Births.	Zymotic death-rate per 1000 of Population.	Phthisis death-rate per 1000 of Population.	Annual Report printed.	Adoptive Acts. Compulsory Notification of Infectious Diseases Act, 1889.	Infectious Diseases (Prevention) Act, 1890.*	Public Health Acts Amendment Act, 1890.†	PROMINENT FEATURES OF REPORT.
AUDLEY J. Vernon, M.B.	8000	13000	34·7	15·9	170	0·69	1·07	Yes	Yes	Yes	Yes	Sewage disposal scheme for Audley and Wereton postponed in view of anticipated improvement in methods of disposal.
BIDDULPH T. W. H. Garstang, M.R.C.S., D.P.H.	5057	5550	31·1	14·4	104	1·26	1·62	Yes	Yes	Yes	Yes	Authority decided to discontinue contract method of refuse removal and carry out work by own staff. Engineer engaged to report on sewerage scheme.
BILSTON T. Ridley Bailey, M.D.	1866	23500	40·3	24·7	226	4·12	1·14	Yes	Yes	Yes	Parts 1, 2, & 3.	High zymotic rate chiefly explained by deaths from diarrhœa. Disinfecting apparatus much needed. Improvement greatly needed in house accommodation.
BRIERLEY HILL H. D'Arcy Ellis, L.R.C.P., M.R.C.S.	1027	12020	33·1	18·1	187	2·91	0·58	Yes	Yes	Yes	No	Authority do not seem to be sufficiently active in following up statutory notices. Sewage disposal scheme, jointly with Kingswinford Rural District, contemplated. Much need for improvement in refuse disposal.
BROWNHILLS J. C. Maddever, M.D.	6294							Yes	Yes	No	No	Report not received.
BURSLEM J. M. Taylor, L.R.C.P., L.S.A., M.R.C.S., D.P.H.	2585	34663	33·5	24·5	232	5·68	1·38	Yes	Yes	Yes	Parts 2, 3, 4, & 5.	Whooping cough and diarrhœa were chief causes of high zymotic death-rate. Conversion of privies into water-closets being pushed.
CANNOCK J. N. Phillips, L.R.C.P., M.R.C.S.	8009	22000	38·4	13·5	112	2·09	0·40	Yes	Yes	No	No	Isolation hospital much needed. Sewage effluents being analysed by Medical Officer of Health, who reports improvement.
COSELEY W. M. Clendinnen, L.R.C.P., M.R.C.S.	3973	22000	37·6	18·5	167	2·09	0·45	Yes	Yes	Yes	Parts 2, 3, & 5.	Isolation hospital much needed. Foul surroundings of houses said to be a contributary cause of enteric fever. More systematic removal of refuse required.
DARLASTON S. Partridge, M.R.C.S., L.S.A.	800	15327	39·0	24·5	255	5·93	1·69	Yes	Yes	Yes	Yes	Privy midden system conduces to diarrhœal ailments. Only five local wells, and these have now been condemned. Provision of mortuary urged. Greater activity is shown in connecting houses with sewers.
FENTON A. V. Griffiths, M.R.C.S., L.S.A.	1599	21000	41·4	22·3	231	4·80	1·23	Yes	Yes	Yes	Parts 2, 3, & 5.	Improvement necessary in system of refuse disposal. New drainage work should be inspected and passed by sanitary officers.
HANDSWORTH Jas. Richmond, M.B., D.P.H.	3638	41600	24·4	12·1	139	1·87	0·94	Yes	Yes	No	Part 2.	New Bye-laws in preparation. Continued efforts are being made to abolish privies.
HEATH TOWN J. Green, M.R.C.S., L.S.A.	738	7700	44·2	23·2	202	6·75	1·03	Yes	Yes	Yes	No	Better isolation hospital provision needed.
KIDSGROVE J. Steele, L.R.C.P.	1082	4214	31·3	16·3	181	0·47	Nil	Yes	Yes	Yes	Yes	Complaints as to refuse removal less numerous than formerly.
LEEK J. J. Ritchie, M.R.C.S., L.S.A.	1460	15037	27·7	18·1	129	1·59	1·66	Yes	Yes	Yes	Yes	Efforts being made to introduce movable receptacles in substitution for ashpits, and water-closets for privies, in a few cases where such exist.
LICHFIELD J. Clark, M.D.	3416	7864	24·4	16·2	119	0·25	1·52	Yes	Yes	Yes	Yes	Isolation hospital been thoroughly cleansed and repaired. The difficulty of sewage disposal will probably be overcome by the adoption of coal filters.
