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1906.

SUMMARY OF THE REPORTS

OF THE

DISTRICT MEDICAL OFFICERS OF HEALTH

IN THE

ADMINISTRATIVE COUNTY OF ESSEX,

For the Year 1905.

PREPARED FOR THE COUNTY COUNCIL

BY

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PREFACE.

The publication of this Summary has again been delayed on account of certain of the local reports not being received until early in May. If these late reports were of any special value there would be some compensation for the delay, but unfortunately they are usually the most meagre and uninteresting of the reports presented—reports which could have been prepared in a few hours, and for which there could be no possible adequate reason for delay in production. The longest and best reports usually reach me in March ; they are finished by the Medical Officers in February, and a little delay then occurs in printing. The character of some of the reports is such that it is quite impossible to learn from them anything about the sanitary circumstances of the districts to which they refer, and there is little or nothing in them which is even worth quoting. On the other hand there are a number of reports which have obviously been very carefully prepared, and which contain a large amount of information about the special districts to which they relate and other information of general interest to all those who make a study of public health. On the whole the character of the reports continues to improve, but there are a few which shew no such signs and indicate that the Medical Officers of Health perform their duties in a perfunctory manner and have no real interest in public health.

The more enlightened Medical Officers of Health are adopting the view that their reports should show that they are studying the causes of disease and of the measures which their Authorities can take to eradicate them. They are not confining their attention merely to the notifiable diseases, but are studying the causes of infantile mortality generally, of

cancer, phthisis, of the effects of intemperance, etc.; and there can be no doubt that the ultimate result of their labours will be a decreased mortality in their districts.

There is one important subject which deserves more attention than it receives, and that is the influence of Isolation Hospitals on the prevalence of infectious disease. Many Medical Officers express their opinions of their general utility—a point upon which there is not much doubt—but they do not prove statistically that they are useful in preventing the spread of infection, or that they have reduced materially the prevalence of Scarlet Fever, Diphtheria, or Typhoid Fever in the districts in which hospitals have been provided. Possibly a study of this subject would lead to discoveries which would greatly increase the utility of such establishments, but so far as one can see at present the County is not adequately benefitted by the very large sums spent in maintaining them.

The mortality and sickness statistics of the County, as a whole, are most favourable; and the low death-rate of the thickly populated areas bounding the Metropolis is remarkable. This may be in a great measure due to the fact that nearly all the houses are new, that the soil is comparatively virgin, unpregnated with sewage or filth of any kind, and that the inhabitants are mostly young and vigorous. In these growing areas the greatest possible attention should be given to those conditions—such as subsoil pollution, over-crowding of houses on space and of persons in houses, construction of houses, dryness of foundation, etc.—upon which will depend the health of the community in the future. If this is done no doubt we shall maintain the death-rate at its present low level, or possibly decrease it, but if not the death-rate is certain to ultimately increase.

The relation of the Medical Officer of Health to Schools is another subject worthy of careful consideration. In several reports there is much interesting information bearing on this subject, and there can be no question that children at school

ages require some amount of medical supervision to ensure that school attendance does not prejudicially affect their health. The very thorough inspection made by Dr. Cook in the districts under his control shews that there are conditions in many schools which admit of improvement. For example, it cannot conduce to good health when a school is without a proper water supply and the children have not a sufficient supply of water for ablutionary purposes, and have to quench their thirst at ponds and ditches. The duties of Medical Officers of Health with reference to these subjects are not defined, nor are those relating to the prevalence of the minor infectious disorders such as mumps, chicken-pox, scabies, ringworm, etc. In some districts the Medical Officers pay great attention to the outbreaks of measles and whooping cough and advise about the exclusion of children, give certificates when they can return to school, etc., whereas in others no notice appears to be taken of the prevalence of these diseases unless the School Authority asks for a closing order.

In discussing these and kindred subjects with Medical Officers of Health they have always courteously listened to my views; but as many of these questions admit of diverse opinions being held, and the salaries paid in many instances are very low, it is obvious that little can be done until the Local Government Board and the Education Authorities express themselves authoritatively on the subject.

JOHN C. THRESH.

Chelmsford, July 3rd, 1906.

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SECTION I.

POPULATION OF THE COUNTY, BIRTH-RATE, DEATH-RATE, Etc.

Population. There has been no alteration in the Sanitary Districts during the year. In Table B (appendix) will be found summarised information concerning the population of each Sanitary District in the County (32 Urban and 17 Rural), and from this it is evident that the growth in the districts near the Metropolis is still continuing. According to the Medical Officers estimates the population of East Ham has increased 27,000, Walthamstow 11,000, Southend 18,000, Ilford 24,000, and Barking 6,500 since the Census in 1901. The total increase in the Urban Districts is estimated to be 118,000, and in the Rural Districts about 7,000.

The population at the middle of the year (1905) was estimated to be

In the 32 Urban Districts	...	694,400
In the 18 Rural Districts ...	...	247,359
Total for the Administrative County		941,759

This estimate is probably very near the truth. The error, if any, is likely to be in excess; but I have no reason to think that in any district the population is over-estimated.

The most densely populated districts are the following :—

Leyton,	with	40·5 persons per acre
East Ham,	,,	37·1 ,,
Walthamstow,	,,	26·8 ,,

The average in the Urban Districts is 6·3 persons per acre. In the Rural Districts the average is only 1 person per 3 acres.

Birth-rates. In last year's Report this subject was discussed at some length and factors given for rendering the birth-rates comparable. Whilst utilizing these factors in the

present report, it is not necessary to repeat the reasons for using them, nor the method by which they were calculated. The total number of births registered in the County was 24,969, of which 18,955 occurred in the Urban Districts and 6,014 in the Rural Districts. The rates per 1,000 population is given in the following Table :—

TABLE I.

BIRTH-RATES PER 1,000 POPULATION.

	1905.	1904.	Mean 1890-93.
Urban Districts..	27·3	28·8	30·5
Rural Districts	24·3	24·2	25·55
Administrative County ...	26·5	27·5	28·6
England and Wales	27·2	27·9	29·6

The decline which commenced in 1876 therefore still continues. Eliminating the influences which render a fair comparison between the different districts impossible, we obtain the following corrected Birth-rate :—

TABLE II.

CORRECTED BIRTH-RATES.

	Crude Birth-rate.	Correction Factor.	Corrected Birth rate.
England and Wales	27·2	1·0	27·2
Administrative County of Essex ...	26·5	·9812	26·0
Urban Districts of Essex	27·3	·9146	25·0
Rural Districts ,, ...	24·3	1·1886	28·9
East Ham	29·9	·7860	23·5
Walthamstow	29·1	·8326	24·2
Leyton	30·6	·9165	28·0

In proportion to the number of married women of child-bearing ages the birth-rate is much higher in the Rural Districts than in the Urban; and such districts as East Ham, with their large populations belonging almost entirely to the working classes, have lower birth-rates than districts with a better class population—in other words, the presumption that the working classes are increasing more rapidly in proportion than the other classes is erroneous, at least so far as Essex is concerned. Unfortunately statistics are not available for making the corrections in all districts, so that only the crude rates for most of the districts can be compared. These are given in Table B in the Appendix.

TABLE III.

DEATH-RATES PER 1,000 POPULATION.

	Correction Factor.	1905.		Mean 1890-1904.	
		Crude.	Corrected	Crude.	Corrected
Urban Districts	1·036	11·7	12·1	14·4	14·9
Rural Districts	·8597	13·15	11·3	14·85	12·75
Administrative County ...	·9769	12·1	11·8	14·5	14·15
England and Wales ...	1·0	15·2	15·2	17·8	17·8

DEATH-RATES. The total deaths registered in the County* numbered 11,340, of which 8,090 occurred in the Urban Districts and 3,250 in the Rural. The births exceeded the deaths by 10,865 in the Urban Districts and by 2,764 in the Rural Districts, the total excess being about 600 more than in the previous year. The ratio of births to deaths is 2·2, as against 1·8 for England and Wales. In the above Table

*Excluding those which occurred in the L.C.C. Asylum, Claybury, and the West Ham Asylum, Ilford, and adding those in the County Asylum and certain other public institutions.

the crude and corrected death-rates are recorded, the latter only being useful for comparison, as the corrections eliminate the differences due to age and sex distribution. The correction factors, and the way in which they are calculated, have been given in previous reports.

The corrected rates show that the Rural Districts have a lower death-rate than the Urban, whereas from the uncorrected rates an exactly opposite conclusion would be drawn. The death-rate for the County continues low; in fact, four remarkably low rates have now been recorded in succession.

Crude Death-rate in	1902	... 12·6
,,	1903	... 11·9
,,	1904	... 13·2
,,	1905	... 12·1

The death-rates for all the separate districts are given in Table B in the Appendix, but unfortunately some of these cannot be relied upon, as the necessary corrections for deaths taking place in Workhouses and other public institutions are not included. The crude and corrected rates for a few of the more important districts are given below:—

TABLE IV.

DEATH-RATES PER 1,000 POPULATION.

	Correction Factor.	Crude.	Corrected.
East Ham	1·0764	12·7	13·7
Walthamstow	1·0587	10·9	11·5
Leyton	1·0294	11·4	11·7
Ilford	1·0790	9·3	10·0
Southend	1·0662	11·3	12·0
Colchester	1·0606	12·7	13·5
Barking	1·0600	13·7	14·5

*To the Death-rate given in Table B. Appendix has been added ·2 for deaths in County Asylum.

Deaths at Different Age Periods. In Table B (Appendix) will be found the death-rates per 1,000 living at different ages for a considerable number of districts. The rates could not be calculated for all on account of defects in the statistics supplied. So far as these can be calculated they show that up to the age of 15 the rate of mortality is much lower in the Rural Districts than in the Urban, but that over 15 years the rate is slightly lower in the Urban Districts. This is well shown in the subjoined Table :—

TABLE V.

	Rural Districts.	Urban Districts.
Deaths of infants under 1 year per 1,000 births ...	90·1	107·4
Deaths of children between 1 and 15 years of age per 1,000 living	3·9	5·4
Deaths of persons between 15 and 65 per 1,000 living	6·9	6·4
Deaths of persons over 65 per 1,000 living ...	72·8	72·0

The further details given in Table B (last four columns) are very interesting, and show most markedly the effect of age distribution. In the towns and Rural Districts, with an increasing population, there is an excessive number of young people, and the proportion of persons dying at different ages vary greatly from those in districts with a practically stationary population. Compare, for example, Ilford with Saffron Walden. In the former 26·8 per cent. of the deaths were of children under 1 year of age, 11·7 per cent. of children between 1 and 15, 39·7 per cent of persons between 15 and 65, and only 21·8 per cent. over 65 years, whereas in the latter the deaths were 12·3 per cent., 3·4 per cent., 33·7 per cent., and 50 6 per cent. respectively. Taking all the Urban and Rural Districts, the percentages are as under :—

TABLE VI.

	Rural Districts.	Urban Districts.
Percentage of Deaths under 1 year	16·9	25·9
,, ,, between 1 and 15 years ..	9·5	15·9
,, ,, between 15 and 65 years ..	31·4	34·2
,, ,, over 65 years	42·3	24·0

The infantile mortality has been unusually low. It is given in Table V. for the Urban and Rural Districts. The rate for the whole County was 103·3, and for England and Wales 128. The great variation from year to year almost entirely depends upon the extent to which diarrhœa prevails in the autumn. When deaths from this cause are deducted the rate remains practically constant. The causes of infantile mortality will be discussed later, but the Table of Deaths of Infants per 1,000 births may be included here for comparison with the corresponding Table in previous report.

TABLE VII.

DEATHS OF INFANTS PER 1,000 BIRTHS.

	1905.	1904.	Mean 1890-1903.
Urban Districts.. ...	107	143	136
Rural Districts	90	109	103
Administrative County ..	103	135	125
England and Wales ...	128	146	150

CAUSES OF DEATH.

Infectious Diseases.

The causes of death are tabulated in Table B in the Appendix, and this Table must be consulted for the details referring to each district. The deaths from the seven principal zymotic diseases for the Urban and Rural Districts and the whole County are given below :—

TABLE VIII.

	Urban Districts.	Rural Distrtcts.	Total.
Small-pox	0	0	0
Measles	183	27	210
Scarlet Fever	64	18	82
Whooping Cough ...	192	52	244
Diphtheria	122	22	144
Typhoid Fever ...	53	16	69
Puerperal Fever ..	11	6	17
Epidemic Diarrhœa ...	382	71	453
Totals	1007	212	1219

The total number of cases is below the average and much below the number recorded in 1904, but the difference is almost entirely due to epidemic diarrhœa, which only caused 453 deaths in 1905 against 1,040 in 1904. As is usual, measles and whooping cough each caused as many deaths as scarlet fever and diphtheria together. The death-rates from the different diseases are given in the next Table :—

TABLE IX.

DEATH-RATES PER 1,000 POPULATION FROM EACH OF THE SEVEN PRINCIPAL ZYMOTIC DISEASES, 1905.

	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Fevers.	Diarrhœa.	Totals
Urban Districts ...	·00	0·26	0·09	0·28	0·18	0·09	0·55	1·45
Rural Districts ...	·00	0·11	0·07	0·21	0·09	0·09	0·29	0·86
Administrative County	·00	0·22	0·09	0·26	0·15	0·09	0·48	1·29
England and Wales ...	·00	0·32	0·11	0·25	0·16	0·09	0·59	1·52
Administrative County, Mean for 15 years, 1890-1904.	·02	0·34	0·11	0·28	0·27	0·18	0·67	1·87

CANCER

The deaths recorded from Cancer since 1900 are as under:—

TABLE X.

	Rural Districts.	Urban Districts.	Administrative County.
1900	215	312	527
1901	220	344	564
1902	266	316	582
1903	246	367	613
1904	213	433	646
1905	245	476	721

These figures show that year by year the number of deaths from Cancer is increasing; but inasmuch as the population is increasing also, it is only by comparing the death-rates per

1,000 population that positive information can be obtained. The death-rates above referred to are as under :—

	Cancer Death-rate.
1871—1880	·48
1881—1890	·54
1891—1900	·66
1901	·69
1902	·68
1903	·70
1904	·71
1905	·76

Unfortunately there can be no question that the mortality from Cancer is increasing, and in a few decades it will be the cause of more deaths than any other disease. At the present time it causes about the same number of deaths as all the following diseases put together :—Small-pox, Scarlet Fever, Diphtheria, Typhoid Fever, Measles and Whooping Cough. In every district throughout the Country there are public authorities and public officials trying to cope with the latter diseases, and an enormous sum of money is expended annually in this work, yet I believe that I am right in saying that not a single public official is employed whose duty it is to make a study of this disease, and not a penny of public money is expended in attempting to arrest its ravages. Private enterprise is doing something, and it is devoutly to be hoped that the investigations being pursued may throw some light on the cause of the disease, for until we know something of this we are utterly unable to take any steps to prevent its spread. Some change is evidently occurring in our bodies which renders us more liable to the disease. It may be due to the increasing use of some article of food, or of some particular class of food stuffs, or to some custom of comparatively recent introduction. Many possible causes can be thought of, but as there is at present no shadow of a shade of proof against any it would be unwise even to mention them.

Judging from the following figures (Table XI., cols. *a* & *b*) it would appear as though cancer caused a larger proportion of deaths in the Rural Districts than in the towns, but this is entirely due to the different age and sex distribution of the population, since when the necessary corrections are made so that the age and sex distribution corresponds to that of England and Wales as in cols. *c* and *d*, it is seen that the Cancer death-rate is distinctly higher in the Urban Districts.

TABLE XI.

Deaths from Cancer per 1,000 Population.

	Crude Rates.		Corrected Rates.	
	(a) Urban.	(b) Rural.	(c) Urban.	(d) Rural.
1900	·643	·711	·744	·548
1901	·688	·721	·797	·556
1902	·600	·851	·695	·656
1903	·666	·778	·771	·600
1904	·753	·668	·872	·515
1905	·686	·990	·795	·763

The only special reference to Cancer is made by Dr. Nash in the report for Southend, and it is sufficiently interesting to re-produce. Dr. Nash says :—

"The only two constant factors observable in cancer deaths inquired into are the association of the disease with old age ; and in those of local origin, of a family history of cancer. The information as a rule obtainable in connection with imported cases is too scanty to be of any service.

"It was formerly thought that cancer was a disease limited to civilized human races, but investigations during the last year or two make it clear that the disease occurs not only among savages, but also among aged animals of various species.

"Dr. E. F. Bashford, Director of the Laboratory, Imperial Cancer Research Fund, tells us that to the newly-ascertained wide occurrence of the disease are also added (1) the knowledge of the still more astonishing limitations to its transmission and (2) the discovery that cancer possesses powers of continued growth after the death of the original host, unparalled either by organisms or tissues in the vertebrate kingdom.

"It has been abundantly proved by experiment that cancer cells transmitted from one mouse to another continue to grow in a succession of animals. In the experiments of Dr. Bashford and his collaborators growth has proceeded in some 3,000 mice successively, all of which are now dead, yet the tumour cells derived from the first mouse are themselves multiplying in other mice as actively as ever, and producing enormous masses of tissue.

"These experimental facts throw much light on the transmission of cancer in families, and is in my opinion a strong link in the chain of evidence that cancer is a parasitic disease. Fortunately, however, cancer is not easily conveyed from one person to another. Therefore, in popular phraseology, it is not a 'catching' complaint, but (like Tuberculosis, though in even a less degree) I am inclined to be of opinion that through protracted exposure to infection by the parasite of cancer the disease is in rare instances communicable, and I believe that sufficient evidence in this direction will eventually be adduced.

"As the result, then, of recent additions to our knowledge of cancer, I am of opinion that it is a disease which calls for public health measures—not indeed of a stringent nature, but dealing more with the necessity for destroying the dressings of cancerous ulcers, and for issuing warnings that persons who have frequently to dress such cancerous ulcers should be careful to protect any cut or wound of the hands, and to secure the boiling of sheets and pillow cases used by persons suffering from cancer.

"I have mentioned that the cancer parasite probably does not easily lead a saprophytic existence, nor is it easily transmitted, but the possibility of these should be borne in mind, and as the lower forms of life grow best in damp, undrained houses—shut in from fresh air and sunlight through faulty construction or trees—cancer patients and their attendants should avoid such houses. If more than one case of cancer occurs in a given house it would be advisable to thoroughly cleanse and disinfect such house; but if the precautions mentioned above are observed, it should be a rare occurrence to have a second case of cancer in the same house."

Tubercular Disease.

The crude death-rates for phthisis and other tubercular diseases for the past 5 years are included in the following Table :—

TABLE XII.

Death rate per 1,000 Population.

	From Phthisis.			From other Tubercular Diseases.		
	Urban.	Rural.	England and Wales.	Urban.	Rural.	England and Wales.
1901	·897	·868	1·26	·526	·372	·543
1902	·705	·768	1·23	·338	·465	·508
1903	·897	·886	1·20	·397	·303	·539
1904	1·004	·806	1·23	·455	·346	·544
1905	·835	·830	...	·349	·340	...

Many references are made to tubercular diseases in the reports of the Medical Officers of Health for the Urban Districts, but the subject is only mentioned in one or two of the Rural reports. As this group of diseases causes as many deaths, in proportion to the population, in country places as in towns, it is obviously worthy of more attention. In many districts leaflets are distributed bearing upon phthisis,

its cause and mode of spread, and houses are disinfected after death or removal of a patient who has suffered from the disease. There is no public sanatorium in the country for the treatment or instruction of persons suffering from phthisis. The provision of one would be a great benefit.

COLCHESTER. Voluntary notification of phthisis came in force June, 1904. 31 cases were notified in 1904 and 32 in 1905. The results are regarded as disappointing since notifications are not received in most cases until it is too late to be of benefit. To cure consumption early recognition is essential. The necessary examination is almost invariably delayed amongst the poorer classes until hope of cure is remote. The notification of advanced cases is also of importance since they are the most infectious.

EAST HAM. The Medical Officer of Health distributes a leaflet (copy of which is contained in the report) giving rules for the guidance of consumptive patients. He thinks that a sanatorium for patients in an advanced stage of the disease would be extremely useful, "for these are the most deadly in spreading the disease." He also thinks that some steps might with advantage be taken to limit the amount of expectoration in tram-cars and public places.

GRAYS. The Council decided in May last to add phthisis to the list of notifiable diseases, the notification to be voluntary on the part of the medical practitioner and "applicable to those cases only which were accompanied with expectoration, and where precautions ought to be taken to obviate the risk of infection being conveyed to those with whom they came in contact." Eleven notifications were received. Printed instructions for the guidance of patients were distributed, and after death disinfection of the sick rooms was carried out. The Medical Officer of Health asks the Council to consider the possibility of making some provision for the treatment of this disease, as it cannot be properly treated in the homes of the poor.

Southend. In September, consumption of the lungs attended with expectoration, was made a voluntarily notifiable disease, at the usual notification fee, provided the patient was not dying at the time of the notification. Leaflets were distributed, and in some instances Japanese handkerchiefs were left for use. 51 disinfections were carried out after rooms had been occupied by consumptive persons. Notices directing attention to the danger from spitting are posted in public places and provided for public houses.

Waltham Holy Cross. The voluntary notification of tuberculosis has been responded to by the medical profession in most cases. A register of such cases is kept and facilities are given for carrying out the bacteriological examination of sputum in doubtful cases. Cards were placed last year in all hotels and public houses, but these require renewing.

Woodford. Voluntary notification has been adopted, and rooms which have been occupied by consumptive patients are disinfected free of charge. In doubtful cases the Medical Officer of Health supplied a sputum outfit, and the sputum is examined bacteriologically without fee. Pocket spittoons are provided for those unable to buy them, at the request of the medical attendant.

Chelmsford and Maldon Rural Districts. In these districts the medical men have been asked to notify (without payment) cases of phthisis, and on receipt of such notification printed leaflets and cards are left at the house occupied by the patient. Disinfection is carried out after death or removal.

Infantile Mortality.

The Local Government Board issued a new form for the use of Medical Officers of Health, when preparing their reports for 1905, for recording the causes of death of infants under one year of age. This has been filled in by all Medical Officers, save those for Loughton (U) and Billericay (R), hence the Tables of Infantile mortality in the Appendix are not quite complete. These Tables should be carefully studied by every person

interested in the question of Infantily Mortality. Three causes of this large mortality are very prominent—premature birth, atrophy or debility, and diarrhœa; but whilst the two former cause most deaths during the earliest weeks of life the latter acts continuously throughout the first year, but causes the fewest deaths during the first four weeks. The most surprising fact revealed by these Tables is that a much larger proportion of premature births occur in the Rural Districts than in the Urban, and nearly as large a proportion of deaths result from atrophy and debility. Congenital defects and convulsions are the next most important factors in causing death during the first month. The following Table enables the causes in the two groups of districts to be compared :—

	Urban Districts. Per cent. of total under 1 year.	*Rural Districts.* Per cent. of total under 1 year.
Deaths under 1 week	27	30
,, 1 month	35	43
Premature Births under 1 month ...	14·5	21
,, ,, 1 year ...	16	22
Debility under 1 month	6·6	7·2
,, 1 year	14·9	14·3
Congenital Defects. Under 1 month .	3·2	2·9
,, ,, 1 year ...	4·4	4·7
Convulsions. Under 1 month ...	3·1	2·3
,, ,, 1 year ...	7·8	8·6
Diarrhœa. Under 1 month ...	·7	·0
,, ,, 1 year	14·8	7·8

In the Rural Districts a larger proportion of deaths occur during the first week and the first month of life than in the Urban Districts, and there are far more deaths due to premature birth. This is an unexpected and disconcerting discovery, the cause of which Medical Officers for Rural Districts should endeavour to ascertain. Taking all the causes of death which are more likely to be due to the condition of the mother than to later effects of feeding, environment, etc.,

we find that the former (premature births, congenital defects, debility, syphilis, and convulsions) cause during the first month of life

34 per cent. of the total deaths under 1 year in the Rural Districts,

27·5 „ of the total deaths under 1 year in the Urban Districts.

As the mortality amongst infants is higher in the Urban Districts than in the Rural (107·6 per 1,000 infants born in the Urban against 91·4 in the Rural) it is obvious that this excess is due more to feeding and environment than to the condition of the mother. Of these two, the feeding is the more important factor since in the Urban Districts 14·8 per cent. of the deaths were due to diarrhœa, whilst only 7·8 per cent. were due to this cause in the Rural Districts. It is much to be regretted that equal care has not been taken in all districts with reference to the classification since in the Urban reports only 6 per cent. of the deaths are given as due to "all other causes," whilst 12·2 per cent. are so given in the Rural reports. In passing it may be noted that "over-laying" causes twice as many deaths in the towns as in the country.

The following are the more interesting remarks made in the Annual Reports on the subject of infantile mortality :—

Barking. Nine-tenths of the infants who died from diarrhœa were fed on cow's milk and barley water.

Colchester. This report contains much interesting information on the causes of infantile diarrhœa and Tables showing the results of inquiries made with regard to the feeding of 500 infants. The result of this inquiry was more satisfactory than was anticipated, since it showed that 62 per cent. of the infants under six months old were breast-fed entirely, whilst 76 per cent. were fed chiefly on mother's milk. Dr. Savage shows that the long-tubed feeding bottles are responsible for many deaths—"veritable death-traps," he designates them, and he has circularised, with good results,

the chemists in the town asking them to persuade parents purchasing feeding bottles to take the tubeless ones. He also strongly urges the proper instruction of girls on how to take care of babies and how to feed them.

East Ham. Reference is made here to the effect of improper feeding, but the Medical Officer of Health adds:—"It is found that the death-rate of infants is increasing chiefly during the first three months of life. Conditions of the parent must therefore be largely responsible for this, and evidence seems to point to the fact that excessive indulgence in alcohol is the chief cause. This leads to physical degeneration in parents, inability in the mother to suckle her child, and consequently feeble offspring is the result."

Ilford. The Medical Officer of Health thinks that mothers are becoming more and more unable themselves to provide their children with milk that is sufficient in quantity and suitable in quality. The problem of the prevention of infantile mortality must be attacked from the birth of the child, and he advocates the employment of specially trained female health visitors, who shall visit every house where a birth is registered, or such as might be necessary.

Southend. Dr. Nash devotes several pages of his report to the subject of infantile mortality, but especially that due to diarrhœa. The diarrhœa season is the fly season, and he adduces cogent arguments to prove that flies are the disseminators of the infection, carrying harmful bacteria to human food, particularly cow's milk and condensed milk. "Obviously," he adds, "our efforts must be directed chiefly against the breeding of house-flies—in other words, by strict attention to cleanliness and sanitation, which includes the prevention of large deposits or accumulations of organic matters in the vicinity of any considerable population." Of 18 deaths from diarrhœa, not one infant was entirely breast-fed, no less than nine were fed on condensed milk and other food. In 16 of the infected houses flies were abundant.

Rochford Rural. Dr. Grayson directs attention to the danger of laying too much stress upon the figures for a single year, and is of opinion that more care is taken now than formerly in the registration of births. Cases are registered now both in the births and deaths list, which formerly were not registered at all, but were simply buried as still-born.

Birth-Rates and Death-Rates.

TABLE XIII.

	Urban Districts.	Birth-rate.	Infantile Mortality	Death-rates from			Medical Officers of Health.
				All causes.	Seven principal Zymotic Diseases	Phthisis.	
1	Barking	32·1	142·2	13·5	2·71	·79	C. F. Fenton, L.R.C.P., M.R.C.S.
2	Braintree	23·1	73·2	15·6	1·13	1·50	Percy R. Stevens, L.R.C.P., M.R.C.S.
3	Brentwood	17·3	92 6	8·8	·32	·64	S. Frazer, L.R.C.P., L.R.C.S
4	Brightlingsea	21·4	78·4	13·0	·63	1·05	E. P. Dickin, M.B., C.M.
5	Buckhurst Hill	21·8	109·1	11·9	·40	·40	Chas. R. Dykes, M.R.C.S., L.R.C.P.
6	Burnham	23·9	50·6	11·2	·91	0	C. F. Downman, M.R.C.S., L.R.C.P.
7	Chelmsford	22·0	102·4	10·8	·83	·68	H. W. Newton, M.R.C.S., D.P.H.
8	Chingford	25·4	97·7	9·4	·76	·57	G. F. Fulcher, M.B.
9	Clacton	22·1	75·6	12·8*	·51	1·03	Jno. W. Cook, M.D.
10	Colchester	25·8	93·5	12·5	·57	1·10	Wm G. Savage, M.D., B.Sc., D.P.H.
11	East Ham	29·9	129·6	12·4	2·25	·86	Geo. Sowden, M.D., D.P.H.
12	Epping	22·0	88·9	13·0	·24	·49	Trevor Fowler, L.R.C.P. & S.I., D.P.H.
13	Frinton	21·1	100·0	13·7	1·05	2·11	H. W. Godfrey, M.B.
14	Grays	30·4	123·1	12·5	1·64	·79	John A. Ward, M.D.
15	Halstead	22·0	134·3	15·2	2·13	·66	C. Gordon Roberts, M.A., M.B., B.C.
16	Harwich	27·3	85·6	11·2	·28	·94	H. Gurney, M.R.C.S., L.R.C.P.
17	Ilford	26·3	87·0	9·1	·78	·63	C. F. Stovin, M.A., D.P.H.
18	Leigh-on-Sea	21·6	45·5	10·6	·59	·98	W. D. Watson, M.R.C.S., L.R.C.P.
19	Leyton	30·6	94·0	11·2	1·3	·90	A. F. Peskett. M.R.C.S.
20	Loughton	19·1	59·4	8·3	·57	·57	A. Butler Harris, M.A., M.B., B.Ch. Oxon.
21	Maldon	26·2	94·6	15·1	·89	·89	H. Reynolds Brown, M.D.
22	Romford	27·5	128·6	13·5	2·47	1·07	A. Wright, M.D.
23	Saffron Walden... ..	22·3	71·1	14·0	·20	·50	W. Armistead, M.B., F.C.S.,
24	Shoeburyness	33·2	137·9	11·4	2·52	·23	E. W. Walter, M.R.C.S., L.R.C.P.
25	Southend-on-Sea ...	22·8	118·9	11·1	1·23	1·12	J. T. C. Nash, M.D., D.P.H.
26	Waltham Holy Cross ...	25·0	134·5	11·1	1·02	·59	J. Damer-Priest, M.R.C.S., D.P.H.
27	Walthamstow	29·1	104·5	10·7	1·69	·80	J. J. Clarke, L.R.C.P.I., D.P.H.
28	Walton-on-the-Naze ...	22·7	41·7	12·8*	·0	·47	Jno. W. Cook, M.D.
29	Wanstead	18·0	61·1	8·0	·80	·40	F. Argles, M.R.C.P.Ed., M.R.C.S.
30	Witham	16·9	166·6	18·1	2·54	·28	K. C. Gimson, M.B.
31	Wivenhoe	18·0	200·0	11·6	2·00	·40	G. P. Smith, L.S.A.
32	Woodford	29·1	89·4	11·1	·67	1·00	W. G. Groves, M.R.C.S.

*Death rates marked thus are based upon uncorrected or imperfectly corrected death returns.

TABLE XIII—Continued.

	RURAL DISTRICTS.	Birth-rate.	Infantile Mortality	Death-rates from			Medical Officers of Health.
				All causes.	Seven principal Zymotic Diseases.	Phthisis.	
1	Belchamp	18·4	89·9	14·0	·21	·62	J. Sinclair Holden, M.D.
2	Billericay	25·7	74·2	12·0	·39	·79	Fred Carter, M.D.
3	Braintree	17·8	89·8	13·6	·88	1·10	L. P. Black, M.A., M.B., B.C., D.P.H.
4	Bumpstead	29·1	71·4	15·4	·83	0	Wm. Armistead, M.B., F.C.S.
5	Chelmsford	22·7	68·0	11·9	·58	·92	John C. Thresh, M.D., D.Sc., D.P.H.
6	Dunmow	21·9	91·7	14·4	·32	1·36	Edmund E. Goodbody, M.D.
7	Epping	24·5	76·2	11·7	·60	·75	Trevor Fowler, L.R.C.P. & S.I., D.P.H.
8	Halstead No. 1. ...	20·7	52·1	13·6	·22	·43	J. Henry Ashworth, M.D.
9	Halstead No. 2. ...	23·0	84·0	15·6	·88	1·05	J. B. Bromley, M.R.C.S.
10	Lexden and Winstree ...	21·6	64·7	13·0	·67	1·04	Jno. W. Cook, M.D.
11	Maldon	23·4	95·9	15·6	1·29	1·36	John C. Thresh, M.D., D.Sc., D.P.H.
12	Ongar	21·4	74·4	13·6*	·30	·80	J. C. Quennell, M.R.C.S.
13	Orsett	33·1	108·7	12·1	1·57	·76	Rea Corbet, M.R.C.S.
14	Rochford	26·8	118·8	12·2	·64	·89	F. Dorrell Grayson, M.R.C.S.
15	Romford	31·1	131·5	13·2	2·14	·33	Alfred Wright, M.D.
16	Saffron Walden ...	22·3	71·1	14·0	·30	·69	Wm. Armistead, M.B., F.C.S.
17	Stansted	24·1	60·2	12·5	·15	·58	R. A. Dunn, M.D., D.Hy., D.P.H.
18	Tendring	24·5	91·3	12·0	·89	·61	Jno. W. Cook, M.D.

*Rates marked thus are based upon uncorrected or imperfectly corrected death returns.

SECTION II.

PREVALENCE OF INFECTIOUS DISEASES.

TABLE XIV.

TOTAL NUMBER OF CASES OF INFECTIOUS DISEASES NOTIFIED, 10 YEARS 1896-1905.

Year.	Small-pox	Scarlet Fever.	Diphtheria and Membranous Croup.	Fevers—Typhoid and Continued.	Puerperal Fever.	Erysipelas.	Totals.	Rate per 1,000 population.
1896	19	2,931	1,437	888	43	733	6,051	9·0
1897	0	2,956	1,256	773	48	710	5,743	8·2
1898	5	2,371	1,418	854	30	664	5,342	7·2
1899	3	2,769	1,712	874	52	803	6,213	7·9
1900	18	2,702	2,395	840	54	718	6,718	8·3
1901	227	2,961	2,628	790	40	716	7,362	9·1
1902	1334	3,251	2,017	987	44	857	8,477	9·9
1903	96	2,528	1,659	589	42	750	5,664	6·4
1904	112	3,534	1,764	453	51	812	6,726	7·4
1905	3	4,563	1,453	398	45	863	7,325	7·8
Average ...	182	3,057	1,774	745	45	762	6,565	8·1

The above Table records the notifications made during each of the past 10 years. The number for 1905 is a little below the average, but the scarlet fever cases were nearly 50 per cent. above the average, and diphtheria and typhoid fever far below the average. There were no cases of cholera, plague, typhus or relapsing fever to record. There is, as usual, some discrepancy between the figures given in the monthly returns

Distribution throughout the County of Compulsorily Notifiable Infectious Diseases Generally.

TABLE XV.

	No. of Cases Notified.	No. per 1,000 Inhabitants	Diseases most prevalent.
Urban Districts.			
Barking	260	9·3	Diphtheria and Scarlet Fever
Braintree	35	6·6	Scarlet Fever
Brentwood	28	4·5	,,
Brightlingsea	9	1·9	,,
Buckhurst Hill ...	15	3·0	Scarlet Fever and Erysipelas
Burnham	13	3·9	Diphtheria
Chelmsford	97	7·3	Scarlet Fever
Chingford	37	7·1	Scarlet Fever and Erysipelas
Clacton	106	13·6	Scarlet Fever
Colchester	333	8·3	,,
East Ham	1473	11·9	,,
Epping	8	2·0	,,
Frinton	2	2·1	
Grays	252	16·5	Scarlet Fever
Halstead	98	16·1	,,
Harwich	60	5·6	,,
Ilford	446	6·9	,,
Leigh-on-Sea	15	3·0	Enteric Fever
Leyton	838	8·0	Scarlet Fever
Loughton	10	1·9	Scarlet Fever and Enteric Fever
Maldon	25	4·4	Diphtheria
Romford	61	4·1	,,
Saffron Walden ...	11	1·9	Erysipelas
Shoeburyness	16	3·7	Enteric Fever
Southend-on-Sea ...	199	4·3	Scarlet Fever and Diphtheria
Waltham Holy Cross ...	27	4·0	Diphtheria and Scarlet Fever
Walthamstow	1188	16·2	Scarlet Fever
Walton-on-the-Naze ..	1	·5	,,
Wanstead	65	6·5	Scarlet Fever and Diphtheria
Witham	9	2·5	Scarlet Fever
Wivenhoe	8	3·2	Diphtheria and Erysipelas
Woodford	86	5·7	Scarlet Fever
	5831	8·4	
Rural Districts.			
Belchamp	61	12·6	Scarlet Fever
Billericay	117	6·7	,,
Braintree	121	6·7	,,
Bumpstead	13	5·4	Diphtheria
Chelmsford	120	5·0	Scarlet Fever
Dunmow	54	3·5	Scarlet Fever and Erysipelas
Epping	36	2·7	,, ,,
Halstead, No. 1 ...	51	11·0	Scarlet Fever
Halstead, No. 2 ...	42	7·4	Scarlet Fever and Erysipelas
Lexden and Winstree ...	105	5·4	Scarlet Fever
Maldon	49	3·3	Enteric Fever
Ongar	20	2·0	Diphtheria and Scarlet Fever
Orsett	165	7·4	Scarlet Fever
Rochford	84	5·4	Scarlet Fever and Enteric Fever
Romford	305	14·5	Scarlet Fever and Diphtheria
Saffron Walden ..	10	1·0	Scarlet Fever
Stansted	18	2·6	Erysipelas and Diphtheria
Tendring	123	5·7	Scarlet Fever
	1494	6·0	

and those given in the annual reports. Table XIV. shows the total number of the above diseases notified in each district during the year and the number per 1,000 population.

SMALL-POX.

Only three cases were notified—one in the Maldon Rural District, another in the Romford Rural District, and a third in Barking.

SCARLET FEVER.

This disease has been more prevalent than during any previous year since notification has been enforced, notwithstanding that in many districts from 40 to over 90 per cent. of the patients were removed to Isolation Hospitals.

The type of disease, judged from the mortality figures, seems to have varied greatly, since in those districts where the disease has been markedly prevalent it has ranged from 0 per cent. (Clacton and Southend) to 4·2 per cent. in the Romford Rural District and 4 8 per cent. in the Tendring Rural District. The deaths per 100 cases in the Urban Districts average 1·7 and in the Rural 2·1. In all probability far more cases occur than are notified, and in towns a larger proportion would almost certainly be notified than in the Rural Districts. The case mortality is rarely referred to, but in the East Ham report it is stated that 9 deaths occurred amongst the 392 cases treated in the hospital, or 2·5 per cent. There must therefore have been 13 deaths amongst the 576 cases treated at home, equal to a mortality of 2·2 per cent. The Medical Officer of Health adds that many of the cases removed were of a severe type, and that on occasions the Hospital Wards were very full.

In many reports it is stated that the disease was of so mild a type that many cases escaped notification until a child was discovered to be "peeling." Children were frequently discovered at this stage in school. At Harwich a parent was fined for sending a child to school when scarlet fever was in

Scarlet Fever.

TABLE XVI.

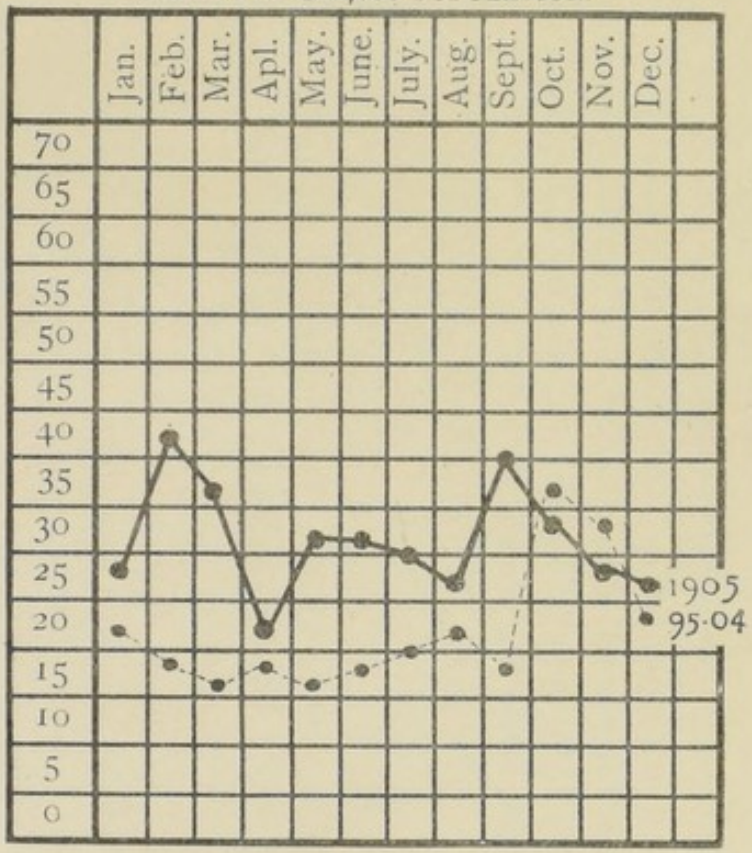
DISTRICTS.	No. of cases notified.	No. of deaths.	No. of cases removed to hospital.	Cases per 1,000 population.	Deaths per 1,000 population.	Deaths per 100 cases.	Percentage of cases removed to hospital.
Urban Districts.							
Barking	98	0	77	3·5	0	0	79
Braintree	34	3	?	6·4	·56	8·8	?
Brentwood	17	0	15	2·7	0	0	88
Brightlingsea	7	0	0	1·5	0	0	0
Buckhurst Hill	6	0	0	1·2	0	0	0
Burnham	0	0	0	0	0	0	0
Chelmsford	70	2	55	5·3	·15	2·9	79
Chingford	24	0	0	4·6	0	0	0
Clacton	75	0	53	9·6	0	0	71
Colchester	223	1	77	5·6	·02	·4	35
East Ham	968	22	383	7·8	·18	2·3	40
Epping	3	0	2	·7	0	0	67
Frinton	0	0	0	0	0	0	0
Grays	213	2	31	14·0	·13	·9	15
Halstead	83	0	78	13·6	0	0	94
Harwich	44	2	40	4·1	·19	4·5	91
Ilford	288	4	120	4·3	·06	1·4	42
Leigh-on-Sea	4	0	0	·8	0	0	0
Leyton...	526	9	295	5·0	5·0	1·4	56
Loughton	4	0	0	·8	0	0	...
Maldon	4	0	4	·7	0	0	100
Romford	21	0	0	1·4	0	0	...
Saffron Walden	4	0	2	·7	0	0	50
Shoeburyness	5	0	5	1·1	0	0	100
Southend-on-Sea	87	0	66	1·9	0	0	76
Waltham Holy Cross ...	11	0	6	1·6	0	0	55
Walthamstow	756	17	257	6·5	·15	2·2	34
Walton-on-the-Naze ...	1	0	0	·5	0	0	0
Wanstead	33	1	13	3·0	·09	3·0	39
Witham	8	1	0	2·3	·28	12·5	0
Wivenhoe	2	0	0	·8	0	0	0
Woodford	68	0	49	4·6	0	0	72
Totals	3687	64	1628	5·3		1·7	
Rural Districts.							
Belchamp	57	0	0	11·8	0	0	0
Billericay	48*	1	42	3·2	·01	2·0	88
Braintree	91	2	47	5·0	·11	2·2	52
Bumpstead	1	0	0	·4	0	0	0
Chelmsford	91	1	47	3·8	·04	1·1	52
Dunmow	30	0	0	1·9	0	0	0
Epping	19	0	13	1·4	0	0	68
Halstead, No. 1	40	0	15	8·6	0	0	37
Halstead, No. 2	27	0	24	4·7	0	0	89
Lexden and Winstree ..	66	1	0	3·4	·05	1·5	0
Maldon	12	0	1	·8	0	0	8
Ongar	7	0	0	·7	0	0	0
Orsett	119	3	79	5·4	·13	2·5	66
Rochford	38	0	22	2·4	0	0	60
Romford	166	7	153	7·9	·33	4·2	92
Saffron Walden	4	0	3	·4	0	0	75
Stansted	4	0	4	·6	0	0	100
Tendring	94	4	24	4·4	·19	4·4	26
Totals	914	19	454	3·7		2·1	

* Exclusive of 22 cases in the Essex County Asylum.

SCARLET FEVER.

RURAL DISTRICTS.

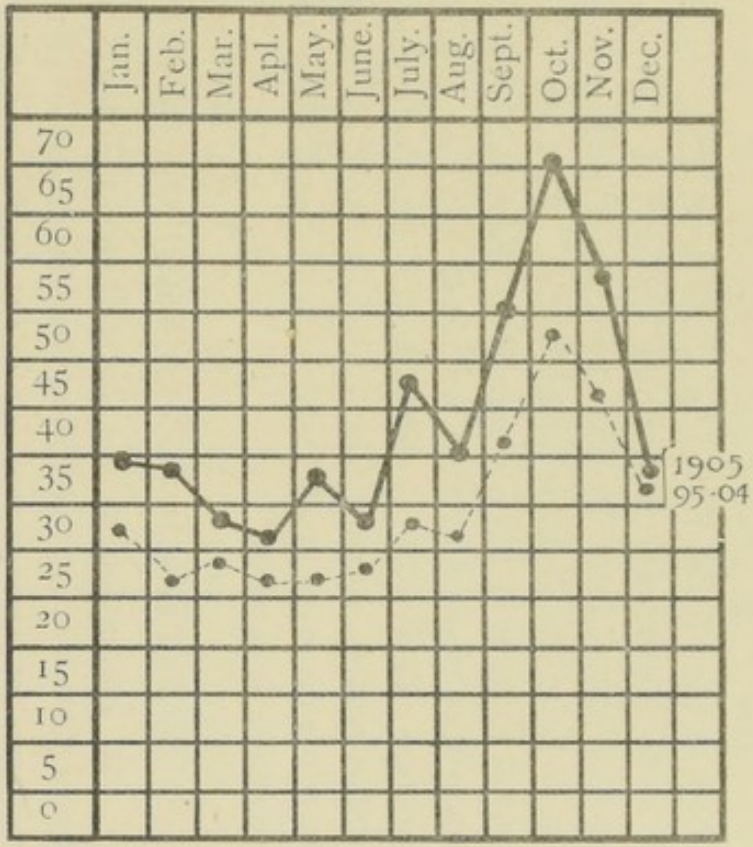
CASES PER 100,000 POPULATION.