LONGTON W. J. Dawes, M.R.C.S., L.M., L.S.A.	2000	39104	36·0	23·5	253	4·60	1·07	Yes	Yes	Yes	Parts 2 and 3.	Efforts are being made to abolish pvvies in favour of water-closets. Diphtheria said to have become endemic.
NEWCASTLE F. Webb, L.R.C.P., M.R.C.S.	652	20000	33·7	19·0	195	3·10	1·30	Yes	Yes	Yes	Parts 2, 3, & 5.	Some progress is being made in abolishing privies in favour of water-closets.
PERRY BARR Jas. Richmond, M.B., D.P.H.	4043	2630	28·1	14·0	175	1·90	1·14	Yes	Yes	No	Part 3.	Local wells in district liable to pollution. "Regulations" adopted under the "Dairies, Cowsheds, and Milkshops Order."
QUARRY BANK T. M. Tibbetts, M.B., D.P.H.	983	7060	37·8	14·7	104	0·56	0·70	Yes	Yes	Yes	Parts 2, 3, & 5.	Mining subsidences have delayed sewage disposal scheme. Improved form of ashpit adopted. Contract removal of refuse unsatisfactory. Hospital for general infectious cases much needed.
ROWLEY REGIS J. G. Beasley, L.R.C.P. Edin., L.F.P.S. Glas.	3670	34500	37·7	17·6	181	1·79	0·37	Yes	Yes	Yes	Parts 1, 2, 3, & 5.	Efforts being made to substitute water-closets for privies. Attention called to dangers arising from cellar drainage. Comprehensive scheme for dealing with insanitary area in the district is now in hand. It is proposed to erect a second public mortuary.
RUGELEY J. H. Freer, L.R.C.P., M.R.C.S.	600	4500	24·8	13·5	196	2·22	0·22	Yes	Yes	Yes	Yes	Disinfecting apparatus much needed. Provision of isolation hospital awaiting action of County Council. Refuse removal by contract unsatisfactory. Question of sewage disposal under serious consideration.
SEDGLEY J. Biggam, M.D.	3770	15100	39·2	21·1	150	4·30	0·86	Yes	Yes	Yes	Parts 2, 3, & 5.	Medical Officer of Health recommends union with other districts for isolation hospital purposes. Authority still appear to be dilatory in abolishing dangerous water-supplies.
SHORT HEATH J. T. Hartill, L.R.C.P., M.R.C.S.	1063	3472	44·0	22·7	215	4·03	1·44	Yes	No	No	No	No improvement in methods of refuse disposal. No progress made in providing isolation accommodation. Medical Officer of Health urges adoption of Notification Act. New bye-laws have been of great use.
SMALLTHORNE J. Aspinall, M.R.C.S.	529	5900	43·5	21·6	186	3·38	0·84	Yes	No	No	Part 2.	Medical Officer of Health again urges adoption of Notification Act. The privy system gives rise to numerous complaints. Improved sewerage scheme said to be necessary.
SMETHWICK W. F. Marsh Jackson, L.R.C.P., L.M., M.R.C.S.	1882	45000	36·3	16·8	168	2·23	0·84	Yes	Yes	Yes	Yes	Contract system of refuse removal now abolished and work undertaken by Authority. Medical Officer of Health hopes that Authority will soon provide isolation hospital accommodation for general infectious cases.
STAFFORD F. M. Blumer, M.B.	1084	20863	26·8	13·5	140	0·54	1·33	Yes	Yes	Yes	Parts 2, 3, & 5.	A few cases of enteric fever attributed to sewage-contaminated brook. Some trouble has been experienced with the new slop-water closets, but not more than is to be expected in a new system.
STOKE-ON-TRENT Saml. Johnson, M.D.	1720	27561	29·3	15·9	191	2·23	1·01	Yes	Yes	Yes	Yes	Thirty-six houses are still dependent upon local wells for their water-supply. Public slaughter-house would be a great boon to the town. Disinfecting plant much needed. Medical Officer of Health urges the gradual abolition of privies, and calls attention to the unsatisfactory method of scavenging by contract.
STONE E. Fernie, M.D., D.P.H.	1000	6103	30·4	16·2	145	0·65	1·14	Yes	Yes	Yes	Part 3.	Authority propose to introduce water-closets in substitution for privies and pails. Nuisance has been experienced from the sewage disposal works. Temporary isolation hospital of great use, but needs enlargement. Disinfecting apparatus also required.