SCARLET FEVER.

URBAN DISTRICTS.

CASES PER 100,000 POPULATION.



the house. The efforts made to prevent the extension of the disease were in many cases quite unavailing. It is obvious that the mere hospital or home isolation of well-marked cases cannot prevent the disease spreading if milder cases are overlooked and the patients uncontrolled. It is in the searching out of these very mild cases and in insisting, as far as possible, upon their isolation, that we must look for controlling outbreaks. This work is difficult, and requires much time, and, unfortunately, it cannot be left to the Sanitary Inspectors. It requires more medical knowledge and skill than they can be expected to possess.

DIPHTHERIA AND MEMBRANOUS CROUP.

In proportion to the population, diphtheria was much more prevalent in the Urban Districts than in the Rural, but the type of disease was about the same in both. It varied, however, in different districts, as the mortality ranged from 1 (Southend) to 13 (East Ham) per 100 cases, taking only the districts in which a considerable number of cases occurred. The total number of notifications is well below the average, and in proportion to the population is lower than in any year since notification commenced. In 1896 the proportion was 1·8 per 1,000 population, and this was the lowest until the present year, when the proportion is 1·7.

The decline in mortality is very marked. Some years ago it averaged over 20 per cent. of the notified cases, whereas during recent years it has been under 10 per cent. As the decline set in with the introduction of the antitoxin treatment it is but reasonable to conclude that this is the cause, especially as no other cause can be suggested.

In many districts a case is not considered to be true diphtheria until a swab from the throat has been examined at the County Bacteriological Laboratory (or elsewhere) with positive results, and in several hospitals patients are not discharged until their throats have been examined and pronounced free from the specific bacillus. In some districts

antitoxin is provided for use amongst the poorer classes as a curative agent, and in one or two districts it is similarly provided for use as a prophylactic. In the Maldon District, where it is so used, the results have been very satisfactory; but elsewhere this has not been invariably the case.

Walthamstow. The Medical Officer of Health points out that it is impossible to say whether a case is true diphtheria or not at the time the medical attendant is expected to notify. As the result of bacteriological examination, Dr. Clarke concludes that only about 50 per cent. of the cases notified are true diphtheria; and of the patients sent to the hospital presumably suffering from this disease, 15 were found to be suffering from scarlet fever, 11 from tonsilitis, and three from other well-known diseases.

The subjoined Table (page 36), gives the statistical details for each district in the County.

Epidemic of "Sore Throat."

In Colchester probably the most important outbreak of the year was one mainly characterised by sore throat which occurred in the Borough during the latter half of April.

The outbreak was a very definite one, starting about April 17th and ending about April 29th. From the evidence available there is reason to believe that over 600 persons were attacked, and the actual details of 243 cases were obtained. It affected only one part of the town, and within four days from the commencement of the outbreak the Medical Officer of Health was able to say definitely that it was due to the use of milk from a particular dairy. The proofs of this are given in detail in the report. Accompanied by a Veterinary Inspector, he visited the implicated farm and there found in the cowshed a cow with a distinctly diseased udder, and the milk (?) drawn from one quarter of the udder was simply brown thin pus or matter. The farmer and a number of his children suffered from sore throat. The milk vendor also a sore throat, as also had several of the drivers on the various rounds. The

Diphtheria and Membranous Croup.

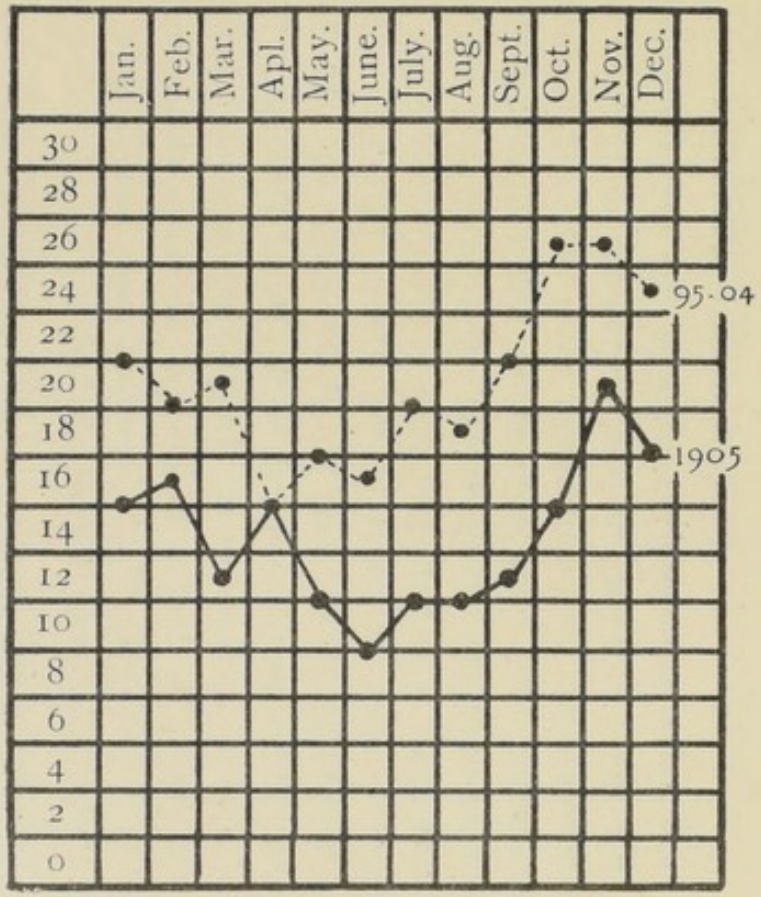
TABLE XVII.

DISTRICTS.	No. of cases notified.	No. of deaths.	No. of cases removed to hospital.	Cases per 1,000 population.	Deaths per 1,000 population.	Deaths per 100 cases.	Percentage of cases removed to hospital.
Urban Districts.							
Barking	118	14	92	4·2	·50	12	78
Braintree	1	1	?	...	.	...	...
Brentwood	5	0	1	·8	0	0	20
Brightlingsea	0	0	...	...	...	...	...
Buckhurst Hill	3	1	?	·6	·20	33	?
Burnham	7	1	?	2·1	·30	14	?
Chelmsford	15	0	10	1·1	0	0	67
Chingford	4	0	?	·8	0	0	?
Clacton	24	1	9	3·1	·13	4	38
Colchester	60	10	40	1·5	·25	17	67
East Ham	290	38	158	2·3	·31	13	54
Epping	1	0	1	...	...	...	...
Frinton	0	0	...	...	...	...	...
Grays	16	3	4	1·0	·20	19	25
Halstead	12	0	4	2·0	0	0	33
Harwich	6	1	2	·6	·09	17	33
Ilford	85	4	54	1·3	·06	5	64
Leigh-on-Sea	3	0	0	·6	0	0	0
Leyton	126	12	53	...	...	..	...
Loughton	1	0	?	...	...	...	..
Maldon	10	0	0	1·8	0	0	0
Romford	26	2	?	1·7	·13	8	?
Saffron Walden	0	0	...	0	0	0	...
Shoeburyness	4	0	4	·9	0	0	100
Southend-on-Sea ...	74	1	47	1·6	·02	1	64
Waltham Holy Cross ...	11	0	10	1·6	0	0	91
Walthamstow	258	28	151	2·2	·24	11	59
Walton-on-the-Naze ...	0	0	...	0	0	0	...
Wanstead	27	3	9	2·5	·27	11	33
Witham	0	0	...	0	0	0	...
Wivenhoe	3	0	0	1·2	0	0	0
Woodford	5	2	4	·3	·13	40	80
Totals	1,195	122		1·7	·175	10	
Rural Districts.							
Belchamp	0	0	...	0	0	0	...
Billericay	28	3	14	1·6	·16	11	50
Braintree	18	7	4	1·0	·39	39	22
Bumpstead	9	1	0	3·7	·42	11	0
Chelmsford	14	1	6	·6	·04	7	43
Dunmow ...	6	1	?	·4	·06	17	...
Epping	3	0	3	·2	0	0	100
Halstead, No. 1	4	0	0	·9	0	0	0
Halstead, No. 2	5	1	2	·9	·18	20	40
Lexden and Winstree ...	13	3	0	·7	·16	23	0
Maldon	9	0	1	·6	0	0	11
Ongar	7	0	0	·7	0	0	0
Orsett	16	3	5	·7	·13	19	31
Rochford	4	0	2	·3	0	0	50
Romford	97	0	43	4·6	0	0	44
Saffron Walden	0	0	0	0	0	...	...
Stansted	7	0	5	1·0	0	0	71
Tendring	18	2	0	·8	·09	11	0
Totals	258	22		1·0	·09	9	

DIPHTHERIA AND CROUP.

URBAN DISTRICTS.

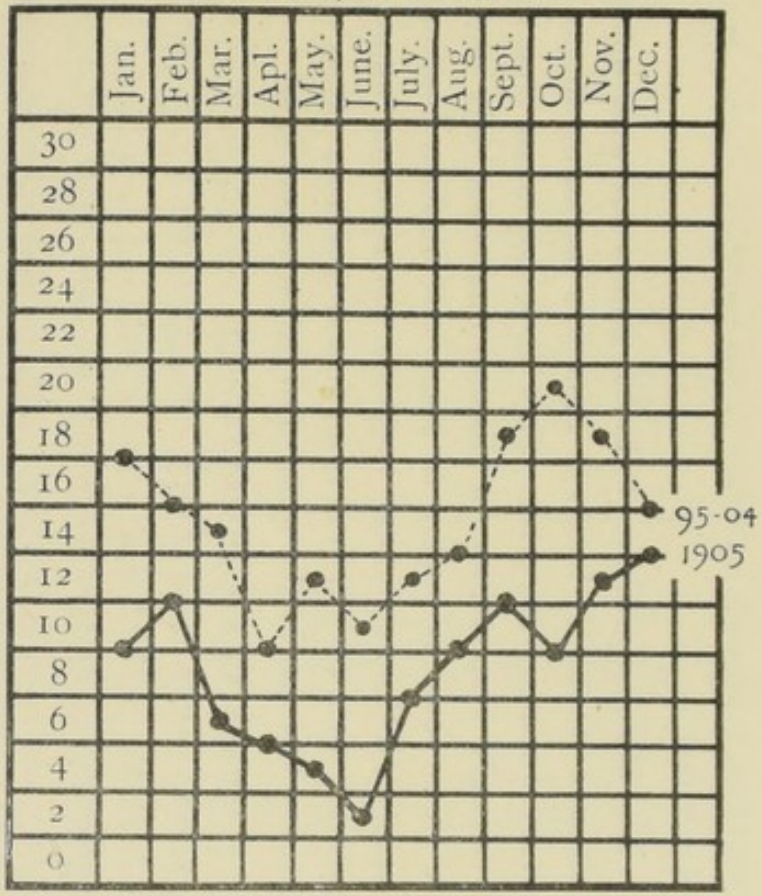
CASES PER 100,000 POPULATION.



DIPHTHERIA AND CROUP.

RURAL DISTRICTS

CASES PER 100,000 POPULATION.



milk, on bacterioscopic examination, was found to contain the same kind of bacteria as those in the purulent matter from the diseased cow.

The Medical Officer of Health points out that epidemics of disease traced to infected milk are becoming much more numerous than in the past. This does not mean that milk is increasingly responsible for disease outbreaks, but only that now more care is taken to trace out obscure epidemics of disease. In this particular instance the epidemic might have continued for a long period if no action had been taken to stop promptly the sale of the milk from this diseased cow.

It follows that it should be made compulsory for all cow-keepers to notify cases of udder disease to the Local Authority, and that the milk of such cows should not be sold for human consumption, under a heavy penalty for disobedience. Unfortunately the law does not compel such notification, and in this direction, and in several others in regard to milk, fresh legislation is required.

TYPHOID AND ALLIED FEVERS.

The most satisfactory feature of our sanitary records is the continued decrease in the prevalence of typhoid fever. The decrease has been continuous since 1902, and the notified cases during 1905 were only about half the average of the preceding 10 years. Unfortunately the fatality, or mortality per 100 cases, is not showing any tendency to decrease. In 1905, 311 cases occurred in the Urban Districts, with 53 deaths (fatality 17 per cent.) and 87 cases with 17 deaths (fatality 20 per cent.) occurred in the Rural Districts. These are about the average rates. In previous reports it has been shewn that a far larger proportion of cases occurs in the Thames Valley area than elsewhere, and that it is in this area that the decrease is most marked.

The cases and deaths in this particular area are as under :—

TABLE XVIII.

	Cases.	Deaths.	Case rate.	Death-rate.
East Ham	77	16	·62	·13
Barking	14	1	·50	·04
Romford (Rural) ...	9	1	·43	·05
Orsett (Rural) ...	7	1	·31	·04
Grays	6	0	·39	·00
Rochford (Rural) ...	26	3	1·66	·19
Leigh	6	1	1·18	·20
Southend	21	8	·45	·17
Shoeburyness... ...	6	0	1·37	·00
	172	31	·63	·11
Remainder of County	226	39	·35	·06

An excessive number of cases still occurs in the area under consideration, especially in Shoeburyness, Leigh and Rochford Rural District. The great fall in the case-rate in Southend is remarkable, and indicates that a similar fall might arise in other districts were the same attention given to the subject as has been given at Southend. The proximity to foreshores, on which shell fish abound, seems to be an important factor, and possibly infected shell fish picked therefrom cause most of the cases.

In several small Urban Districts—Braintree, Buckhurst Hill, Halstead, Waltham, Walton, Wanstead, and Wivenhoe—not a single case occurred, and in four Rural Districts—Bumpstead, Dunmow, Halstead, and Stansted—there were no cases recorded. The probability of shell fish infection, is mentioned in several reports, and in others the possibility of the infection having been spread by flies, is discussed.

Leyton. An outbreak occurred in September in Temple Mills Crescent. The Medical Officer of Health says:—"I observed that the houses wherein these cases occurred were infested with flies, and fancy that herein lies the solution of the mystery. Probably the food supply was entirely

Typhoid, Continued, and Puerperal Fevers.

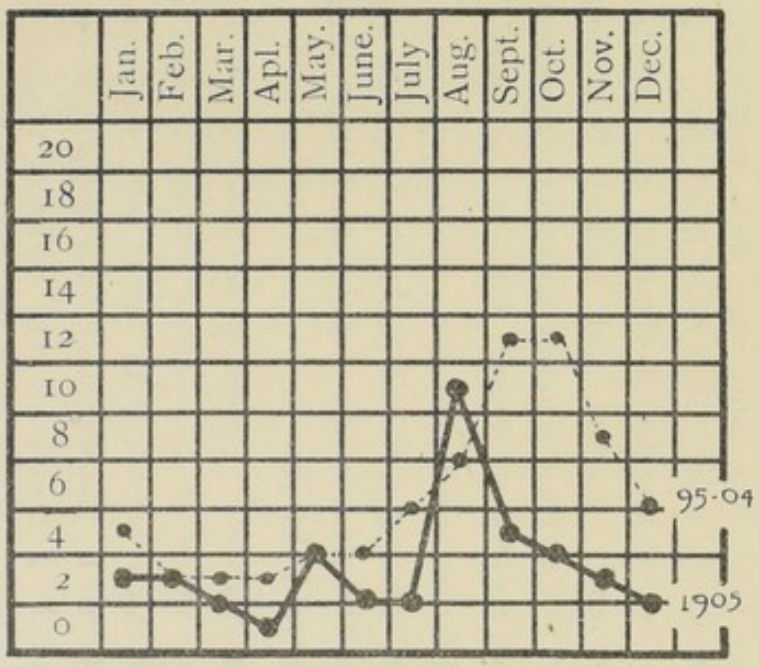
TABLE XIX.

DISTRICTS.	Typhoid and Continued Fevers.							Puerperal Fever.	
	No. of cases notified.	No. of deaths.	No. of cases removed to hospital.	Cases per 1,000 population.	Deaths per 1,000 population.	Deaths per 100 cases.	Percentage of cases removed to hospital.	No. of cases notified.	No. of deaths.
Urban.									
Barking	14	1	...	·50	·04	7	...	2	0
Braintree	0	0	..	0	...	...	...	0	0
Brentwood ...	3	0	1	·48	0	0	33	0	0
Brightlingsea ...	1	0	0	·21	0	0	0	0	0
Buckhurst Hlll ...	0	0	...	0	...	...	...	1	1
Burnham	3	1	2	·91	·30	33	67	0	0
Chelmsford ...	6	1	4	·45	·08	17	67	0	0
Chingford ...	1	0	0	·19	0	0	0	0	0
Clacton	1	1	0	·13	·13	100	0	2	0
Colchester	12	1	7	·30	·02	8	58	0	0
East Ham	77	16	60	·62	·13	21	78	8	2
Epping	1	0	1	·25	0	0	100	1	0
Frinton-on-Sea ...	1	0	0	1·05	0	0	0	0	0
Grays	6	0	4	·39	0	0	67	1	1
Halstead	0	0	...	0	0	...	...	0	0
Harwich	3	0	2	·28	0	0	67	0	0
Ilford	22	4	13	·34	·06	18	59	3	3
Leigh-on-Sea ...	6	1	0	1·18	·20	17	0	0	0
Leyton	54	9	37	·51	·08	17	69	5	2
Loughton	3	1	?	·57	·19	33	...	0	0
Maldon	7	0	3	1·24	0	0	43	0	0
Romford	6	0	5	·40	0	0	83	2	0
Saffron Walden ...	1	0	0	·17	0	0	0	0	0
Shoeburyness ...	6	0	1	1·37	0	0	17	0	0
Southend-on-Sea ..	21	8	14	·45	·17	38	67	0	0
Waltham Holy Cross	0	0	...	0	...	...	...	0	0
Walthamstow ...	50	8	21	·43	·07	16	42	2	0
Walton-on-the Naze	0	0	...	·0	...	...	...	0	0
Wanstead	0	0	...	·0	...	...	...	1	0
Witham	1	0	0	·28	0	0	0	0	0
Wivenhoe	0	0	...	0	...	...	...	0	0
Woodford	5	1	5	·33	·07	20	100	2	1
Totals... ...	311	53		·44	·08	17		30	10
Rural.									
Belchamp	1	0	0	·21	0	0	0	0	0
Billericay ...	8	1	6	·46	·06	12	75	2	2
Braintree ...	4	0	1	·22	0	0	25	0	0
Bumpstead ...	0	0	...	0	...	...	...	0	0
Chelmsford ...	3	0	2	·13	0	0	67	2	1
Dunmow ...	0	0	...	0	...	...	...	0	0
Epping	1	0	0	·07	0	0	0	0	0
Halstead, 1 ...	0	1	0	...	...	..	...	0	0
Halstead, 2 . .	0	0	...	...	...	...	...	0	0
Lexden & Winstree	7	0	0	·36	0	0	0	0	0
Maldon	16	9	3	1·09	·61	56	19	0	0
Ongar	1	0	0	·10	0	0	0	1	0
Orsett	7	1	5	·31	·04	14	71	2	0
Rochford ...	26	3	14	1·66	·19	12	54	0	0
Romford ...	9	1	0	·43	·05	11	0	8	3
Saffron Walden ...	3	1	0	·30	·10	33	0	0	0
Stansted ...	0	0	...	0	...	...	...	0	0
Tendring ...	1	0	0	·05	0	0	0	0	0
Totals... ...	87	17		·35	·07	·20		15	6

TYPHOID AND ALLIED FEVERS.

RURAL DISTRICTS

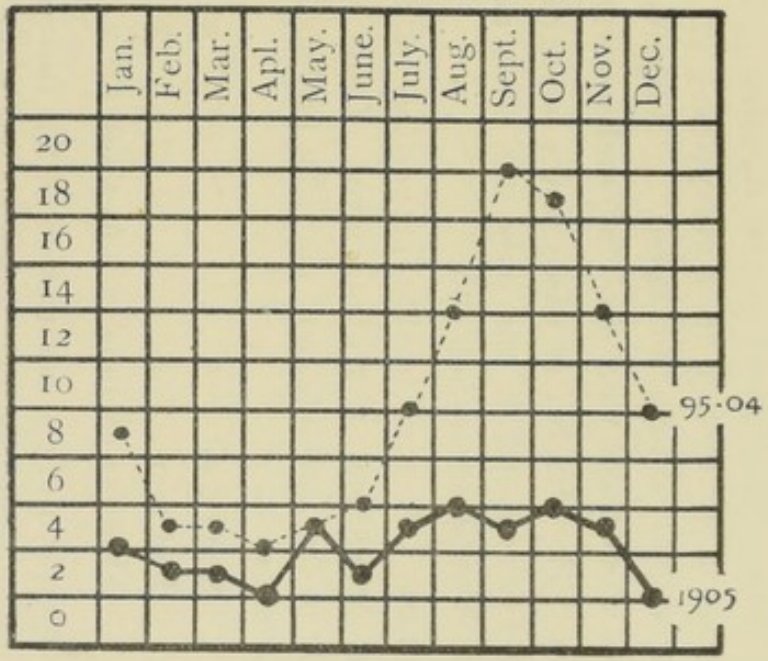
CASES PER 100,000 POPULATION.



TYPHOID AND ALLIED FEVERS.

URBAN DISTRICTS

CASES PER 100,000 POPULATION.



unprotected from these pests, and though it may be an open question whether this disease can be fly-borne, still more care in the matter of protecting food everywhere in hot weather from flies should always be taken." Suspected causes of infection in other cases were shell fish and watercress.

LEIGH. The number of cases which occurred here is far below the average, and in one only was there any history of the patient having eaten shell fish.

SOUTHEND. A considerable proportion of the report is devoted to the subject of typhoid fever. Only 15 cases had their origin in the Borough, and the most probable origin of 14 is given as under :—

Shell fish	...	...	8
Flat fish	...	...	3
Flies (as carriers of infection)	.		3

"The question of the connection of flat fish with typhoid fever is one of considerable interest. In 1900 Dr. Hamer, Senior Assistant Medical Officer of Health to the London County Council, attributed an outbreak of typhoid fever in London to fried fish, and my own enquiries since 1901 certainly tend to make me view fried fish with increased suspicion. In the process of cleaning and gutting, or if eaten when imperfectly cleaned and cooked, fish obtained from specifically fouled waters must correlate some risk if specific dejecta have crossed their path while in the water."

"In districts where there are insanitary privies or middens the dangers arising from an unknown case of typhoid fever coming into the district are accentuated when flies abound in the summer and autumn."

WALTHAMSTOW. Referring to the excessive number of cases which occur in St. James' Street Ward, the Medical Officer of Health says :—"As far as our enquiries elicited, no part was played by the water or milk supply, or eating of shell fish. As a rule, I find it a very difficult matter to trace the source of infection in cases of typhoid. If so minded, one

might assign a cause in many cases, and get no nearer the truth, but useful work lies more in remedying the known causative conditions and the prevention of spreading from existing cases."

MALDON RURAL. Sixteen cases occurred in eight parishes. Six persons were suffering from the disease when they came into the district. Three persons were attacked after drinking water from a canal. A series of cases occurred in Beckingham, all infected by a person who had recently been discharged from a hospital where he had been treated for typhoid fever. Soon after reaching Beckingham he had a relapse and infected his family before the true nature of the disease was recognised.

ROCHFORD RURAL. In all houses where this disease occurred either insanitary conditions or an unsatisfactory water supply existed. Commenting on the decreasing number of cases which now occur, the Medical Officer of Health says " the diminution is due partly to the better water supply in the Western District. . . . Another factor is the greater care taken in the preparation of cockles and other shell fish by boiling or steaming previous to offering them for sale.

PUERPERAL FEVER.

During the year 45 cases were notified. In the previous year the number was 51. In each year the number of deaths was 16. The references to this disease are very few. Apparently not a single case was attributed to the negligence of a midwife, or this would be stated. In round numbers there were 25,000 births in the County, and only 16 women died from septic poisoning following delivery, or one in 1,500, Considering the insanitary conditions of many of the houses of the poor, and the distance many reside from medical help, the proportion must be considered very low. The proportion of such cases attended by midwives it is impossible to ascertain, but there is no reason to believe that more occur in the practice of these women than amongst those attended by

qualified medical practitioners. The control of midwives is now in the hands of the County Council, and the following information regarding the Midwives' Act may be of interest:—

The Midwives' Act.

The Midwives' Act of 1902 was passed chiefly to ensure in the future the provision of a better class of midwife. At the end of 1905 there were 194 women registered as practising in the County, and many of these are poor, ignorant women with no idea of what sepsis means, nor of the importance of cleanliness. Notwithstanding this, very few complaints are received concerning them, and puerperal fever appears very rarely to be due to their ignorance or negligence. In the Reports for 1905 not a single mention is made of a case of puerperal fever resulting in the practice of a midwife, or of a midwife being responsible, directly or indirectly, for any death of a child or lying-in woman.

So many questions have been asked about the relative duties of District Councils and the County Council with regard to the administration of the Midwives' Act that the following information may be of general interest:—

In the Administrative County of Essex the only supervising authority is the Essex County Council, and it is their duty to keep a record of the names and addresses of all midwives practising in the County, to investigate all charges of malpractice, negligence, or misconduct, to suspend any midwife from practice if such suspension appears necessary in order to prevent the spread of infection, etc. The last is an important provision, since if a woman is suspended from practice by the local Medical Officer of Health he or the Sanitary Authority becomes responsible for any loss or damage the midwife may sustain from such suspension. When the local Medical Officer thinks such suspension necessary he should communicate with the County Medical Officer, who is the executive officer under the County Council.

Under the Rules issued by the Central Midwives' Board under Section 3 of the Act, the local Sanitary Authority has certain duties to discharge. These are embodied in Rule 5, which is as follows :—

> "Whenever a midwife has been in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances to the satisfaction of the local Sanitary Authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the local supervising authority (the County Council) all washable clothing should be boiled, and other clothing should be sent to be stoved (by the local Sanitary Authority) and, then exposed freely to the open air for several days."

Some Medical Officers of Health appear to think suspension is necessary after every case of puerperal fever or other infectious disease. This is obviously not the view taken by the Central Midwives' Board. If the local Medical Officer insists upon thorough disinfection (under Rule 5) suspension will rarely be necessary, and if a midwife is suspended, save by the order of the County Council, the person ordering such suspension must accept the responsibility for any compensation claimed.

MEASLES.

The recent unusual prevalence of Measles in this County, and the widely different opinions held by Members of the Sanitary Authority as to the character of the disease and the steps which may be taken to prevent and to arrest epidemics leads me to submit a special report on the subject. In many annual reports I have directed attention to the fact that this disease causes a larger number of deaths than any other of the diseases usually spoken of as "infectious" or as "fevers," and I have suggested that it is worthy of

much more serious consideration than it has hitherto received.

In dealing with the prevalence of the disease it is not necessary to consider any figures dealing with years prior to 1885. Since 1885 Measles has carried off annually an average of about 13,000 children in England and Wales. The maximum number of deaths occurred in 1896 when no less than 17,618 fatal cases were reported, and the minimum in 1901 when 9,019 children died.

In England & Wales ...	1 child dies annually from Measles out of every...	800
In Essex	1 do. do. ...	1,350

If we consider children under 5 years of age only, the proportions become :—

In England & Wales ...	1 child dies annually from Measles out of every...	310
In Essex	1 do. do. ...	530

During the same period Scarlet Fever caused on an average 5,000 deaths, the maximum mortality occurring in 1887 when 7,859 fatal cases were reported, and the minimum in 1898 when 3,548 fatal cases occurred. Scarlet Fever, therefore, only causes 5 deaths where Measles causes 13.

Diphtheria since 1885 has caused on an average 6,800 deaths, the maximum number being 9,466 in 1893 and the minimum 4,098 in 1896. Diphtheria, therefore, only causes about one half the number of deaths attributable to Measles, or to be more accurate Diphtheria only causes 7 deaths to 13 caused by Measles. Taking Scarlet Fever and Diphtheria together they only cause 12 deaths to 13 from Measles.

Whooping Cough is the only disease of this character approaching Measles in its importance as a cause of mortality amongst children. The annual average number of deaths from Whooping Cough during the past 20 years is 11,500. The maximum mortality occurred in 1890 when it caused 13,756 deaths and the minimum, 9,594, in 1895.

Although I do not purpose again referring specifically to Whooping Cough, its importance should not be overlooked, and many of the suggestions made for dealing with Measles apply with almost equal force to this disease.

Measles affects the sexes about equally and no age, however advanced, affords complete protection. Infants have been born with the disease developed and aged people on occasions have been attacked. Where the disease has been imported into communities which have hitherto been free, or at least not affected for a generation, people at all ages were attacked and often the mortality has been frightful. In countries where the disease is always more or less prevalent adults are rarely attacked, simply because so large a proportion have suffered from the disease in infancy, and one attack affords such complete protection that a second attack is practically unknown. Children between 2 and 5 years of age appear to be most prone to infection, but the disease is most fatal to children under 2 years. Sixty per cent. of the deaths which occur from Measles are of children under 2 years of age, 30 per cent. of children between 2 and 5 years, 8 per cent. of children between 5 and 10 years, leaving only 2 per cent. for children and others over 10.

Measles has a tendency to occur in epidemics. These are especially marked in large urban communities and occur at intervals of two to three years. This periodicity is not so well marked in rural communities. In large towns the disease is always present, the maximum number of cases occurring about Xmas. There is then a rapid decline until February, when an increase again occurs and continues until June. Again there is a decrease which continues to September when the minimum is reached, followed by a more rapid increase to the maximum in December.

In country districts this seasonal curve is not followed. Usually the disease becomes epidemic in a parish and then entirely disappears therefrom. The infection may spread to adjoining parishes, where the same phenomena are observed.

The danger of an epidemic outburst therefore is greatest when the disease is introduced into a parish from which it has been absent two or three years, and especially if it is introduced in the autumn or early summer, when for some reason it has a greater tendency to spread.

In some outbreaks the disease appears to be of a mild type, in others severe. For example, in 1904 when Measles was notifiable in certain districts in the County 1,010 cases were notified in Colchester with 29 deaths, or about 1 death per 35 children attacked. In Ilford there were 805 cases notified and only 5 deaths, or 1 death per 161 children attacked. This variation in fatality I shall have to refer to later.

Measles is not known to have any relation to soil. It does not appear to be transmitted by drinking water, or by milk or any article of food. Nor does it appear to be related to any disease occurring in animals, which might be transmissible to man. The infection is probably on occasions carried by articles of clothing and other formites, but the only manner in which it is usually conveyed is from person to person by inhalation. The infective matter, probably a micro-organism not yet isolated, is given off by the breath and from the discharges from the mouth, nose and eyes, and it is of the utmost importance to note that a patient is infectious from the earliest onset of the disease, certainly for some days prior to the attack being so far developed as to render its diagnosis certain. For 12 to 14 days after becoming infected the patient appears quite well, then he exhibits all the symptoms of a common cold, he is feverish, and there is "running" of the nose and eyes. On the fourth day from the onset of these symptoms the rash appears, usually first shewing on the forehead. Some days later the rash fades and is often followed by a "branny" desquamation. These branny scales are usually regarded as "infective" but the proof of this is far from conclusive, but a patient cannot be considered free from infection until the desquamation is complete, or until three weeks have elapsed from the appearance of the rash.

The most dangerous and most fatal complication, especially liable to occur if the patient is not properly nursed and tended, is broncho-pneumonia (inflammation of the lungs and bronchial tubes), and it is this complication which is chiefly responsible for the deaths following Measles. If recovery occurs the lungs may be permanently damaged, and the patient at a later date fall a victim to tuberculosis (consumption).

From what has been said it is obvious, I think, that the extent and severity of the disease depends upon three factors: —(1) The virulence of the infecting agent, (2) the physical and general well-being of the children, and (3) the sanitary condition of their environment. With reference to the first, the virulency of the infecting agent, I need say very little, as at present it is beyond our control. There are those who deny that there is any variation in virulency, but this I cannot believe. I do not see how we can explain a fatality of 3 per cent. amongst the children in Colchester during 1904, with a fatality of much less than 1 per cent. in Ilford in the same year. I will admit that from my knowledge of the two towns I should have expected a lower mortality in Ilford than in Colchester, but the conditions of the people in the two towns do not vary to such an extent as to explain this great difference.

The physical well being of the children and their bodily condition are important factors. If a large proportion of the children have been rendered immune by an attack, the risk of the disease becoming epidemic is diminished. If they are in robust health and well and properly fed, and kept in a condition of cleanliness and have acquired clean habits, they are less likely to be attacked and if attacked the disease is less likely to be severe. It is a fact, observed by all medical men of experience, that Measles is far more fatal amongst the children of the poor than amongst the children of the well-to-do (or of the better educated class). This is in part due to the causes just described, but also to the third factor remaining to be considered, the environment. By this I mean the sanitary condition of the dwellings and of the

parish, and other conditions due to the care and attention or ignorance and neglect of parents. Dirt, squalor, overcrowding of people in houses, and of houses on space, all tend to facilitate the spread of infection and to increase the severity of the disease. Want of isolation, lack of nursing, inattention to the child, especially when the first symptoms are observed and when it is becoming convalescent, the outcome of ignorance and neglect, are even more important, possibly they are the most important factors in the production of epidemics and in increasing the fatality. It is also the carelessness or ignorance on the part of parents which is usually the cause of the introduction of the infection into schools, the children being sent to school when they ought to be under supervision at home. When infective children have been allowed to attend school (day school or Sunday school) an epidemic is inevitable unless the majority of the children have been rendered immune during a recent outbreak. Finally, parents generally still regard Measles as a trivial affection, and can with difficulty be persuaded to take the necessary steps to guard against the spread of infection.

From what has been already said it will be obvious that there are special difficulties to be contended with in dealing with Measles. The chief are (1) the extreme infectiousness in the early stages before the true nature of the disease is obvious, (2) the difficulty of obtaining early notification of cases, and (3) the ignorance and apathy of parents.

What steps can be taken under the circumstances to control the disease? and more particularly what are the measures which can be taken by the Sanitary Authorities? These can be considered under three heads:—

1. The obtaining of early information of cases occurring in the district.

2. Measures which may be taken to prevent extension of the infection in the houses invaded.

3. Measures for checking the spread from house to house or from family to family throughout the invaded district.

Taking these in order we have first to consider how best to obtain an early intimation of the presence of Measles, and naturally the question of making the disease compulsorily notifiable under the Infectious Diseases Notification Act suggests itself. This has been tried in very many districts, and in almost every case it has, finally, been abandoned. Amongst the poor a medical man is rarely called in to treat a case of Measles, unless at a late stage when some serious complication has occurred, and the parents, whose duty it would be to notify, always plead ignorance, alleging that they thought the disease was German Measles, nettle rash, teething rash, or something of this kind, and, as it is rarely possible to prove that they knew the disease to be Measles, the Act becomes, practically, a dead letter. Moreover, Sanitary Authorities finding that Compulsory Notification is very expensive and has apparently little effect in reducing the prevalence of the disease, are not anxious to prolong the experiment.

More important than the mere notification of the majority of cases, which is what compulsory notification effects, is the notification of the very earliest case or cases which occur in a district (I now more particularly refer to rural districts, where the disease often disappears entirely for a time), and of the fresh houses invaded. The persons most likely to hear of such cases are, not the medical practitioner, but the schoolmaster, the school attendance officer, the district visitor or parish nurse, and the clergyman or minister of the parish. As Measles is a disease of great importance to the Education Authority it appears to me to be very desirable from the educational point of view that they should obtain early information with reference to the introduction of the disease into any parish, and that the Attendance Officer, if instructed to make the necessary inquiries, would be best able to obtain

the information required. If he were instructed to make such enquiries, and received a small fee for each family notified, probably this would answer every purpose. I am of opinion that in the course of time there will have to be a Medical Officer appointed to every school or group of schools, and that the Attendance Officers will have to make more full and careful enquiries not merely as to the cause of absence of children but as to conditions likely to cause the absence of children, such as the presence of Measles, Whooping Cough, Mumps, etc.' and that these reports will have to be submitted, weekly or more frequently, to the Medical Officer. At present I merely suggest for consideration whether the Attendance Officer's services could not be utilised in some way. Failing this we must fall back upon the Schoolmaster and Schoolmistress, and with the approval of the School Authorities, contrive to get them to notify any suspicious case which comes to their knowledge.

Voluntary notification by parents might also be encouraged, but I fail to see how this can be done. If hand bills are distributed during periods when Measles is not prevalent, people take no interest in them, and if distributed during an epidemic they are of very little good. The best time to distribute them would be when the disease has first been introduced, in the hope that the people would be inclined to make some little effort to prevent their own households being invaded. This has been done in some districts for years past, and probably some good has resulted therefrom. One clergyman, who thoroughly approves of the attempt to instruct the people by means of leaflets, thinks that there is more information given on them than the people care to acquire, and that less matter and larger type would ensure their being more widely read and of the suggestions given being more generally acted upon.

Information having been obtained of early cases, the Medical Officer and Inspector can give advice to parents in the infected households and by frequently visiting endeavour to

secure the advice being acted upon. Children from infected families are then excluded from school, and on occasions children who have been in contact with infected persons may be excluded until it is certain that they have not been infected. The Medical Officer or Inspector can also make enquiries as to the source of infection, a course which often results in the discovery of previously unsuspected cases, the very cases which, if not detected, continue to spread infection. This search for mild cases of infectious disease is of the very greatest importance, and I believe that money spent in such investigations and in watching over infected families would do far more good than many times the amount spent in providing isolation accommodation. Of course the ideal condition is the thorough search for mild cases, and the isolation of all infectious cases, but as both are usually impossible I lay greater stress on the former, as without this the isolation of the well-marked cases only cannot be of much, if any benefit, and certainly is costly.

For the prevention of the spread of infection in the family and in the community, it has been suggested that hospital accommodation should be provided for cases which occur in houses in which isolation at home is impossible. The provision of a larger proportion of houses with three bedrooms would markedly diminish the number of these cases. Experience with other diseases has not been sufficiently encouraging for me to recommend hospital isolation, especially as such isolation is less likely to be beneficial in case of Measles than in cases of Scarlet Fever and Diphtheria, since the disease is infectious at a much earlier stage and in the majority of cases the infection would have spread in a household before the disease was sufficiently developed to justify removal of the patient to a hospital. We must, therefore, at present be content with enforcing the isolation of patients, as far as practicable, in their own homes. This means constant supervision by the officials. Measles should be considered a dangerous infectious disorder under the Public Health Act,

sec. 126, and parents warned that if they do anything tending to spread infection they will be liable to a penalty of £5. This raises the question whether a disease which is not compulsorily notifiable can be held to be a dangerous infectious disease under this section. This question is really one for the Magistrates to decide.

The infected children should remain isolated on the infected premises until the Medical Officer certifies that they are free from infection, and this raises another important question, viz., can they be considered free from infection unless their clothing and the house generally has been disinfected. To disinfect after every case of Measles would involve a large amount of extra work and a considerable expenditure, and I have grave doubts whether the expense would be commensurate with the results if the process was carried out as a matter of routine. I do think, however, that it would be well to insist on thorough disinfection in sporadic cases, that is in the odd cases which occur when there is no epidemic prevalence. It would probably tend to prevent such epidemic prevalence and be worth trying.

The attendance of children at day and Sunday schools and of persons from infected families at public gatherings also requires attention. All children from an infected house should be excluded from day and Sunday schools, and notice to this effect should be given both to the parents and the school authorities. School closure is only justified when it becomes obvious that the infection is being spread by school attendance, and that all other means of arresting the spread are likely to prove unavailing. Unfortunately the exclusion of scholars entails a serious loss of grant to a school, and this injustice should be remedied. It is a matter, however, which concerns the Education Authority far more than the Sanitary Authority and may safely be left to them.

When schools have been invaded and subsequently closed, the opportunity should be taken to thoroughly clean down the school premises and the disinfection of the walls, roofs, floors,

desks, etc, by a powerful germicidal solution is desirable. Probably also the books, etc., could be submitted to some process of disinfection.

Persons from infected houses should not attend public gatherings, especially if children are likely also to be present. This can only be brought about by moral suasion. I am afraid we cannot legally enforce such abstinence.

In certain cases it might be desirable that a person should be restained from continuing his or her occupation, but there is no legal power to enforce this. A woman carrying on the business of a dressmaker cannot be compelled to cease her avocation, and washing may be taken in at an infected house. Scarlet Fever and Small-pox alone are mentioned under the Factories and Workshop Acts, but if Measles is considered a dangerous infectious disorder under the Public Health Act, probably sec. 126 could be so interpreted as to enable us to prevent the sending out of clothing from infected premises. The authority in such cases should have power to pay compensation.

The disease may possibly also be spread by books from a public library, and where such libraries exist the librarian should be notified so that he neither gives out to nor receives from an infected house any book until the premises have been certified free from infection, and any book which has been on such premises should be destroyed or disinfected.

The taking of all the above precautions means an efficient sanitary staff, sufficiently large to discharge all these duties during ordinary times, supplemented, if necessary, by temporary additions during epidemic periods.

In conclusion, I must observe that all the efforts of the Sanitary Authority must be more or less futile unless the apathy and ignorance of the people can be overcome. With the present generation possibly little can be done, but I think that a most important factor is the provision of district nurses, nurses living and working in our villages amongst the people,

gaining their confidence, helping them in their affliction, and capable of advising them not only how to nurse the sick but how to prevent sickness. Such nurses are at work in a great many parishes, and no doubt in time one will be found in every parish, and their services will lighten the work of the Sanitary Inspector and of the Medical Officer. For the coming generation our hopes must rest upon the efforts of the Education Authorities. If children are taught the value of health, and how to maintain it, the knowledge must be of use to them in after life, and the next generation may come to regard all infectious diseases as more or less preventible, and may be more inclined to listen to advice given to them, and to co-operate more cordially with the Sanitary Authority and their officers in their efforts to improve the sanitary condition of their district, and to reduce the incidence of disease.

ISOLATION HOSPITALS.

The chief improvements chronicled during the year are as under :—

Ilford. A shelter or convalescent home has been erected in a portion of the hospital grounds, but outside the actual hospital precincts. "It is proposed to use this as a convalescent home or 'half-way house' between the hospital and the home for scarlet fever patients—this when not otherwise required. By this means it is hoped to minimise the return cases by hardening off, so to speak, the patient before returning home. The shelter was declared open in December of the past year. It will provide accommodation for about eight patients."

Waltham Holy Cross, Buckhurst Hill, & Chingford. A Joint Hospital Board was formed for these districts by a Provisional Order confirmed by Parliament July 22nd, 1902. The Board consists of 10 members, three representing Buckhurst Hill, three Chingford, and four Waltham. A hospital has been erected in the Waltham District, and the

loan authorised for the erection of the hospital and its furnishing and equipment amounted to £8,980. The buildings comprise entrance lodge, administrative building, an isolation block with four beds, diphtheria block with eight beds, scarlet fever block with 12 beds, together with a laundry and mortuary block. A full description of the hospital is given in Dr. Damar-Priest's report to the Waltham Urban District Council. The present permanent staff consists of Matron-nurse, Nurse, Ward-maid, Cook, General Servant, Porter and wife. Arrangements have been made with the London Hospital for extra nurses as may be required.

Walthamstow. The administrative block has been considerably enlarged and a new ward block constructed of a form novel in this country. Each bed is enclosed in a separate room with glass walls, effectually isolating them from each other. The capacity of the hospital has been increased from 46 to 82 beds.

Dunmow Rural. A model isolation hospital has been erected here with four wards. A description of the buildings, etc., is contained in the Medical Officer's report.

The following Urban Districts have no isolation hospital :— Brightlingsea, Wivenhoe, Walton, Frinton, Witham, Burnham, Leigh, and Woodford. Loughton and Epping send cases to the Epping Rural District Hospital. The following Rural Districts have no hospital :—Belchamp, Bumpstead, Lexden and Winstree, Ongar, and Tendring. Dr. Cook, who is Medical Officer of Health for the Lexden and Winstree and Tendring Rural Districts and the Walton Urban Districts, thinks that home isolation is not satisfactory, and that some provision for the isolation of infectious cases should be made in those districts. The Medical Officer of Health for Witham says the want of a hospital is often sorely felt. A few Medical Officers refer to the utility of hospitals, but not one produces any evidence to show that where they have been provided a marked decline in the prevalence of scarlet fever and diphtheria has resulted. The importance of this subject led me to

prepare for the Romford and Chelmsford Districts a report of which the following is an abstract:—

"Until recent years it was an axiom with all engaged in public health work that Isolation Hospitals were almost invaluable, and that they were absolutely necessary if any Authority wished to cope effectively with epidemic disease. Most unfortunately, this opinion was never seriously challenged until recently. In fact, it would have been scarcely possible to produce evidence one way or the other had it not been that in 1891 the "Notification of Infectious Diseases Act" was passed, and that after its adoption in a District, it became, for the first time, possible to ascertain approximately the number of cases of infectious disease which occurred therein.