TAMWORTH H. J. Fausset, M.D.	285	7213	27·1	15·3	193	2·49	1·52	Yes	Yes	Yes	Yes	Considerable improvements in isolation hospital. Plans of sewerage scheme under consideration. Details of refuse removal call for improvement. Scheme in contemplation for improving insanitary area.
TETTENHALL W. H. T. Winter, L.R.C.P.L., M.R.C.S., L.M.	1220	5530	23·5	11·9	115	1·81	0·72	Yes	Yes	Yes	Yes	The Authority now undertake the work of refuse removal.
TIPTON A. S. Underhill, M.D., D.P.H.	2697	29300	35·6	17·4	153	1·94	0·46	Yes	No	Yes	Yes	Medical Officer of Health again urges adoption of Notification Act. New Bye-laws necessary. The question of refuse removal is a serious one, and a Destructor will probably soon become necessary.
TUNSTALL W. Partington, M.B.	831	16658	39·9	20·9	234	2·52	1·32	Yes	Yes	Yes	Yes	Privies being abolished and water-closets substituted; unfortunately, however, the latter are mostly hand-flushed. There is still a prejudice against sending patients to the isolation hospital.
UTTOXETER B. H. Herbert, M.R.C.S., L.M., L.S.A.	980	4300	29·3	19·1	163	1·25	1·04	Yes	Yes	No	No	Scheme for supplementing the present water-supply under consideration. Proposed sewerage and sewage disposal scheme commented upon by Medical Officer of Health.
WEDNESBURY W. C. Garman, M.D.	2130	25300	35·5	19·7	205	2·76	1·02	Yes	No	Yes	Parts 1, 2, 3, & 5.	Medical Officer of Health again urges adoption of Notification Act and the provision of an isolation hospital. Progress being made in connecting houses with the new sewers.
WEDNESFIELD A. Hands, L.R.C.P., M.R.C.S.	2026	5020	26·6	12·1	111	2·39	0·59	Yes	Yes	No	No	New sewage scheme in progress. Public have less objection to making use of isolation hospital.
WILLENHALL J. T. Hartill, L.R.C.P., M.R.C.S.	1249	13669	32·5	22·9	229	5·15	1·33	Yes	Yes	No	Part 3.	Notwithstanding the large number of new houses erected, the supply is still insufficient. Work of connecting the houses with the new sewers is proceeding. A systematic house-to-house inspection by the Sanitary Inspector has been commenced. No progress has been made towards providing a much-needed isolation hospital. New Bye-laws required.

* Where no mention of sections appears, the whole Act has been adopted.

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RURAL.

Table of Vital Statistics for the year 1897; showing also the practice in each District with regard to the printing of Annual Reports, the Adoptive Acts in force, and the prominent features in the Medical Officers' Reports.

DISTRICT AND MEDICAL OFFICER.	Area in Acres.	Population estimated to middle of 1897.	Birth-rate per 1000 of population.	Death-rate per 1000 of population.	Deaths in infants under one year per 1000 registered births.	Zymotic death-rate per 1000 of population.	Phthisis death-rate per 1000 of population.	Annual Report printed.	Adoptive Acts.			PROMINENT FEATURES OF REPORT.
									Compulsory Notification of Infectious Diseases Act, 1889.	Infectious Diseases (Prevention) Act, 1890*	Public Health Acts Amendment Act, 1890.†	
BLORE HEATH ..... A. Macqueen, M.D.	13662	2227	31·4	16·2	114	1·79	1·34	Yes	Yes	Yes	Part 3.	Nothing in report calling for special notice.
CANNOCK ..... W. Hosegood, M.B.	47939	15821	35·0	15·9	111	1·70	0·88	Yes	Yes	No	Part 4.	Again urges the necessity of prompt action to obtain a water-supply for Cheslyn Hay. Medical Officer of Health recommends his Council to undertake the work of refuse removal.
CHEADLE ..... H. L. Webb, M.R.C.S., L.S.A.	55140	22302	31·2	16·8	119	1·79	1·12	No	Yes	No	Secs. 22, 24, 26 (1) 34, 35, 36, 38.	Kingsley Parish Council endeavouring to provide a proper water-supply for the village. Medical Officer of Health congratulates his Authority in having undertaken the scavenging of various villages throughout the district.
ECCLESHALL ..... H. W. Gosse, L.R.C.P., L.M., M.R.C.S.	32278	6085	23·1	12·6	113	0·32	0·49	Yes	Yes	No	No	Much need for enlarged isolation accommodation. Some improvement in water-supply, but there is room for still further improvement.