"I was as firmly convinced of the great utility of Isolation Hospitals as any other Medical Officer of Health until about 1902, when I discovered that the hospital provided by the Chelmsford Rural District Council was not having quite the effect I had anticipated. This hospital was erected in 1894, and came into use on January 1st, 1895. For a few years after it was opened the number of cases of Diphtheria considerably decreased, but Scarlet Fever showed no such tendency. In 1900-1-2 Diphtheria became far more prevalent than it had ever been before whilst I had been Medical Officer for the district, and this notwithstanding that I removed all the cases from the more overcrowded houses. My faith began to be shaken; and as figures were then being published with reference to other districts shewing that statistically the effect of hospitals on Scarlet Fever prevalence elsewhere had been inappreciable, I felt bound to modify my ideas and to speak far more guardedly on the subject. Since then I have very carefully studied all the statistics for this County, and in November, 1904, I communicated the result to the Sanitary Committee of the County Council. These results, briefly summarized, were as follows:—

In 15 Urban Districts provided with Isolation Hospitals

Diphtheria had increased in	3 districts
Scarlet Fever ,,	6 ,,
These diseases had decreased in	6 ,,

In 9 Rural Districts provided with Hospitals

Diphtheria and Scarlet Fever had increased in 2 districts
Diphtheria had increased in 3 ,,
Scarlet Fever in 2 ,,
The two diseases had decreased in 2 ,,

In 6 Rural Districts without Hospitals

Scarlet Fever and Diphtheria had increased in 1 district
Diphtheria alone in 1 ,,
Scarlet Fever alone in 1 ,,
Both had decreased in 3 districts

"These results do not show any marked effect following the provision of Isolation Hospitals, and especially in Rural Districts.

"The following table is compiled from my Annual Reports on the Chelmsford Rural District, and will enable us to judge whether the hospital provided there has had any marked effect :—

Statistics for five years prior to the opening of the Hospital.
Cases notified during each year.

	Diphtheria.	Scarlet Fever.	Typhoid Fever.
1890 ...	38	32	16
1891 ...	43	30	14
1892 ...	98	55	17
1893 ...	80	84	22
1894 ...	73	81	8
Totals ...	332	282	77
Averages	66	56	15

Cases notified annually for five years after opening of Hospital.

	Diphtheria.	Scarlet Fever.	Typhoid Fever.
1895 ...	24	44	12
1896 ...	31	45	12
1897 ...	14	72	11
1898 ...	8	55	21
1899 ...	22	129	5
Totals ...	99	345	63
Averages	20	69	12

Cases notified during last six years.

1900 ...	158 ...	78 ...	25
1901 ...	184 ...	43 ...	9
1902 ...	115 ...	85 ...	14
1903 ..	49 ...	40 ...	5
1904 ...	9 ...	48 ...	5
1905 ...	14 ...	91 ...	5
Totals ...	529	385	63
Averages	88	64	10

"Little satisfaction is to be obtained from the condition of these Tables.

"Typhoid Fever notifications have been given because —although persons suffering from this disease have not been removed for isolation—it is the only one shewing signs of a continued decrease.

"In my last Annual Report I went still further into this matter and shewed, from a study of the Scarlet Fever cases, that where patients were removed from houses in which there were other susceptible persons, practically as many others were attacked as in those cases where the patients were not removed.

No. of houses containing other susceptible persons from which first notified cases were removed to Hospital.	No. of susceptible persons in these houses.	No. of persons attacked.
30 ...	104 ...	49
No. of infected houses from which patients were not removed.		
13 ...	45 ...	22

"This Table shews that the average number of susceptible persons per house was the same in both cases, and that 47 per cent. of the susceptible children were attacked in the families of those removed to hospital and 49 per cent. amongst those not

removed—an advantage of only 2 per cent. in favour of hospital isolation. These figures, of course, apply to this one district only, and for a single year.

"At Romford a well-equipped hospital was opened in May, 1901, for the use of the Urban and Rural Districts. The notifications for the six years prior to the opening of the hospital and for the four years subsequent to the opening are here given. As the hospital was opened in the middle of 1901, that year is excluded :—

	Romford Urban District.			Romford Rural District.		
	Cases notified during each year.					
Prior to use of Hospital.	Diphtheria.	Scarlet Fever.	Typhoid Fever	Diphtheria.	Scarlet Fever.	Typhoid Fever.
1895	31	10	30	149	44	22
1896	66	42	21	93	95	17
1897	39	32	22	32	43	44
1898	23	22	18	39	41	37
1899	36	20	9	36	70	60
1900	21	5	7	36	67	26
Totals...	216	131	107	385	360	206
Averages	36	22	18	64	60	34
Hospital in use.						
1902	37	48	14	34	40	29
1903	23	23	6	252	42	12
1904	45	29	4	179	146	12
1905	37	11	7	114	179	11
Totals ..	142	111	31	579	407	64
Averages	36	28	8	145	102	16

"As there has been a somewhat considerable increase in the population in these districts, I have calculated the proportion of cases per 10,000 population for each period, for the districts separately and for the combined districts.

ROMFORD URBAN DISTRICT.

Average number of cases per 10,000 population notified per annum.

	Diphtheria.	Scarlet Fever.	Typhoid Fever.
Prior to use of Hospital.	30	18	15
Average for 1901-5 during use of Hospital.	25	21	6

ROMFORD RURAL DISTRICT.

Prior to use of Hospital.	36	33	20
During use of Hospital.	72	51	8

THE COMBINED DISTRICTS.

Prior to use of Hospital.	33	27	17
During use of Hospital.	52	38	7

"The consideration of these and other statistics lead me to make investigations with the object of ascertaining why Isolation Hospitals were failures, so far as relates to the prevention of the spread of Scarlet Fever and Diphtheria; and I am now confident that the cause is the prevalence of such a large proportion of cases of so mild a type that they not only escape notification, but they escape recognition unless carefully sought for by a competent person. During the last few years myself and assistants have made very full investigations of many localised outbreaks, and in practically every instance we have come to the conclusion that many mild cases * have occurred, unrecognised, yet forming as it were the connecting links between the recognised cases, and it now seems very probable that persons in perfect health may harbour in their throats the organisms capable of causing Scarlet Fever or Diphtheria and convey them to others more susceptible and so infect them. Assuming this to be the case, the reason why the isolation of the notified cases fails to arrest the spread of infection is perfectly obvious; and it is equally obvious that refinements in method of treatment, and of hospital administration, can have but little effect. It is, of course, possible that these refinements may tend to prevent so-called "return"

* In a recent outbreak we found more cases which had escaped recognition than cases which had been notified.

cases, but such cases are but insignificant factors in the spread of infection.

"If, therefore, Isolation Hospitals have so little effect in arresting the spread of infection, are they of any value to the community, or can any arguments be urged in favour of their maintenance ?

"1. They save the Medical Officer of Health a great deal of time and trouble. When a case has been removed and the house disinfected, there is little more to do. If the patient is not removed, the house requires frequent visiting to ascertain that all proper precautions are being taken and that the patient is not allowed to return to school or work until free from infection. This may mean that the case remains under supervision for six or eight weeks or more.

"2. Medical men do not care to attend the children of the poor when they are suffering from infectious disorders. They cannot obtain adequate remuneration for their services, and naturally their other patients prefer that they should not be attending cases of Scarlet Fever and Diphtheria.

"3. Many cases occur in over-crowded houses or in houses where no sort of isolation is possible, and where it is to the advantage, both of the patient and of the public, that the former be promptly removed. The greater the crowding of people in houses, and the greater the crowding of houses on space, and the greater the need for Isolation Hospitals. The less the over-crowding and the less the need for hospitals. In some such instances, possibly, prompt removal of cases discovered soon after infection may prevent epidemic outbreaks.

"4. Other cases occur in which the bread-winner would be precluded from following his occupation if the patient remained at home, with the resulting impoverishment of the family. No doubt in many cases it would be cheaper to pay wages than to remove the case; but the former is an illegal course, whilst the latter is legal.

"5. Again, cases occur in business houses, at dairy farms, etc., and amongst servants. In some of these instances the removal of the patient is more to the advantage of the householder or to the patient than to the public; nevertheless, it is an advantage which the ratepayer appreciates when the premises infected are in his occupation.

"6. In a few cases removal is greatly to the benefit of the patient, who, whether a ratepayer or not, forms a unit in the community. These cases are not numerous. My experience leads me to the conclusion that the majority of cases do better at home, if they can have reasonable care and attention, than they do in Isolation Hospitals, where severe and mild types of disease and acute and convalescent cases must be treated in the same wards.

"It will be seen therefore, that, notwithstanding the failure of hospitals to stamp out disease, there is much to be said in favour of their maintenance, especially for populous localities. In thinly-populated rural districts the need is much less urgent, and would practically cease to exist were the housing accommodation ample.

"The question of hospital provision is one which must be considered in every district, and the answer in each case depends upon the special requirements of the district and the wishes of the ratepayers after they have been put in possession of all the facts. When only a limited amount of money is available—as must always be the case when it has to be raised from the rates—the requirement which is most urgent, and the work which will be of the greatest benefit to the greatest number of the ratepayers, is that on which the money should be expended. In many districts it is probable that there are more urgent requirements than the provision of Isolation Hospitals."

TABLE XX.

Meteorological Data and Prevalence of Infectious Diseases
For the Year ending December 31st, 1905.

Month.	Meteorological Data.					Infectious Diseases Notified.					Total.
	Mean Temperature.	Mean Daily Range.	Relative Humidity	No. of Rainy Days.	Rainfall.	Small-pox.	Diphtheria and Croup.	Fevers.	Scarlet Fever.	Erysipelas.	
January... ...	37·0	12·2	89	10	1·05	0	136	34	347	68	585
February ...	41·2	11·1	83	12	·67	1	145	30	377	55	608
March	44·4	15·1	83	19	2·90	1	106	25	327	59	518
April	46·0	15·0	78	14	1·80	1	126	18	266	57	468
May	51·5	22·6	62	7	·86	0	96	42	341	64	543
June	59·2	17·5	76	15	2·24	0	75	24	305	45	449
July	65·45	21·5	70	8	·70	0	102	39	398	47	586
August	60·1	19·5	70	20	2·00	0	106	71	349	47	573
September ...	56·0	16·7	82	12	1·26	0	116	51	482	76	725
October	44 0	15·9	81	12	1·08	0	139	52	571	76	838
November ...	42·5	10·2	89	20	2·33	0	176	41	481	108	806
December ...	38·9	9·9	89	9	·52	0	157	22	329	74	582
Means & Totals	48·85	15·6	79·3	158	17·47	3	1480	449	4573	776	7281

Rainfall for Year in Different Districts.

Barking ...	... 20·51
Billericay	... 20·9
Buckhurst Hill	... 20·39
Chelmsford	... 17·5
Clacton ...	... 16·68
Colchester (Lexden)	18·41
East Ham...	20·03
Epping ...	... 22·93
Frinton ...	... 19·11
Halstead	... 17·56
Ilford ...	... 18·7
Leyton ...	... 19·44
Saffron Walden	... 20·0
Southend	... 17·9
Waltham Abbey	... 25·31
Average	... 19·7

SECTION III.

SANITARY ADMINISTRATION.

WATER SUPPLIES.

The Metropolitan Water Board supplies a far larger number of people than any other Water Company or Sanitary Authority. The districts included within the Metropolitan Water Board area are Waltham Holy Cross, Chingford, Loughton, Buckhurst Hill, Walthamstow, Leyton, Woodford, Wanstead, East Ham, and part of Ilford, all Urban Districts, and Chigwell, a parish in the Epping Rural District, and the population supplied is now estimated at 404,000, whereas in 1891 it was only 184,238. It is exceedingly fortunate for this most rapidly increasing portion of Essex that it is within the Metropolitan Water area, as notwithstanding the enormous growth the supply is abundant and, save in theory, there appears to be no objection to its quality. The following are the reports of the Medical Officers of Health thereon.

Buckhurst Hill. Satisfactory in quality and a constant supply. The high levels supplied from the deep well at Waltham Abbey and the low levels from the well at Chingford Mill. All houses connected with the mains.

East Ham. The consumption is about 30 gallons per head per day. In no instance has the constant service been suspended save temporarily in small local areas for the purpose of repairs.

Ilford. Analysis has given satisfactory result.

Leyton. The water supplied is not referred to, but the unfortunate position of many house cisterns is mentioned.

Loughton. The supply, though hard, s abundant. Every house is supplied.

Waltham Holy Cross. An abundance of water, derived solely from the deep well in the Lea Road. It is of exceptional purity. The mains have been extended in various directions. The area of this district is large and the outlying parts are not well supplied with water. In times of drought the large property owners have caused a daily supply of water to be taken to their suffering tenants.

Walthamstow. Throughout the year the supply was constant and very good. Monthly analyses were made and the results shewed that a high standard of purity had been maintained. All the houses, practically, are connected with the mains, but many do not get their drinking water direct from the main but through a cistern, and some of these are in undesirable positions.

Woodford. Reference is also made here about many houses deriving drinking water through their cisterns instead of from the main direct. The supply of water has been constant.

The South Essex Water Company's supply is the next in importance. The Company supplies the larger portion of Ilford, Barking, Grays, Romford, and Brentwood Urban Districts and practically all the Romford Rural District and much of the Orsett Rural District. The population now supplied is about 160,000, in 1891 it was 82,300. There have been fewer complaints recently about the supply, but sufficient care is not taken to depress the level of the Grays wells, so as to draw in tidal water (*vide* Gray's Report).

Barking. The water has been examined on several occasions and found excellent.

Brentwood. For years there was a scarcity of water, owing to want of pressure, in the higher parts of the town, but the Company have erected a water-tower which has effectually remedied this defect.

Grays. Although the supply was plentiful and constant during the year, for a time in the spring and early summer, the

water supplied to parts of the district, chiefly to the western portion, was most unsatisfactory in quality, and showed, on analysis, abundant evidence of being polluted with an influx from the River Thames, thus endangering the health of the community. Complaints made to the Company ultimately led to an explanation, from which the Medical Officer of Health infers "that previously the water was being derived from adits . . . towards the south and too near the River Thames, which would account for the influx of tidal water. Presumably the pure water is derived from Linford."

Ilford. The water has given much better results on analysis than heretofore. The Company is sinking a well in the Roding valley, and also one in Mill Road.

Romford Urban and Rural. No mention of quality. Negotiations are being conducted with the Company to extend their mains in several directions where, at present, the inhabitants depend on ponds and shallow wells for their supply.

Orsett (R). The chief supply is from the South Essex Water Co. The mains supply Tilbury Docks, Little and West Thurrock, Stifford, Aveley, South and North Ockendon, Stanford-le-Hope, Horndon-on-the-Hill, Corringham, and parts of Mucking and Orsett. The various recent extensions are chronicled. A second large well has been sunk by the Company at Linford. This and the other Linford well supplies Stanford and Horndon, and connects with the Grays mains near the cemetery No reference is made to quality or quantity.

Billericay (R). The Company's mains have now been extended into this district to supply Pilgrim's Hatch, Cockstye Green, and South Weald Village.

Southend Water Co. This is the supply next in importance, and each year it becomes of greater service since the Company, having to go further afield for water, undertakes to supply the parishes in which its new wells are situated or through which its mains pass. Extensions are also being made at the request of the Billericay Rural District Council to supply

North Benfleet and Wickford, and further extensions are contemplated. The Company now supply a population of about 50,000 throughout the year, and many more during the summer season.

Southend Borough. The Company courteously allowed the Medical Officer of Health to inspect their works at Fobbing, Vange, Thundersley, Burches, Nobles Green, and Oakwood. He was satisfied with the management and with the precautions taken to prevent contamination. The supply was of excellent quality throughout the year.

Orsett (R). Negotiations are in progress with the Company to supply the growing population of Laindon Hills.

Rochford (R). The Company's mains are being extended to supply the parish of Great Wakering.

Billericay. The mains now extend into this district and the Medical Officer of Health thinks the Company could economically supply Basildon, Nevendon, and part of Laindon from their main at Vange.

Tendring Hundred Water Works. This Company supplies Harwich, Walton, and Frinton Urban Districts and various parishes between Manningtree, where the chalk wells furnishing the water are situated, and these places.

Harwich. No reference is made to the water supply.

Frinton. The supply was abundant and of good quality. Complaints of turbidity were made early in the season, but the cause was only a temporary one.

Walton. There is now a storage reservoir at Frinton Railway Station for the supply of Frinton and Walton. The supply is plentiful and the chemical quality good, but several times during the year there were great complaints of the turbid condition of the water. This Dr. Cook attributes to insufficient flushing of the mains and the use of mains of foreign manufacture.

Tendring (R). The only reference to the supply is a remark about the turbidity, but the complaints ceased in

November, "so that the inference can only be that the water is improved."

The only other public Water Company supplying water to more than one district is the Herts and Essex Company, which derives its water from chalk wells at Sawbridgeworth, in Hertfordshire. It supplies Epping town and various parishes in the Epping Rural District, and one in Ongar District (Bobbingworth).

Epping (U). No reference is made to the quality or quantity of the supply, but in writing of typhoid fever it is suggested that a bacteriological examination of the water should be made quarterly.

Epping (R). No reference is made to the water supply.

Other Urban Supplies.

Braintree. The Council have under consideration the duplication of engines and pumps to increase the supply, the water level in the deep well falling about 1 foot per year.

Brightlingsea. The Medical Officer apparently charges the "hard" water with causing disease, especially constipation with its far reaching effects. His views on this subject are somewhat extraordinary, as are also those he expresses with reference to "whole time" Health Officers.

Burnham. On certain days water is supplied from the deep bore, and on others from the more superficial wells. Where the waters mix in the main some chemical action is said to take place, causing the mixture to smell of chloride of lime. "Such effect is sufficient to cause marked good."

Chelmsford. The supply now is both "sufficient and adequate" and the quality excellent. One spring shews signs of failing and a second deep well is suggested, The new deep well yields between eight and nine thousand gallons per hour, and pumping is maintained 16 hours per day. A portion of the town has only an intermittent supply.

Clacton. The supply from the Great Bentley works is abundant and of excellent quality. The water is filtered before distribution.

Colchester. The mains have been extended 2,310 yards, making a total length of 47 miles. The supply works out at 17 gallons per head per day. The Lexden springs have been acquired by the Corporation and the works necessary for utilizing this additional supply are nearly completed.

Leigh-on-Sea. Two-thirds of the district has now a constant supply from the public mains, and one-third a twelve hours' supply.

Maldon. The supply here is only 10 gallons per head daily. The water is of excellent quality. Arrangements have been made to utilize the waste water from a brewery for road watering. Some scheme for increasing the present supply is very desirable.

Saffron Walden. The public supply is from a deep well in the chalk, and as the water is hard it is submitted to a softening process. By this means the hardness is decreased from 27° to 12°. A little chalk appears to deposit in the mains and complaints of turbidity have been received.

Shoeburyness. The deep well yields a very pure water and the supply is constant.

Witham. "The defects in the new water supply have been remedied and a goo supply of pure water has been obtained." Much trouble has been experienced here on account of sand getting into the bore holes.

Rural Districts.

Early in 1905 a detailed report of the Water Supply to the Rural Districts was published by the County Council, so that only brief references to very recent changes need be made.

Billericay. The boring made in 1904 to supply several parishes is still unused. Four parishes in the original scheme are anxious to withdraw. The South Essex Company's and

the Southend Company's mains both now extend into this district and it is suggested that further extensions be arranged. Meanwhile many parishes are badly off for water.

BRAINTREE. A public supply for Bocking is contemplated, and a site for a deep well selected. (Water is urgently needed, and may possibly be obtained from Braintree.)

DUNMOW. Two schemes for the supply of Dunmow are under consideration. The Felstead scheme is still in abeyance. Some complaint was made to the Local Government Board concerning the water supply to Hatfield Broad Oak, but the Medical Officer of Health considers it quite baseless.

HALSTEAD. At Pebmarsh and Blue Bridge pumps have been erected to re-place dipping wells.

LEXDEN AND WINSTREE. Stanway continues to be supplied from Colchester. A good supply can be got in the locality at a much cheaper rate.

MALDON. The growing parish of Tollesbury is still without a proper water supply.

ONGAR. A supply for Toot Hill is an urgent requirement. The supply to Ongar (in the hands of a small local company) is satisfactory in quantity and quality. Sir W. B. Symthe has laid on a supply of water in Theydon Mount village.

ROCHFORD. The Medical Officer points out an error in the County Report above referred to. The water mains of Benfleet Waterworks pass through Thundersley, as do also the mains of the Southend Company, and it is from the latter mains that the parish is supplied. Hockley is supplied from the Benfleet mains.

TENDRING. At a cost of £27 8s., a public shallow well at Great Holland has been so improved that it now yields an abundant supply of water of good quality.

SYSTEMS OF SEWAGE DISPOSAL.

Nearly all the modern systems of sewage disposal are to be found within the County, and probably they are producing as good results as elsewhere. They all tend to prove that the sewage problem is not yet solved. We may be nearer the solution, but much yet remains to be done before we are in a position to say that sewage can be efficiently purified at a reasonable cost. In the laboratory, by systems of bacterial treatment and subsequent filtration to remove bacteria, the foulest sewage can be converted into a purer water than is supplied to and used by some rural communities, but as yet this has not been done on any large scale. The best bacteria bed effluents retain most of the organisms of the crude sewage, and though such effluents no longer putrify and produce effluvium nuisances, the bacterial pollution is almost as great as ever, and possibly in some cases more dangerous. The most up-to-date system will go wrong if not carefully managed, and the idea that any ignorant labourer can supervise a system of sewage treatment is being proved erroneous.

Barking. Process: Precipitation with alumino-ferric, followed by subsidence. Sludge simply dried by exposure. The results appear to satisfy the Thames Conservancy as they have made no complaint during the year.

Brightlingsea. Process: Chemical precipitation. Results said to be satisfactory,

Buckhurst Hill. Process: Detritus tanks and primary and secondary bacteria beds. One of these is fed by a sprinkler. The effluent is then passed on to land, which absorbs it all. Results satisfactory.

Burnham. Process: The bacterial system. "Giving excellent results."

Chelmsford. Process: Broad irrigation on a farm at Springfield. (More land is now required.)

Colchester. Precipitation followed by bacterial treatment. The sludge is treated with lime, pressed, and disposed of to farmers.

Epping. There are several small works, some of them unsatisfactory. Improvements are now being carried out.

East Ham. Treatment : Chemical precipitation, subsidence, etc. Under the jurisdiction of the Conservators of the River Thames.

Grays. Septic tanks and bacterial filters. Complaints of smells emanating from the works have been much less frequent. The increasing population will soon necessitate further improvements.

Halstead. System : Broad irrigation on a small farm. Improvements have recently been introduced in the management of the farm with good results.

Ilford. Bacterial method. There are three septic tanks with a total capacity of 2,500,000 gallons, 2½ acres of contact beds, and a quarter acre filter for storm water. The effluen discharges into the Thames below Barking Creek.

Leigh. Bacterial system. Results fair. The large volume of storm water carries down silt, which clogs the beds and renders them less active.

Leyton. The system is one of chemical precipitation and subsidence. No reference is made to efficiency or otherwise.

Loughton. The works here are becoming too small for the district. The sewage is filtered through polarite and then passed over a small area of land. A bacterial method of treatment is suggested.

Maldon. The sewage at present is not treated but flows into the tidal portion of the Blackwater. Some system of treatment is suggested to diminish the pollution of the river.

Romford. Not mentioned in the report. There is an excellent sewage farm, with bacteria beds for treatment of storm water.

Saffron Walden. The following expression of opinion by the Local Government Board is worthy of attention. The Borough Council applied for sanction to a scheme estimated to cost £19,825. The Local Government Board, after enquiry,

accepted the scheme in its general features, but proposed a reduction in the size of the septic tanks and contact beds. They consider that "it would be sufficient, for the present at any rate, if the dry weather flow were taken as the basis for the capacities of the contact beds, and if the capacity of the septic tanks were limited to three-fourths of the present dry weather flow."

SOUTHEND. Many sewer extensions, proposed and completed, are chronicled but no reference is made to the system of disposal. An extensive system of surface water drainage is being carried out, to relieve the sewers. Plans have been submitted and approved for sewering the Leigh Cliffs Estate.

WALTHAM HOLY CROSS. The sewage is treated bacterially on the York continuous filters. The samples taken by the Lea Conservators have not resulted in legal proceedings being taken, "a fact in itself almost conclusive that that authority is satisfied with the standard of the effluent produced."

WALTHAMSTOW. The present system produces unsatisfactory results and the Engineer has formulated a scheme (estimated cost £46,000) to provide, in the centre of the farm, settling tanks of 1,000,000 gallons capacity, worked continuously, and filtering beds of adequate size. The sewage, after precipitation, will pass through the bacteria beds and then flow over about 150 acres of land.

WANSTEAD. System: Septic tanks, bacteria beds, and land treatment. Results usually satisfactory. Not referred to in the Annual Report.

WITHAM. A small sewage farm disposes of the sewage in a satisfactory manner.

WIVENHOE. There is no system of treatment here, but near the station alumino-ferric is put into a catch pit, and the overflow is said to be clean and odourless.

WOODFORD. There are two bacterial systems here, one on the western side in the Lea valley, and the other on the eastern side in the Roding valley. Both give fairly satisfactory results.

Rural Districts.

Billericay. The County Asylum and most of the properties in Brook Street are now connected with the Putwell Bridge Works (bacterial). The results are satisfactory. Priests Lane and Shenfield Common, and part of the Ingrave Road have been sewered and connected with the Shenfield and Hutton Works. The sewering of Wickford is completed, but the house connections have not yet been made. No advance has been made in the scheme for sewering Billericay.

Braintree. Sewer ditches, requiring constant attention, occur in the parishes of Bradwell, Coggeshall, Kelvedon, Hatfield Peverel, and Bocking. Serious nuisances arise at Kelvedon and Coggeshall from the discharge of crude sewage into streams.

Chelmsford. The Waterhouse Estate, adjoining the borough of Chelmsford, still remains without sewers. It would be a simple matter to connect with the Chelmsford sewers.

Dunmow. Engineers have been asked to submit a scheme for sewering Dunmow. The mode of disposal at Felstead, and probably in other parishes, requires attention.

Epping. Improvements in sewerage and sewage disposal are required at North Weald Gullett, Duck Lane and Thornwood, Potter Street, Theydon Bois, Harlow, and Roydon. (Chigwell does not appear to be referred to.) The Medical Officer of Health says: "Thirty years ago these Rivers (the Stort, Lea, and Roding) were the natural conduits for the sewage of the district, but in the present day comparatively little sewage, as such, finds its way into them, and, with continued progress in improved methods of sewage disposal, they bid fair to return once more to a state of pristine purity."

Halstead. The sewerage of Earls Colne *continues* to receive the attention of the Council. A bacterial filter has been constructed at Sible Hedingham.

Lexden and Winstree. There are several towns, or large villages, in this district which require sewering. A scheme has

been got out for Dedham (after legal proceedings) and the Medical Officer of Health hopes that when this scheme is successfully completed the Council will "feel disposed to have such other places as Rowhedge, West Mersea, and the London Road, Stanway, provided for in a similar manner."

ONGAR. The drainage schemes at Chipping Ongar, High Ongar, and Abridge are working well. An improvement in the drainage of Fyfield has "lessened the pollution of the Roding to some extent."

ORSETT. A sewerage scheme for West Thurrock and South Stifford has been prepared.

ROCHFORD. The Medical Officer of Health refers to the pressure being put upon the Authority to provide a scheme of sewerage for South Benfleet, one of the healthiest parishes in the district. A commencement has been made with the sewerage of Rochford, and similar works are required at Hadleigh, Rayleigh, and Great Wakering.

ROMFORD. The sewerage of Dagenham approaches completion, as does also the system for Rainham. The Upminster Works (bacterial) have given rise to complaints, an offensive odour being perceptible some distance away. Certain alterations are being effected to remedy this. (The Council possesses a tank and appliances for emptying cesspools which are used in certain parishes.)

SAFFRON WALDEN. A sewer at Great Chesterford has been extended 200 yards. A scheme for sewering Newport was prepared in 1898 but has not been carried out.

STANSTED. The sewer at Manuden has been connected with a large tank, from which the sewage is pumped out and used for irrigating a field. The Liernur system at Stansted has worked satisfactorily and the Council is now awaiting the sanction of the Local Government Board to take it over. A new sewer is required for a portion of Cambridge Road and will probably be provided during the year.

SCAVENGING AND REFUSE DISPOSAL.

Urban Districts.

Barking. Carried out by Council's men. House refuse removed every week. Four carts are employed, each with driver and two men. Much time is lost from men having to collect from back yards, often 40 or 50 yards from the cart. Cost for year £1,088, or exactly 1d. per week per house.

Brentwood. Done by contractors, who find their own dumping ground. Not very satisfactory. Would be better done by Council, who should also provide a destructor.

Chelmsford. Undertaken by the Corporation. Dumped in gravel pits in the Rural District, where it causes grave nuisances. A destructor is recommended.

Clacton. Undertaken by the Council. Carted two miles away, where it is sorted, and some burnt. A destructor required.

Colchester. About 38,000 loads of refuse removed. What is done with it is not stated.

East Ham. Scavenging is undertaken by the Corporation, the borough being divided into six districts. One is scavenged each day. Roller top vans are being substituted for the old carts with great advantage. Tradesmen's refuse is collected free of charge. A dust destructor has recently been erected at the sewage works, and doubtless all the refuse is now burnt. Steam generated used for pumping sewage.

Ilford. Since 1901 scavenging has been done by the Council's men. The refuse is taken to brickfields. The collection is once a week and the work is better and more economically done than under the old system.

Leyton. All the refuse (20,169 tons) has been destroyed in the destructor.

Maldon. The refuse is collected at irregular intervals. Regular, methodical, collection is very desirable.

Saffron Walden. Refuse is removed once a week. The "D" card system is adopted, and most householders have provided moveable sanitary ashbins.

Southend. A site for a destructor had been selected but there is so much opposition that the Local Government Board has not sanctioned its purchase. Securing another site is a matter of urgency.

Walthamstow. The collection is bi-weekly or oftener. Old wooden boxes are too often seen on the footpath, instead of covered ash bins. About 7,000 tons of refuse was burnt in destructor. [Note quantity destroyed at Leyton.]

Walton. The Medical Officer of Health would like to see a street collection every morning from tubs put outside. Many houses have fixed ash pits.

Rural Districts.

In very few districts of a rural character is scavenging undertaken by the Sanitary Authorities or contractors to the Authorities, although in many there are populous parishes in which public scavenging would improve the sanitary condition.

Chelmsford. The scavenging of Great Baddow costs £47 10s. per annum, of Springfield £97. Writtle and Waltham are also scavenged by contractors. Public scavenging for Ingatestone has been several times recommended, but the Parish Council objects.

Lexden and Winstree. Scavenging is done by contractors in Rowhedge and West Mersea.

Maldon. The house refuse, etc., is collected weekly by contractors in Southminster, Tollesbury, and Heybridge Basin.

Orsett. Public scavenging is adopted in West and Little Thurrock, Stifford, Tilbury Docks, and Stanford-le-Hope. At South Ockendon, Stifford, Little and West Thurrock, and Purfleet tank vans are used for emptying cesspools.

HOUSING OF THE WORKING CLASSES.

BARKING. The following extracts from the Medical Officer of Health report are of considerable interest :—

"The number of houses in the town now letting at an inclusive rental of 5s. 6d. per week and under, has reached a total of 1,724, being an increase of 356 during the year. At the present time 157 cottages are owned by the Council, the rents being 5s. 6d., 6s. 9d., and 7s. per week. These are all on the separate tenement system and are let fairly well, especially those rented at 5s. 6d. The empties and irrecoverables in connection with the King Edward Road Houses for the year works out at 3·2 per cent. of the total rent. Some of the houses have a wash-house besides the four living and bedrooms, but most of them have no separate wash-house.

The sizes of the rooms in the Council's houses, letting at 5s. 6d. per week, and of houses built by private enterprise letting at the same rate, are :—

	Council Houses.	Private Houses.
Front living room. .	10ft. by 9ft. 6in.	... 10ft. by 11ft.
Back ,,	... 12ft. by 12ft.	... 9ft. by 11ft.
Front bedroom ..	12ft. 6in. by 9ft. 6in.	10ft. by 11ft.
Back ,,	... 12ft. 3in. by 9ft. 6in.	9ft. by 11ft. (less staircase 5ft. by 2ft. 6in.)

The cost of the former works out at about £180 per house, the latter can, I understand, be bought for about £170, freehold."

Dr. Fenton is of opinion that these small houses are a great benefit to the district.

BRENTWOOD. The cottages provided by the Council under the Housing of the Working Classes Act have proved a great success. Their erection seems to have stimulated private enterprise, as a firm of builders is erecting 29 cottages in North Road Avenue. There is an area in North Street, Western Road, and Weald Lane of such an insanitary character than an improvement scheme is recommended.

CHELMSFORD. The house accommodation is ample. The Local Government Board has been asked to sanction a loan for the purchase of an insanitary area in Union Yard.

EPPING. The housing of the working classes has been vastly improved within recent years, but the cottage accommodation is still defective and there is much overcrowding.

EAST HAM. The Corporation own 220 tenement houses* replete with every convenience, situate in close proximity to the Becton Gas Works and the Royal Albert Docks. They are of the greatest service to those for whom they were erected.

GRAYS. The town is well supplied with cottages letting at 8s. per week and upwards, but the demand continues for houses at a lower rental. (A few years ago the Council erected 25 houses as an experiment, but as they cannot afford to let them at less than 8s. per week, they have decided not to build more.)

ILFORD. Sixteen small cottages, letting at 4s. 6d. to 5s. a week have been pulled down to provide for a pumping station and a church. As none has been erected to let at such a rental the families displaced may be assumed to be occupying part of a house in which another family is living.

SOUTHEND. The rents of the houses erected by the Council has been re-arranged so as to include the various rates. Those let previously at 6s. 9d. are now 8s. 6d. per week, and those previously 5s. 6d. are 7s. 5d. per week. This town is growing so rapidly that two building inspectors scarcely suffice for the supervision necessary over the builders. The jerry builder is not unknown in the district.

WALTHAM HOLY CROSS. In consequence of the discharge of men from the Government Factories numerous cottages, modern and of good class, are untenanted, nevertheless a new estate comprising some hundred houses is being actively developed. A few cottages of the worst sanitary type are still allowed to be occupied.

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*In 1902 Report said to be 528 tenements.

Walthamstow. There is an abundance of cheap houses in the district. In every ward there are hundreds of substantial dwellings with five or six rooms and offices, and small gardens, letting at 8s. to 10s. per week. There are many, however, who cannot afford to pay more than 5s. per week, and many with large families who find it difficult to get suitable houses within their means. A committee has been in existence over two years to take action under the Housing of the Working Classes Act but has failed to do anything except prove that the housing question becomes more difficult every year. "What is wanted is cheap land, cheaper money, and a cheaper method of building than now prevails, before anything tangible can be accomplished."

Rural Districts.

In several reports there is no special reference to this subject, but in others the want of cottages with three bedrooms is mentioned. No doubt this is a want felt in most of our rural parishes, if not in the towns, although in the latter a poor man is fortunate if he can secure a good cottage with two decent bedrooms at a rent which he can afford. Special reference is made to the housing question in the following reports :—

Chelmsford. A committee appointed to consider the housing of the poor passed the following resolution, which was subsequently adopted by the Council : "That whilst acknowledging that in many parishes more cottages are required, they are of opinion that the want would be met were the owners of real property to provide cottages for the occupation of labourers employed thereon, and that it is the duty of the owners to provide such cottages rather than that of the Rural District Council out of the rates. That Parliament should legislate to enable Rural District Councils to call upon owners to provide such cottages and to afford them facilities for so doing." The Surveyor's estimate was, for cottages in blocks of four, £150 per cottage, or with land, fencing, well, etc., £200. The rent

obtainable would vary from 3s. to 4s. 6d. per week, so that each cottage would impose for a period of years a burden of about £5 on the rates. The Medical Officer of Health estimated that 200 cottages would relieve all the congestion and overcrowding and cost the district £1,000 a year, and probably be a better investment than the same sum spent in maintaining an isolation hospital.

MALDON. The half-dozen cottages provided by the Council in the parish of Bradwell are managed by the Guardians of the parish and a rent collector receives £1 per annum for receiving the rents. The overcrowding, which previously existed, has been abated. The cottages cost £1,450, including everything. They are let at 3s. 6d. per week each. There are other parishes in which cottages are required, but unlike Bradwell the Parish Councils do not ask for cottages to be provided, and the District Council will await the result of the Bradwell experiment before building more. The cost was far greater than was at first anticipated. In this and the Chelmsford district the Building Bye-laws would permit of far cheaper cottages being erected, but before a loan can be obtained the requirements of the Local Government Board must be complied with.

ONGAR. There is no probability of private enterprise providing cottages in this district and the faulty and insanitary cottages must continue to be occupied unless the Council takes action under the Housing of the Working Classes Act.

SAFFRON WALDEN. In most of the district the housing is fairly adequate but more cottages with three decent bedrooms are wanted in the parishes of Newport, Elmdon, Hadstock, Great Sampford, and Hempstead.

BUILDING BYE-LAWS IN RURAL DISTRICTS.

In the following Rural Districts no Building Bye-laws have been adopted: — Belchamp, Braintree, Bumpstead, Dunmow, Halstead, and Saffron Walden.

In Chelmsford, Maldon, Orsett, Rochford, the Urban Model series of the Local Government Board have been adopted

but a most important exemption is made as to the structure of walls for small houses, sufficiently isolated.

In Billericay and Romford the same bye-laws are adopted, but without the above exemption clause.

In Ongar, Lexden and Winstree, and Stansted, the Rural Model Bye-laws have been adopted. The model bye-laws do not refer to laying out new streets, the structure of walls, height of rooms, etc., but in Lexden and Winstree a bye-law referring to the height of rooms has been added.

In Epping the Rural Model has been adopted for Chigwell and Theydon Bois only, with additional ones relating to new streets.

In Tendring the Urban Model has been followed for Manningtree and Parkeston, and the Rural Model (with additions as to new streets and height of rooms) in the remainder of the district.

No reference is made in any district to the bye-laws being unnecessarily irksome or to their preventing cottages being erected, but in the Chelmsford and Maldon Reports it is stated that the exemption of isolated cottages or pairs of cottages from the bye-law insisting upon the walls being 9 inches thick and of hard and incombustible material has proved of advantage.

FACTORIES AND WORKSHOPS ACT.

The supervision exercised over "Workshops" appears to be generally satisfactory, but little reference is made to "Workplaces." It is desirable, in towns especially, that more attention should be directed to the latter, more particularly those where food is prepared for sale. These include sausage manufactories, fried fish shops, cook shops, and restaurants. The most scrupulous cleanliness should be insisted upon, together with adequate lighting and ventilation and perfect sanitary arrangements. Dr. Cook, the Medical Officer of Health for Clacton and other districts, points out that the present system of dual control of Workshops is unsatisfactory, and it appears to be, in small towns and rural districts, quite unnecessary.

Dr. Cook remarks: "The present dual responsibility for carrying out this Act between officials of the Home Office and those of the Sanitary Authority has not been a success. The former officials come into the district without any notice, or asking for any information, and practically ignore the latter. I have neither seen nor had any communication with a Home Office official during the entire year and have had no notice of any new factory or workshop being opened. . . . I should be glad either to see a better understanding as to the working of the Act, or that the Home Office undertake the whole matter." The present arrangement is unsatisfactory. For example, a Medical Officer of Health some time ago visited a country blacksmith's shop and found nothing about which to complain, yet the smith informed him that some one had been round, stating that he was the Factory Inspector, and had ordered that the smithy be at once whitewashed. No one, however, has since been to see that this unnecessary work was done.

A few references to this Act, relating to the largest districts, will suffice.

East Ham. Workshops and Workplaces on the whole satisfactory. Deficient ventilation the most common defect. Workers have a dread of fresh air. Small laundries are not satisfactory, the workers being liable to suffer in health from wet floors, steam and insufficient ventilation.

Southend. The Town Council has adopted a series of regulations relating to the sufficiency and suitability of sanitary accommodation at Factories and Workshops within the borough. A copy of these is given in the report. A sanitary convenience is to be provided for every 25 females, and with certain exceptions for every 25 males.

Walthamstow. A good deal of attention has been given to Factories and Workshops and both the Medical Officer of Health and Inspector report upon the results of inspection, etc., but no distinct reference is made to Workplaces.

In the Rural Districts the usual reference to this Act is that Workshops, etc., have been inspected and found fairly satisfactory. In some districts, however, the subject is not even mentioned.

OFFENSIVE TRADES.

There are many offensive trades, especially in the south-western portion of the County, but they apparently are, as a rule, very well conducted, since complaints are rarely made. More frequent reference is made to nuisances arising from pig-keeping and from the disposal of house refuse in brickfields, gravel pits, etc. The importation of manure and house refuse from London is not nearly so frequently mentioned as formerly. Doubtless greater care is now being taken to prevent complaints, but occasionally nuisance still arises, especially from the smoke evolved from the smouldering heaps of house refuse. This is preventible if the material is properly distributed, the incombustible matter being spread over the combustible. The smoke from these heaps has a very pungent and disagreeable odour, and with a very light wind the smell is perceptible at very considerable distances. The material is useful for raising the level of marshes in proximity to the Thames, and it is a pity that greater care is not always taken to avoid giving offence to the people living near.

INSPECTION OF FOOD.

The administration of the so called Adulteration Acts is under the control of the County Council, and not of the Urban and District Councils, Colchester alone having exercised its right as a borough to appoint its own public analyst. The Medical Officer of Health, therefore, pays little attention to the subject of adulteration. As a matter of fact the harm which arises from the ordinary form of adulteration is, so far as health is concerned, absolutely negligible, compared with the harm which results from the use of dirty, diseased, or decomposing

food. During recent years there has been an extraordinary increase in the amount of preserved foods consumed in this country, partly due to their cheapness and in part to their convenience. The food may be preserved by cooking and securing in hermetically sealed vessels, or by the addition of some preservative agent, such as the boron compounds, salicylic acid, etc. In the former case, that is after cooking, it is generally impossible to ascertain whether the food was originally wholesome or not, and it is possible for it to have had a most objectionable origin, and to have been prepared under most insanitary conditions, and yet give no indications of either. On the other hand food is not usually so altered by the action of preservatives as to prevent the detection of a diseased condition, or of other causes of unsoundness. The preservatives themselves may, however, be objectionable, either from their quality or quantity, or from both. Outbreaks of (so called) ptomaine poisoning from the use of cooked preserved foods are very common and indicate either that the food itself was tainted before cooking or had become so afterwards through some neglect or accident in its subsequent treatment. In this country the history of the animal whose flesh was responsible for an outbreak of disease has seldom, if ever, been obtained, since the slaughtering of animals is not officially supervised, but in Germany and elsewhere it has repeatedly been found that the flesh of animals submitted to emergency slaughter on account of disease has caused epidemics. The revelations recently made as to the character of many of the animals slaughtered and preserved in America lead one to suspect that in many cases the meat which has caused disease here, was derived from some unhealthy animal.

It is a much easier matter to decide on the character of any food which has been preserved by the addition of antiseptics, therefore the danger of using such food is less, assuming that the antiseptics are harmless. At present there is no evidence, of any value, as to the harmfulness of most of the preservatives in common use, and as commonly applied, when

the food is used by those in whom the digestive organs are fully developed and who are in good health. Their use in food intended for infants or invalids, however, is another matter. It is much to be desired that more attention should be given by Medical Officers of Health and the medical profession generally to this question of the relation of food to disease.

In very many reports no reference is made whatever to Food Inspection, and it is probably that in many districts no attention is paid to the subject. From this it is fairly safe to infer that no complaints are ever received of the quality of the food sold in such districts, but unfortunately it does not follow that the quality is always what it should be. In the larger centres of population more or less supervision is exercised over the food supply and seizures of unsound food are not uncommon.

Barking. Large quantities of chilled foreign meat are sold in the town, especially on Saturday evenings, at a very low price. The shops and stalls are systematically inspected, but in no case has there been any occasion to interfere.

East Ham. Eight consignments of food were destroyed on account of their being unfit for the food of man.

Leyton. During the year 12 cwt. of tinned food was destroyed.

Southend. A household was affected with illness which there was reason to suspect was due to a tin of sardines. Other tins of the same brand were examined and two shewed signs of leakage, indicating imperfect preservation.

Walthamstow. In 24 instances food was seized and destroyed. In a number of cases small quantities of fruit, fish, and other food were removed by shop or stall keepers from sale, at the suggestion of the Inspector, the amount being too small to render further proceedings advisable.

DAIRIES, COWSHEDS, AND MILKSHOPS ORDER.

During the year the County Council caused an enquiry to be made to ascertain in what districts no Regulations had been adopted under the above Order. As a result it was found that no Regulations had been made in the following districts:—

Urban.	*Rural.*
Braintree	Billericay
Epping	Braintree
Frinton	Bumpstead
Halstead	Dunmow
Walton	Epping
Witham	Halstead

In most of the Annual Reports it is stated that Cowsheds and Dairies have been inspected and found fairly satisfactory. Special reference is made in several reports (*vide* Summaries), but in the Ilford report there is an excellent section on this subject. In 1904 an outbreak of Diphtheria occurred in that town due to the milk supplied from a particular farm, and in consequence of the conditions found at that farm the Medical Officer of Health was instructed to inspect all the farms supplying milk to Ilford. The conditions found varied greatly. He thinks the substitution of men milkers for dairymaids is not for the better, either for the cow or the cleanliness of the milk. Referring to the necessity for using clean water for milk cooling, on account of the possibility of leakage, he adds: "one farmer naively remarked to me that he could not make out the increased yield of milk from his cows, until one day he discovered a leakage in his cooler."

In the retail dairies, the general shops that sell about a gallon per day over the counter, are the most difficult to deal with. The milk is generally kept in an open vessel on the counter, surrounded by all kinds of goods such as bacon, firewood, blacking, oil lamps, etc. Under these conditions, in summer time especially, with flies dropping in and out of the milk, one can imagine the condition the milk gets into in a few

hours. To feed babies on milk of this kind is to count disaster. The adoption of a regulation compelling retailers to cover utensils containing milk is advocated. Such a regulation has already been adopted in several districts in the County, Southend, Grays, and Chelmsford (R.) for example.

An account is also given of the chemical and bacteriological condition of the typical samples of milk submitted to the County Medical Officer of Health for examination. He summarises his conclusions as under :—

1. The chemical standard of the Ilford milk is, on the whole, fairly good, three out of the 25 samples, or 12 per cent., being below standard.

2. Bacteriologically examined as a guide to the amount of dirt and outside matter gaining access to the milk, the result is not good, though probably no worse than most milks consumed in urban districts.