GNOSALL ..... R. S. Steele, M.B.	28796	5008	27·7	15·7	36	0·39	0·59	Yes	Yes	Yes	Part 3.	Sewerage scheme for Gnosall and Gnosall Heath greatly needed. Water-supply at Gnosall bad, although there is said to be a large supply of good water easily available.
KINGSWINFORD ..... H. D'Arcy Ellis, L.R.C.P., M.R.C.S.	6165	22981	31·2	17·7	158	1·43	0·73	Yes	Yes	No	No	Sewerage scheme much needed. Many insanitary privies in district. Absence of eaves spouting gives rise to many damp houses.
LEEK ..... T. E. Dakeyne, L.R.C.P., L.M., M.R.C.S.	68113	12898	31·5	15·5	122	1·00	0·85	Yes	No	No	Sec. 49.	The pail system has been extended in the Norton district. Local pollutions of streams have been remedied as the result of inspection.
LICHFIELD ..... J. Clark, M.D.	63219	24699	32·2	13·5	108	1·17	0·52	Yes	Yes	No	No	The water mains have been extended to certain properties in Watling Street Road. The sanitary condition of the "Triangle," Hammerwich, is under consideration.
MAYFIELD ..... A. Hall, M.R.C.S.	24323	4160	25·0	14·4	76	0·24	0·72	No	Yes	No	No	Some improvement been effected in privies, but there is still room for improvement. It is hoped that a water-supply will soon be provided for Waterhouses. Provision for isolating infectious cases much needed.
NEWCASTLE ..... R. H. Dickson, L.R.C.S.I., L.R.C.P.I., L.M.	19597	6967	26·9	14·0	138	2·00	0·58	Yes	Yes	Yes	Yes	Isolation hospital much needed. The sanitary condition of Madeley Parish, where enteric fever was again prevalent, calls for serious consideration.
SEISDON ..... W. Spackman, M.D.	37542	13416	22·5	15·4	168	1·71	0·96	Yes	Yes	Yes	No	Considerable improvements have been effected in the temporary isolation hospital. The parish of Wombourn is now being supplied with water from the Bilston works in that neighbourhood. New Bye-laws have been submitted to the Local Government Board.
STAFFORD ..... S. Butler, L.F.P.S.G., L.M., L.S.A.	52103	10760	23·7	14·4	46	0·46	0·92	Yes	Yes	Yes	Yes	Nothing in report calls for special notice.
STOKE-ON-TRENT ..... J. Swift Walker, M.D.	4309	5472	28·6	12·2	178	0·91	0·18	Yes	Yes	Sec. 4 to 9, 13 & 14, & 16 to 20.	Yes	Nothing in report calls for special notice.
STONE ..... E. Fernie, M.D., D.P.H.	23318	8767	20·9	11·2	92	0·79	0·68	Yes	Yes	No	No	Water-supply at Oulton still defective, although the district could be supplied from Stone. Some work has been done in removing pollutions from streams. Increased isolation accommodation needful, also a disinfecting apparatus.
TAMWORTH ..... H. J. Fausset, M.D.	23353	5335	20·6	11·8	190	Nil	1·12	Yes	Yes	Yes	Yes	Considerable improvements have been effected at the isolation hospital. Medical Officer of Health points out that slaughter-houses should be registered and the Bye-laws enforced.
TUTBURY ..... K. D. B. Dobbs, M.R.C.S.	25916	9385	28·5	12·1	134	1·49	1·17	Yes	Yes	No	No	A decided improvement has been effected at Tutbury since the Parish Council have undertaken the work of refuse removal. A site for an isolation hospital has been selected.
UTTOXETER ..... B. H. Herbert, M.R.C.S., L.M., L.S.A.	48367	7950	27·0	17·2	111	0·88	1·50	Yes	Yes	No	Secs. 23, (1) (2) & (4), also 25 & 33 for part of dist.	Nothing in report calls for special comment.
WALSALL ..... G. Martin Fox, L.R.C.P., D.P.H.	12302	10400	29·4	15·2	196	2·78	0·57	Yes	Yes	Yes	No	Much need for isolation accommodation. Refuse removal by contract at Pelsall and Rushall, said to be well done. Authority have also provided for refuse removal at Aldridge by contract. Sewerage scheme for Pelsall and Rushall now in progress, and Engineer instructed to proceed with scheme for Aldridge.
WOLSTANTON ..... T. McKay Youngson, M.B.	9978	33853	39·0	19·6	177	3·10	0·73	Yes	Yes	Yes	Part 3.	Nothing in report calls for special comment.

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