3. The absence of preservatives in all the milks examined is satisfactory, but the samples being taken in December and January, it is not the time of year when one would expect to find them to any extent.

4. A number of suggestions are here made, but the Medical Officer of Health says : "until the public awake to the fact of the importance of a clean milk supply, and insist upon getting it, even at a slightly increased cost, it will be impossible to get sufficient care taken in milking and keeping the cattle clean."

The report further contains some interesting information about Municipal Milk Depôts.

In the borough of Chelmsford a searching examination was made by the Chairman of the Health Committee and the Medical Officer of Health, with the result that certain sanitary defects were found. In three cases there was gross neglect of all sanitary laws, in two of these cases they found an absolute want of cleanliness that was almost appalling in character. Obviously the supervision had previously been very lax but more attention is now being given to the subject.

The Medical Officer for Southend also discusses the milk supply at some length and gives a copy of the contractors' obligations in reference to the milk supply to the Borough Sanatorium. The cows must be healthy. No milk or cream is to be supplied from any cow suffering from disease, or newly calved, or under physic. The cows are subject to periodic veterinary inspection. Thorough cleanliness in every detail is insisted upon. The quality of the milk supplied under this contract during 1905 has been excellent.

As the views of the County Medical Officer of Health were recently given in a lecture to farmers and dairymen delivered at the County Laboratories, and since published in their reports, it is unnecessary to dwell further on the subject.

BAKEHOUSES AND SLAUGHTERHOUSES.

These are places in which food is prepared and the Sanitary Authorities are responsible for their cleanliness and sanitary condition, the exception being when a bakehouse employs mechanical power, when it becomes a factory and is also under the supervision of H.M. Inspector. In most cases the report is that they are fairly satisfactory, but there is no doubt that in very many the attention paid to cleanliness leaves much to be desired. As the Medical Officer of Health for Walthamstow remarks, "the occupiers and workers differ with the sanitary authorities in their interpretation of what is and is not clean." Doubtless, however, their frequent inspection will gradually improve the standard of cleanliness.

SCHOOLS, PUBLIC ELEMENTARY.

That schools are the most important agents in the spread of infectious diseases is now generally recognised, and in nearly every report there is reference to the spread of infection amongst school children. One cannot help thinking that if the School Authorities had to maintain isolation hospitals they would give more attention to this subject. The numerous

epidemics of Measles, Whooping Cough, Mumps, Scarlet Fever, etc., which occur, seriously interfere with school attendance and with the education of children, and there can be no doubt that in the near future the School Authorities and Health Officers will have to be brought into closer relation. The present position is decidedly unsatisfactory in most districts. The Local Government Board, in defining the duties of a Medical Officer of Health, makes no reference to schools (save indirectly in par. 15 of the Memorandum dated March 23, 1891), and in the instructions for preparing the Annual Reports the word school is never even mentioned.

In some districts, however, the Medical Officers take a great interest in the schools and refer to the subject in their Annual Reports. A few of these are quoted.

Barking. "I have inspected the Council Schools at intervals and always investigated any outbreak of infectious disease. By promptly isolating those affected, in no case has the number of cases largely increased, and the epidemic has always quickly subsided. With regard to Measles, I allow children in the upper standards to attend school though one of the younger children may be at home suffering from the complaint, provided that the patient is kept isolated. I have not traced a single case of disease from this arrangement."

East Ham A special section of the report is devoted to schools. Strictly speaking it is out of place in the Medical Officer of Health's Report, as it is the Report of the Medical Officer to the School Committee. The duties of this office have been undertaken by the Medical Officer of Health. The work so far done comprises :—

1. The examination of scholars excluded for suspected infectious disease.
2. The inspection of schools or particular classes owing to the prevalence of infectious disease.
3. Visiting and examining mentally or physically defective children.

4. Examining teachers absent from duty, owing to prolonged illness.
5. The examination of truant children and the signing of certificates for their admission to Truant Schools.
6. The examination of school buildings.
7. Attending Committees and Sub-Committees.

The section is well worth the attention of all Education Committees. Space will not permit of more than the following quotations :—

"The aim of school hygiene is to improve educational results, by discovering and remedying any defects which prevent a child getting full value for the money spent on it." "As children are a national asset, it should be a national care to see that the children are rendered of the utmost value."

ILFORD. In this district also the Medical Officer of Health appears to be the Schools Medical Officer, and a special section of 11 pages is devoted to schools. It contains a mass of interesting information, but the following important paragraph must suffice as a specimen.

"There are distinct advantages in the School Medical Officer being also Medical Officer of Health. The duties of the two offices naturally overlap. The inspection of children for the prevention of the spread of infectious diseases and the sanitary inspection of the premises are examples of this. The union of the two offices tends to prevent duplication of work. It has the additional advantage that the staff of the Authority's Sanitary Department is thus made easily accessible for any special work. They are employed for disinfecting schools, and for following up cases of dirty and verminous children, and for obtaining information as to the condition of the homes as well as of the children. At the same time the Medical Officer of Health finds that his position as Educational Medical Officer greatly facilitates his work in preventing the spread of infectious diseases."

LEYTON. In this report the Medical Officer of Health refers to the age at which children should be allowed to attend school; to the prevalence of Ringworm, Itch, and kindred diseases; to Measles; to the danger of spreading disease by the common use of pens, pencils, rubbers, etc.

SOUTHEND. The Medical Officer of Health here appears to act as School Medical Officer. He refers to the sanitary arrangements at schools, defective children, admission of children under five, underfed children, school closure, etc.

WALTHAMSTOW. In this district there is a lady Health Visitor, whose services have been of great value to the Medical Officer of Health, who reminds Education Authorities that children are something more than mere grant-earning machines.

Special mention must be made of Dr. Cook's investigations with reference to the sanitary condition of the elementary schools in his districts. He submits a detailed account of the sanitary circumstances of every such school in the Clacton and Walton Urban Districts and in the Lexden and Winstree and Tendring Rural Districts. The labour expended must have been enormous as no less than 80 schools are fully reported upon, 2 in Walton, 3 in Clacton, and 75 in the Rural Districts. Needless to say, he points out many defects, but the paragraphs referring to Water Supplies are, on occasions, "revelations."

The following are examples:—

1. Water is brought from the Rectory in open pails.
2. The water supply is bad. Originally there were two wells, but I have been obliged to condemn them both.
3. Water is got in a dirty pail from a farm opposite: there is no mug for the children, hence they drink from the pail. [Can anything more disgusting or more calculated to spread disease be imagined?—J.C.T.]
4. Children have to beg at cottages for drinks.

5. Very bad. In winter the children coming from a distance have a cup of hot cocoa at dinner time, for which each pays one half-penny per week. This is done voluntarily by the master, and at a loss.
6. Drinking water is taken into the playground in open pails.
7. Water is laid on to the mistress's house adjoining, from the main of the Tendring Hundred Water Co., but she is not allowed to supply the school.
8. Water for washing is got from a pond; children beg at cottages for water to drink.
9. Children call at houses near by for drink.
10. There is no drinking water, although the public main passes the gate.
11. None kept in school for drinking; the children go to a spring.
12. There is a pump, but there has been no water since July.
13. None. Children bring drinking water in bottles.
14. There is plenty of water, but it was condemned by me for drinking some months ago. A new supply is under consideration.
15. None, except from a ditch.
16. None. Children bring water in bottles.
17. There are two draw wells on the premises, one is said to be unfit for use; both are kept padlocked.

Surely it only requires that public attention be directed to these most objectionable (one would like to use a harsher term) conditions, for them to be immediately remedied.

GIPSIES, PEAPICKERS, ETC.

At certain seasons and in certain districts trouble is experienced from the presence of these nomads. The introduction of infectious disease by these people is only mentioned

in one report. The methods of dealing with tent and van dwellers are illustrated by the following extracts:—

Barking. The Sanitary Inspector states that "we have had considerable trouble with these people during the past year; as many as 104 vans have been removed off vacant building land. The inmates throw their refuse on the ground around the vans and cause considerable annoyance to the occupiers of the houses in the locality where they camp. I have again to thank the police officers for their assistance in removing these vans."

East Ham. The chief Sanitary Inspector says: "East Ham has always been the happy hunting ground for these undesirable visitors (gipsies). Some 155 caravans or tents have been dealt with during the year. Notices are served on these van dwellers and squatters to furnish their dwellings with a supply of water; as this is impracticable they take their departure rather than incur the penalties under the East Ham Improvement Act."

Ilford. The chief Sanitary Inspector says: "Very little trouble was given by these people during the year. The system adopted of calling upon the Police for assistance in order to prevent a breach of the peace, and going to the encampment with some men and a chain horse to draw the vans on the highway, and by generally worrying them, also tends to keep these most undesirable visitors out of the district."

Rochford (R.) There have been one or two prosecutions on sanitary grounds, which have resulted in small fines, but they do not cause so much nuisance as formerly.

Tendring (R.) The code of bye-laws is very useful, and there is nothing like the number of gipsies in the district that there used to be. There were five prosecutions during the year, two of farmers who allowed encampments on their lands, and three of gipsies. Convictions were obtained in all cases.

INSPECTORS' REPORTS.

In many of the reports there is an additional section written by the Sanitary Inspector, or chief Sanitary Inspector when more than one is employed. Those furnished by Mr. Wood (Inspector, Barking), Mr. —— (Colchester), Mr. Banks (East Ham), Mr. King (Ilford), Mr. Miller (Leyton), and Mr. West (Walthamstow) deserve special mention, since they shew that their work is well and carefully performed, and that they take a pride in co-operating with the respective Medical Officers of Health in their attempts to improve the sanitary condition of the districts in their charge. The summaries of the work done by the Inspectors generally is appended.

TABLE XXI.

URBAN DISTRICTS.

SUMMARY OF REPORTS BY SANITARY INSPECTORS.

	Barking.	Braintree.	Brentwood	Brightlingsea.	Buckhurst Hill.	Burnham.	Chelmsford.	Chingford.	Clacton.	Colchester.	East Ham	Epping.	Frinton.	Grays.	Halstead.	Harwich.	Ilford.	Leigh-on-Sea.	Leyton.	Loughton.	Maldon.	Romford.	Saffron Walden	Shoeburyness.	Southend-on-Sea.	Waltham Holy Cross.	Walthamstow.	Walton-on-the Naze.	Wanstead.	Witham.	Wivenhoe.	Woodford.
1. Complaints received ...	107	...	16	8	26	45	64	29	3	521	871	25	20	49	...		186	17	380	23	...	9	15	10	227	12	330	13	30		6	25
2. Nuisances detected ...	654	...	183	57	22	121	974	49	146	222	2536	56	8	455	173		...	77	...	32	20	324	26	16	328	648	2341	18	9		20	188
3. Nuisances abated ...	730	...	79	65	22	167	901	47	142	672	5206	56	9	484	165		846	94	...	54	20	333	41	26	628	715	2341	31	39		26	252
4. Notices served ...	115	...	8	7	...	47	363	...	108	751	1381	51	...	319	79		...	9	1784	14	20	212	29	16	473	21	27	8	22		9	96
5. Summonses taken out	1	...	0	...	...	...	0	1	0	2	2	0	...	1	...		5	...	...	...	...	5	0	0	0	3	1	0	...		...	...
6. Convictions ...	1	...	0	...	...	...	0	1	0	2	1	0	...	1	...		3	...	...	...	...	4	0	0	0	3	1	0	...		...	...
7. Premises inspected ...	1870	...	95	155	...	211	568	293	375	3172	2552	129	88	1032	223		2746	...	3018	38	350	423	73	9	1513	211	4183	49	...		403	756
8. Lodging-houses inspected ...	5	...	0	...	...	...	2	...	0	1	...	0	...	1	...		...	...	...	...	...	2	0	0	0	3	...	28	...		...	...
9. Slaughter-houses inspected ...	5	...	8	16	3	4	8	2	13	*226	15	4	...	7	*25		3	3	...	3	4	9	5	0	*127	10	12	4	2		...	23
10. Bake-houses inspected	16	...	9	18	4	6	20	2	10	*129	51	5	2	11	*15		32	8	...	5	9	17	12	3	*320	20	54	3	3		4	28
11. Dairies and Milk Shops inspected ...	27	...	3	...	{ 4	8	26	14	18	92	151	4	2	28	14		44	8	...	4	8	24	17	3	*470	18	122	5	9		4	9
12. Cowsheds inspected ...	5	...	2	...	{	1	7	12	7	64	3	4	1	2	10		7	6	...	6	8	23	14	2	*49	40	15	3	6		2	12
13. Workshops inspected...	67	...	*13	...	...	13	...	3	104	238	179	16	3	66	20		307	..	...	23	..	58	77	7	*607	30	371	13	3		1	176
14. Filthy houses cleansed, sec. 46, Public Health Act, 1875 ...	1	...	0	...	...	1	9	...	0	0	0	0	...	7	...		...	...	...	...	...	0	0	0	1	12	58	0	...		...	...
15. Houses disinfected ...	226	...	19	..	14	17	81	17	98	251	1220	5	...	177	70		382	12	588	9	16	35	13	9	344	22	1077	4	29		6	66
16. Overcrowding abated...	17	...	1	...	1	...	5	3	1	11	28	5	...	3	1		2	...	10	5	...	1	2	0	1	0	13	0	...		...	...
17. Houses placed in habitable repair ...	8	...	2	...	...	19	13	2	0	3	0	10	...	...	...			...	...	...	...	20	0	0	16	19	...	0	...		...	...
18. Houses closed ...	16	...	0	...	..	...	0	1	0	3	0	0	...	...	...		...	15	...	...	...	5	0	0	1	0	...	0	...		...	...
19. Houses erected or re-built for which Water "Certificates" were applied	...	...	...	10	..	...	...	...	...	..	...	...	...	...	32		...	...	...	...	...	...	0	25	...	47	...	...	...		2	...

* Number of inspections.

20.	"Certificates" granted	...	...	...	10	...	...	...	...	...	...	...	...	..	...	32		...	...	...	28	.	...	0	25	...	47	...	...	...		1	...
21.	,, deferred	...	...	0	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...	0	0	...	0	...	...	...		...	...
22.	Wells sunk or improved supplies of water afforded	...	...	0	...	...	...	...	...	0	2	...	5	...	...	...		...	...	...	...	...	...	1	0	...	10	...	0	...		...	...
23	Wells cleansed or repaired	...	...	0	...	...	...	...	...	0	2	...	1	...	...	...		...	...	...	...	...	1	1	0	...	3	...	0	...		...	...
24.	Wells closed	...	...	0	...	...	...	...	1	5	1	...	0	...	...	...		...	...	...	...	1	1	3	0	...	...	1	0	1		...	...
25.	Houses connected with sewers	...	...	49	10	...	...	...	44	64	7	350	51	33	14	32		...	4	...	28	17	49	16	685	1000	46	...	11	118		...	6
26.	Houses connected with water mains	...	...	69	3	...	87	...	...	...	1	350	48	20	...	34		...	...	...	28	10	1	58	715	...	55	...	13	118		12	...
27.	Earth, pail or improved Privies constructed, or existing Privies altered	3	...	4	5	2	24	...	...	...	24	...	4	...	...	...		...	3	...	...	...	6	5	0	2	14	...	0	...		26	...
28.	Privies and W.C.'s repaired; W.C.'s supplied with water	286	...	8	13		26	165	7	31	67	...	55	...	77	45			18	...	20	9	4	17	685	99	11	61	15	...		2	27
29.	Cisterns cleansed, repaired or covered	111	...	15	...	...	2	56	11	0	...	379	36	3	11	...		213	..	621	...	...	24	0	0	0	21	22	32	...		...	22
30.	Animals improperly kept removed	22	...	2	5	...	11	18	3	0	126	30	0	...	12	1		11	...	29	13	...	26	5	0	1	...	10	15	...		...	3
31.	Samples of water taken for analysis	13	...	0	1	...	...	8	...	16	37	..	1	...	7	...		...	...	...	1	1	2	1	0	25	...	13	1	1		...	...
32.	Compensation paid for destruction of infected bedding	...	...	0	...	...	...	...	...	0	...	...	0	...	15/-	...		...	...	...	...	...	0	0	0	0	...	...	0	...		...	...
33.	Seizures of unsound meat, etc.	...	...	0	...	...	...	...	..	0	1	8	0	...	3	...		..	...	...	...	...	1	1	0	4	...	24	1	...		...	...
34.	Name of Inspector	H. Wood		A. J. Meeson	H. W. Chaplin A. J. Aldous		F. T. Back	W. K. Baker	J. T. Griffin		T. Wells	J. G. Banks	G. H. Pegram		W. G. Marshall	W. Nicholson		F. W. King	D. Tomlin	H. Miller	S. T. Bocock	T. R. Swales	G. R. Bailey	A. N. Forbes	James Alp	W. Whur	D. Ball	W. W. West	— Gladwell	Andrew Duan		R. H. Barrell	W. S. Mills

TABLE XXII.

RURAL DISTRICTS.

SUMMARY OF REPORTS BY SANITARY INSPECTORS.

	Belchamp.	Billericay East.	Billericay West.	Braintree.	Bumpstead.	Chelmsford.	Dunmow.	Epping.	Halstead No. 1.	Halstead No. 2.	Lexden and Winstree.	Maldon.	Ongar.	Orsett.	Rochford.	Romford, 1st div.	Romford, 2nd div.	Saffron Walden.	Stansted.	Tendring.
1. Complaints received	12	23	25	14	5	21	24	32	6	18	25	22	8	80	41	...	56	2	6	23
2. Nuisances detected	51	180	191	13	22	254	89	70	146	86	195	211	48	138	51	...	364	43	135	256
3. Nuisances abated	51	172	169	26	25	258	98	85	143	88	186	169	56	218	56	59	420	45	120	239
4. Notices served	21	49	123	52	7	275	113	218	69	66	72	215	56	109	56	59	212	45	19	20
5. Summonses taken out	0	0	1	0	...	1	0	...	3	1	0	0	1	...	20	...	..	0	...	8
6. Convictions	0	0	1	0	..	1	0	.	3	1	0	0	1	...	17	...	...	0	...	10
7. Premises inspected	268	227	223	106	226	1685	186	70	521	810*	1287	1328	31	438	97	All	759	209	255	410
8. Lodging-houses inspected	0	0	0	0	...	0	1	...	...	..	0	0	..	...	...	...	...	0	...	0
9. Slaughter-houses inspected	6	7	6	21	1	9	12	12	6	15	15	34	5	15	5	6	7	12	24	14
10. Bakehouses inspected	15	8	9	43	8	40	31	10	12	33	26	21	4	18	6	11	4	26	26	20
11. Dairies and Milk Shops inspected	1	0	11	35	6	85	19	35	34	9	20	15	2	32	14	29	7	29	...	42
12. Cowsheds inspected	1	13	26	63	12	85	32	35	37	19	15	40	32	32	20	56	12	29	30	35
13. Workshops inspected	35	1	21	25	21	175	74	3	32	56	35	47	...	...	3	8	10	115	25	1
14. Filthy houses cleansed, sec. 46, Public Health Act, 1875	0	0	0	0	...	5	1	...	...	...	3	2	...	2	...	4	6	1	1	0
15. Houses disinfected	31	15	52	87	8	83	15	21	27	34	65	24	7	107	47	115	197	6	7	75
16. Overcrowding abated	2	1	0	0	...	7	5	4	3	1	10	19	...	4	2	4	4	1	...	3
17. Houses placed in habitable repair	0	12	0	0	...	8	19	2	5	5	16	17	...	3	...	2	4	1	8	4
18. Houses closed	2	0	0	3	...	1	0	...	2	.	0	0	...	0	4	...	1	0	...	0

*Number of inspections.

	Sidney Allpress	R. J. W. Layland	S. J. Shelley	E. H. Bright	H. B. Thake	W. Edser	W. H. Carr	J. H. Bell	J. E. Bolt	W. H. Eade		W. Almond	W. N. Jarvis	John Hurst		A. Cornell	G. T. Carter	A. E. Pitstow	E. F. Watts	
19. Houses erected or re-built for which Water "Certificates" were applied for	1	46	27	15	3	85	22	44	20	14	32	0	11	154	111	...	...	2	14	27
20. "Certificates" granted	0	10	25	15	3	49	13	44	20	6	32	0	11	154	109	...	...	2	5	27
21. ,, deferred	2	36	2	0	...	1	2	...	...	...	0	0	...	0	2	...	...	0	1	0
22. Wells sunk or improved supplies of water afforded	2	2	...	4	...	...	11	7	6	6	32	3	3	5	...	...	1	...	...	...
23. Wells cleansed or repaired	4	4	3	3	5	2	2	10	2	8	18	5	2	5	1	...	...	14	...	...
24. Wells closed	1	0	0	0	...	0	0	...	2	...	0	0	...	5	...	...	1	0	...	...
25. Houses connected with sewers	2	3	108	16	...	...	12	48	11	10	0	13	13	76	...	6	...	2	36	17
26. Houses connected with water mains	0	0	78	0	...	...	2	...	3	...	68	21	13	233	154	...	4	0	25	18
27. Earth, pail, or improved Privies constructed, or existing privies altered	12	27	7	12	24	18	6	14	66	50	69	74	31	26	6	4	15	14	15	29
28. Privies and W.C.'s repaired; W.C.'s supplied with water...	25	36	59	0	...	41	10	6	58	15	27	36	13	52	5	29	15	0	14	...
29. Cisterns cleansed, repaired, or covered	...	0	0	0	...	4	0	...	...	..	0	0	...	14	...	...	...	0	...	...
30. Animals improperly kept removed	5	0	0	0	...	2	21	2	9	8	15	2	2	6	...	...	5	1	...	...
31. Samples of water taken for analysis	5	4	13	4	1	43	13	5	10	5	28	41	5	15	3	9	8	5	...	44
32. Compensation paid for destruction of infected bedding	...	0	0	0	...	10/-	0	...	...	...	11/6	-1	...	...	. .	...	...	0	..	37/-
33. Seizures of unsound meat, etc.	...	0	0	0	...	...	0	...	...	...	0	0	...	...	...	...	...	0	...	...
34. Name of Inspector																				

CHIEF IMPROVEMENTS EFFECTED AND FURTHER IMPROVEMENTS REQUIRED.

From the Reports for the years 1900-1905 the "Improvements Required" have been tabulated, so far as they could be ascertained in each district, and the remarks placed opposite to each indicate the steps taken during the year to effect the improvements.

Urban District.	Improvements required.	Improvements recorded in 1905 and Remarks.
BARKING ...	1900. Better system of sewage treatment.	Still required.
	1900. Improved ventilation of sewers and relaying of old sewers.	Much still to be done.
	1900. Refuse destructor.	Not provided.
	1900. Sanitary tenements at low rentals for the poorest labouring class.	Still required.
	1902. Public water supply for Creeksmouth and elsewhere.	Still required.
	1902. Public sanitary conveniences for both sexes.	Not provided.
	1903. Pavement of many courts and back yards.	Much still to be done.
	1904. Improvements at Isolation Hospital.	Some effected. Much still required.
	1905. Suitable machine for emptying cesspools.	
BRAINTREE ..	1904. Free treatment of all cases at Isolation Hospital.	No reference in 1905 Report.
	1904. Increased water supply.	Under consideration.
BRENTWOOD ...	1900. Improved flushing and ventilation of sewers.	No reference in 1905 Report.
	1900. A public mortuary.	Ditto.
	1900. An ambulance.	Ditto.
	1901. Revision of sewerage system.	Still required.
	1902. Flushing apparatus required in many w.c's.	80 per cent. of cottage closets still hand-flushed.
	1905. Removal of refuse by Council's employees.	
		Water tower.
BRIGHTLINGSEA ...	1902. Improvement in the method of drain testing.	No reference in 1905 Report.
	1902. Use of powers under Food and Drugs Acts.	Ditto.
	1905. Proper refuse carts.	

Urban District.	Improvements required.	Improvements recorded in 1905 and Remarks.
Buckhurst Hill ..	1905. No mention of requirements.	
		Disinfection after deaths from phthisis.
Burnham ..	1900. Flushing apparatus to w.c.'s.	297 out of 772 closets now so fitted.
	1902. Storage reservoir for water of 200,000 gallons capacity.	Supply sufficient at present.
	1902. Isolation Hospital.	Old cottage only provided.
Chelmsford ...	1900. More Isolation Hospital accommodation required.	Baddow Road Hospital being enlarged.
	1900. Improved water supply.	New reservoir completed.
		Further increase required.
	1902. Veterinary Inspector for milch cows.	Not yet appointed.
	1903. Refuse destructor.	Still required.
	1903. Draining and sewering Bundick's hill.	Completed.
	1905. Thorough sewer ventilation.	
Chingford ...	1905. No mention of requirements.	None mentioned.
Clacton ...	1901. Abolition of ash pits.	
	1902. Refuse destructor.	Much needed.
	1904. Improved discharge for storm water at eastern outfall.	
Colchester ...	1905. Public water supply for Shrub End.	Loan applied for.
	1905. Flushing apparatus required in many w.c.'s.	
East Ham ...	1903. New Scarlet Fever Hospital.	Scheme sanctioned.
	1903. Refuse destructor.	Now at work.
	1903. New building bye-laws.	No mention in 1905 Report.
		New main sewers constructed.
		Many back passages paved and drained.
Epping	1901. Flushing cisterns for w.c.'s.	No reference in 1904 Report.
	1901. More water.	Supply to all houses now good.
	1902. Better houses for labourers.	Still required.
	1902. Improved method of sewage disposal.	Improvements being carried out.
Frinton ...	1905. No requirements mentioned.	Increased ventilation of sewers.

Urban District.	Improvements required.	Improvements recorded in 1905 and Remarks.
GRAYS ...	... 1903. Steam disinfector (in the town itself).	Considered by special Committee—no decision.
	1903. Paving of back roads.	No reference in 1905 Report.
	1903. Cheap cottages with three bedrooms.	Still required.
	1905. Improvements at sewage works.	
		Voluntary notification of phthisis.
HALSTEAD	... 1904. Further improvements at sewage farm.	Gas engine soon to be provided.
	1904. Re-sewering of High Street, South side.	Still required.
HARWICH	... 1902. Extension of sewer in Upper Dovercourt.	In progress.
	1904. Improved ventilation of various sewers.	Still required in Dovercourt Avenues.
		Relief sewer for Bathside district.
ILFORD ..	... 1900. Enlargement and re-construction of sewage works.	Good progress made.
	1904. Refuse destructor.	Not provided.
	1905. Female Sanitary Inspector.	Appointment negatived.
		Accommodation for eight scarlet fever convalescents.
LEIGH-ON-SEA	... 1900. Isolation Hospital.	Not provided.
	1903. Constant water supply.	Supply increased; constant in two-thirds of the district.
LEYTON ...	... 1901. Permanent Isolation Hospital.	Scheme rejected.
	1901. More public sanitary conveniences.	Still required.
	1903. Pavement & drainage of roadways at rear of shops.	No reference in 1905 report.
	1905. Adequate cleansing of pavements.	
LOUGHTON	... 1902. Insanitary cottages at Pump Mill.	Still in occupation.
	1902. More efficient sewage purification.	Still required.
	1903. Flushing apparatus for w.c.'s in old cottages.	Still required.
MALDON	... 1900. Increased water supply.	Still inadequate.
	1900. Better system of scavenging.	Still required.
	1903. Substitution of w.c.'s for dilapidated privies.	A few privies still exist.
	1904. Treatment of sewage before discharge into river.	Still required.

Urban District.	Improvements required.	Improvements recorded in 1905 and Remarks.
ROMFORD ...	1900. Making up new roads.	No mention of improvements or requirements in report.
SAFFRON WALDEN...	1900. Improved sewerage and sewage disposal.	Scheme sanctioned by L.G.B.
	1904. Water supply for Seward's End.	Provided.
	1905. Substitution of w.c.'s for earth closets and privies.	Awaiting new sewers.
	1905. Cleansing of water mains.	
	1905. Water supplies for Pleasant Valley and elsewhere.	Loan sanctioned by L.G.B.
SHOEBURYNESS ...		No improvements of importance.
SOUTHEND-ON-SEA ...	1900. Public abattoir.	Still in abeyance.
	1900. Refuse destructor.	Provision delayed by objection to proposed site.
	1902. Enlargement of Isolation Hospital.	Scheme not yet approved.
	1902. Treatment of sewage before its discharge into the sea.	No reference in 1905 report.
	1904. Bye-laws for offensive trades.	Adopted.
		Voluntary notification of consumption.
		Cartage of refuse outside borough.
WALTHAM HOLY CROSS	1900. Permanent Joint Hospital Board.	Opened Dec. 30, 1905.
	1903. Bye laws enforcing pavement of yards.	No reference in 1905 report.
	1904. Improved water supplies at Marsh Hill, at Fisher's Green, and elsewhere.	Ditto.
	1904 Additional housing accommodation.	No longer required.
	1904. Steam disinfector and ambulance.	Provided at hospital.
WALTHAMSTOW ...	1900. New sewage works.	Scheme formulated by Engineer.
	1902. Further Isolation Hospital accommodation.	Provided.
	1903. More public conveniences.	Still required.
	1904. Paving of passages at rear of premises.	Ditto.
	1904. Infants' milk depot.	Ditto.
WALTON-ON-THE NAZE	1900. Isolation Hospital accommodation.	No progress recorded.
	1903. Carrying sewer outfall further out to sea.	No reference in 1905 report.
	1904. Bye-laws for houses let in lodgings.	Still required.

Urban District.	Improvements required.	Improvements recorded in 1905 and Remarks.
WANSTEAD	... 1901. Ventilating shafts for sewers.	No reference in 1905 report.
WITHAM	... 1900. Isolation Hospital.	Still much needed. Good water supply obtained.
WIVENHOE	... 1900. Isolation Hospital.	Not yet provided.
	1903. System of sewers.	Ditto.
WOODFORD	... 1900. Filling up old ponds.	Still required.
	1903. Isolation Hospital.	No progress made.
	1905. Drinking water supplies from main to flats.	
Rural District.		
BELCHAMP	... 1901. Isolation Hospital.	Not yet provided. Water supply for Gestingthorpe completed.
BILLERICAY	... 1900. Sewage system for Billericay	No progress made.
	1900. Sewage system for Wickford.	Completed, but house connections not made.
	1904. Water supply for Wickford.	Work contracted for.
	1904. Water supply at Pilgrims Hatch.	Mains laid to Pilgrims Hatch, Cockstye Green, and South Weald village.
	1904. Water supply for Bentley.	Still required.
	1904. Less stringent building bye laws.	No reference in 1905 report.
	1904. Regulations under C.D.M. Order.	No reference.
	1905. Water supply for Basildon, Laindon, and elsewhere.	
BRAINTREE	... 1900. Building bye-laws.	No reference in 1905 report.
	1904. Public water supply at Bocking.	Loan for £500 for deep well applied for.
	1905. Improved sewage disposal at Kelvedon.	
	1905. Drainage of Coggeshall.	
BUMPSTEAD	.. 1903. Sewerage of Steeple Bumpstead.	Not yet carried out.
CHELMSFORD	... 1900. Sewerage and water supply for Writtle.	Completed except house connections.
	1900. Enlargement of Isolation Hospital.	Nearly completed.
	1904. High pressure water supply at Springfield Hill.	Provided.
	1904 Pure water supply for Ingatestone.	Approaching completion.
	1901. Water supply for Stock.	Still required.
	1904. Better cottages in some parishes.	Ditto.
		New regulations for cowsheds, etc.

Rural District.	Improvements required.	Improvements recorded in 1905 and Remarks.
DUNMOW ...	1901. Isolation Hospital.	Completed.
	1902. Improved water supply at Felsted and elsewhere.	Little progress made.
	1903. Better sewage disposal at Dunmow.	No reference in 1905 report.
		Septic tanks provided at Rayne Gore.
		New bore hole pump at High Easter.
EPPING	1902. New ambulance.	No mention in 1905 report.
	1903. Improved drainage of parts of North Weald.	Still required.
	1904. Public sewerage of Potter Street and Roydon.	Ditto.
	1904. Better sewage disposal at Harlow.	Ditto.
	1904. Systematic refuse collection at Chigwell.	No reference in 1905 report.
	1905. Better sewage disposal for northern portion of Theydon Bois.	
HALSTEAD I. ...	1900. Sewerage and improved water supply for Earls Colne.	Report of L.G.B. Inspector received.
HALSTEAD II. ...	1903. Bye-laws for drainage and for keeping and slaughtering of animals.	Still required.
	1904. Bacterial tank and filter-bed for Church Street, Sible Hedingham.	Provided.
	1905. Improved water supplies for Stambourne and Toppesfield.	
LEXDEN & WINSTREE	1902. Sewerage of several villages.	Still required. L.G.B. inquiry held as to sewerage of Dedham.
	1903. Proper Isolation Hospital.	Tents still relied on.
	1905. Better examination of water supplies of new cottages.	
MALDON ...	1900. Water supply to Tollesbury.	Still required.
	1904. Improved water supply at Tillingham.	Ditto.
	1904. Supervision of Southminster sewage outfalls.	Ditto.
	1904. Improved housing for the working classes.	Ditto.
	1905. Water supply for Mayland.	In hand.
	1905. Isolation cottages in southern part of district.	

Rural District.	Improvements required.	Improvements recorded in 1905 and Remarks.
ONGAR ...	... 1900. Isolation Hospital.	Tents relied on.
	1903. Drainage of Fyfield.	Some improvement.
	1904. Improved housing for the working classes.	Still required.
	1905. Water supply for Toot Hill.	
		New well at Theydon.
ORSETT	... 1902. Drainage of West Thurrock and Aveley.	Scheme prepared for West Thurrock and South Stifford.
	1903. Water supply to Fobbing.	Provided by Southend Co.
	1904. Water supply to Laindon Hills.	Still required.
ROCHFORD	... 1900. Drainage of Rayleigh, Hadleigh, South Benfleet, Great Wakering, and Rochford.	L.G.B. inquiry held as to South Benfleet.
		Rochford sewerage commenced.
	1900. Water supply for Wakering.	Supply being provided by Southend Water Co.
	1904. Improvements of Canewdon well.	No reference in 1905 report.
ROMFORD	.. 1900. Sewerage of Dagenham.	Approaching completion.
	1900. Sewerage of Rainham.	Approaching completion.
SAFFRON WALDEN ...	1902. Improved water supplies.	Fourteen supplies improved.
	1904. Sewerage system for Newport.	Scheme prepared in 1898 but not carried out.
	1905. Three - bedroom cottages in certain parishes.	
STANSTED	...	New storm water drains and improved sewage disposal at Manuden.
TENDRING	... 1900. Sewerage of Manningtree, Mistley, Lawford, Thorpe, and Little Clacton.	No reference in 1905 report.
	1905. Permanent Isolation Hospital.	
		Improvement of well at Great Holland.

APPENDIX.

SUMMARY OF REPORTS OF MEDICAL OFFICERS OF HEALTH.

I. PORT SANITARY AUTHORITIES.

COLCHESTER.

Medical Officer of Health—C. A. S. LING, M.R.C.S.

The report is in manuscript.

During the year 476 vessels were inspected, including 28 from abroad. Most of the others were barges regularly trading between London and Colchester. No case of infectious disease occurred. Nuisances were detected on board two of the foreign craft, and were remedied. The hospital is in good condition and ready for any emergency.

HARWICH.

Medical Officer of Health—H. GURNEY, L.R.C.P., M.R.C.S.

The report is in manuscript.

The number of vessels entering the port during the year was 4,120—2,637 coastwise and 1,483 from foreign ports. The Port Sanitary Inspector made 528 inspections.

No cases of infectious disease have occurred, and the hospital ships have not been used.

Proceedings had to be taken in spring against a family of six persons who were found to be living in great destitution and filth on board a small fishing smack anchored in a creek. The only sleeping accommodation for three adults and three children was a cabin 10 by 8 by 3½ feet. As notices were disregarded the men were ultimately sent to prison for fourteen days and the woman and children taken to the workhouse.

MALDON.

Medical Officer of Health—H. R. BROWN, M.D.

The report is type-written.

The boundaries of the port sanitary district are defined, and its trade stated to consist of wood, road metal, grain, stable manure, five fingers, coal, iron, hay, straw, and fish.

During the year 1,098 vessels of an aggregate tonnage of 50,193 entered the port. Foreign vessels numbered 23, of 3,655 tons. Of these vessels 340, including all from foreign ports, were inspected by the Inspector of Nuisances, and 35, including all arrivals from Tyne ports, where small-pox was prevalent, by the Medical Officer of Health. No cases of serious or infectious illness were met with, and no deaths occurred. The crews of manure barges in particular enjoy excellent health. No serious nuisances were met with, but one or two forecastles were scrubbed out by request.

II. URBAN SANITARY DISTRICTS.

BARKING.

Medical Officer of Health—C. F. FENTON, M.R.C.S., L.R.C.P.

Area in acres, 1901 census (land and inland water) 3,803

Population, 1901 census	...	...	21,547
,, 1905 estimated	...	...	28,000
Deaths registered in the district		...	337
Corrections	...	Additions ...	42
,,	...	Deductions ...	0

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	13·5 ...	16·9
Zymotic Death-rate	2·7 ...	3·8
Infantile Mortality	142·2 ...	127
Birth-rate	32·1 ...	38·0
*Cases of Infectious Disease per 1,000 population ...	9·3 ...	11·0

The report is printed and includes a report by the Inspector of Nuisances.

Physical Features, &c. The district is low-lying, only 6 feet above ordnance datum in some parts, but is nevertheless dry. This is partly due to the gravel subsoil and a low rainfall, but mainly to the subsoil drain underneath the sewer.

House Accommodation. Rents of cottage property continue to fall, and there are now 1,724 houses letting at 5s. 6d. per week or less, as against 1,368 a year ago. These houses contain four rooms with, in some cases, a washhouse as well. The Council own 157 houses letting at 5s. 6d. to 7s., and all fairly well let. The condition of the older property is fully set forth in a table giving, street by street, both improvements recently effected and improvements required.

*In these summaries only the ordinary notifiable diseases are referred to.

Sewerage and Drainage. Sewage treatment is by means of precipitation with alumino-ferric. An improved method of dealing with the sludge is required. The sewers also require more ventilation.

In the rural part of the district overflowing cesspools are a great nuisance, and the Council is advised to invest in a suitable machine for emptying them.

House Refuse. Collection is effected weekly at a cost of exactly 1d. per week per house. Fish offal is also collected (by a contractor).

Water Supply. The public supply, furnished by the wells of the South Essex Company, is of excellent quality. No progress has been made towards furnishing Creeksmouth with a pure supply. A list is given of premises still served by shallow wells, some of which might be closed with advantage.

Supervised Premises. Lists are given containing particulars of the various cowsheds, dairies, and milkshops registered. The condition of these, especially of the cowsheds, leaves much to be desired. Regulations under the Dairies, Cowsheds, and Milkshops Order, 1885, are in force.

Slaughterhouses are four in number, one licensed and sanitary, and three registered and less sanitary. The worst of the latter is to be re-built. The knacker's yard has occasioned no complaints, and its license has been renewed. There are five registered common lodginghouses, with accommodation for 109 lodgers. All have been inspected from time to time, on one occasion at midnight.

Nuisances. House-to-house inspection has been made of 354 premises. Of a total of 1,870 houses inspected, no fewer than 1,157 revealed sanitary defects, though there is now very little slum property in the district.

Little complaint of the state of the Roding has been made this year. The Medical Officer of Health is now convinced that a very large proportion of the pollution is traceable to the London County Council northern outfall works.

A serious nuisance has been caused by the offensive smells emanating from the Ilford sewage works close to the northern boundary of the district.

Gipsies have caused considerable trouble, 104 vans having to be removed.

Infectious Disease. In all cases of infectious disease the premises are immediately visited and careful inquiries and inspection made. Where patients are nursed at home a printed form of directions is handed to the householder. Disinfectants are supplied free, clothing, carpets, bedding, &c., disinfected by steam, and rooms fumigated with formic aldehyde. Attendance officers, head teachers, and Sunday School superintendents are informed of all cases with which they are concerned.

The Isolation Hospital has accommodation for 32 patients, and the cost per patient per day during the year worked out at about 2s. 6d. Improved means of heating and suitable hot water supply for the upper hospital are urgently required. The fencing has been improved, but is still open to criticism. Arrangements against fire are under consideration which, when carried out, should be sufficient.

BRAINTREE.

Medical Officer of Health—PERCY R. STEVENS, L.R.C.P., M.R.C.S.

Area in acres, 1901 census (land and inland water) 2,224

Population, 1901 census	5,330
„ 1905 estimated	5,330
Deaths registered in the district ...	74
Corrections ... Additions ...	13
„ ... Deductions ...	4

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	15·6 ...	15·7
Zymotic Death-rate	1·1 ...	1·7
Infantile Mortality	73·2 ...	96
Birth-rate	23·1 ...	22·2
Cases of Infectious Disease per 1,000 population ...	6·6 ...	5·6

The report is in manuscript and the most meagre of any presented.

Sewerage and Drainage. The sewer has been extended from Victoria Street to Fairfield Road.

House Refuse. The "D" card system is continued and answers satisfactorily.

Water Supply. The rest level in the public well has been falling at the rate of about one foot per year, with a consequent diminution of yield. The Council is, therefore, still considering the advisability of providing a duplicate engine and pump.

Supervised Premises. The eight slaughterhouses have been inspected and found satisfactory. License has been granted for a new one. The Council is considering the question of framing regulations for cowsheds, dairies, and milkshops.

BRENTWOOD.

Medical Officer of Health—S. FRAZER, L.R.C.P., L.R.C.S.

Area in acres, 1901 census (land and inland water) 460

Population, 1901 census	4,932
,, 1905 estimated	6,243
Deaths registered in the district ...	46
Corrections ... Additions ...	9
,, ... Deductions ...	0

	1905.	Mean for 6 years, 1899—1904.
Nett Death-rate	8·8 ...	11·1
Zymotic Death-rate	·3 ...	·7
Infantile Mortality	92·6 ...	110·1
Birth-rate	17·3 ...	18·8
Cases of Infectious Disease per 1,000 population ...	4·5 ...	3·7

The report is printed.

Dr. Frazer obtains a "corrected birth-rate" of 20·3 by deducting from the population the 950 children living at the Hackney Training, St. Charles, and Highwood Schools.

Physical Features, &c. The district is situated on elevated ground on the London and Colchester main road. The adjoining portions of the parishes of South Weald, Shenfield, and Great Warley, belonging to the Rural District of Billericay, are of urban character, and have been formed into a Special Drainage District, and connected with the Brentwood system of sewers. Their inclusion in the Urban District is advocated.

House Accommodation. The type of cottages erected recently is suitable in every respect, but the number is insufficient. The Council has provided a number, which have proved a decided success, and private enterprise is now co-operating. Some of the older cottages are scarcely fit for habitation, especially those in North Street, round Western Road to Weald Lane. This neighbourhood constitutes an unhealthy area, and an improvement scheme under the Housing of the Working Classes Act has been recommended by the Medical Officer of Health.

Sewerage and Drainage. Control in this matter is vested in a joint committee of nine members, six representing the Brentwood Urban and three the Billericay Rural District Council. This committee is, to all intents and purposes, an independent authority, and the resulting position is found to be anomalous and unsatisfactory.

Excrement Disposal. W.c.'s are in general use, but in about 80 per cent. of the cottage property they are hand-flushed, and are consequently found in a more or less filthy condition.

House Refuse. Weekly removal is effected by contractors. This system has not proved altogether satisfactory, and direct employment is advocated.

Water Supply is provided by the South Essex Water Company and is adequate in all parts of the town.

Supervised Premises. There is now no common lodging-house. Bakehouses and slaughterhouses are satisfactory, and the bye-laws for dairies are very fairly complied with.

Infectious Disease. There being no Isolation Hospital, cases are sent by arrangement to that of the Billericay Authority.

Disinfection of clothing, etc., is by means of a Thresh's portable disinfector, and of houses by spraying.

BRIGHTLINGSEA.

Medical Officer of Health—E. P. DICKIN, M.D., C.M.

Area in acres, 1901 census (land and inland water) 2,867

Population, 1901 census	..	...	4,501
,, 1905 estimated	..	...	4,764
Deaths registered in the district		...	57
Corrections ...	Additions	...	5
,, ...	Deductions	...	0

	1905.	Mean for 8 years, 1897—1904.
Nett Death-rate	13·0	13·
Zymotic Death-rate	·6	·8
Infantile Mortality	78·4	... 90
Birth-rate	21·4	... 26
Cases of Infectious Disease per 1,000 population ...	1·9	... 4·7

The report is printed.

Sewerage and Drainage. The sewage works continue to be satisfactory, and less nuisance has been caused by smells from the sewers than in former years.

House Refuse. Proper refuse carts are required.

Water Supply. The water supplied by the Council is of high bacteriological purity but is hard, a feature to which Dr. Dickin attributes certain ill effects, especially constipation.

Supervised Premises. Five milkshops, eight cowsheds, and five dairies have been inspected and found satisfactory. A sixth dairy was found to have a foul ditch and privy close to it. This was remedied, but it was found impossible to improve the well, though so situated as to be liable to contamination, because the sample of water taken for analysis was not markedly impure.

Factory and Workshop Act. A large number of what are only nominal workshops have no sanitary convenience, but under the circumstances this is of no real consequence.

BUCKHURST HILL.

Medical Officer of Health—C. R. DYKES, M.R.C.S., L.R.C.P.

Area in acres, 1901 census (land and inland water) 873

Population, 1901 census	...	...	4,786
,, 1905 estimated	...	...	5,050
Deaths registered in the district		...	63
Corrections ...	Additions	...	2
,, ...	Deductions	...	5

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	11·9	11·9
Zymotic Death-rate	·4	1·7
Infantile Mortality ...	109·1	114·5
Birth-rate	21·8	22·9
Cases of Infectious Disease per 1,000 population ...	3·0	4·7

The report is printed.

Physical Features, &c. The subsoil is chiefly stiff clay, with gravel in places.

Sewerage and Drainage. There are two separate systems of sewerage in accordance with the conformation of the district. The eastern or principal system discharges into the Council's bacteriological works on the bank of the Roding. The effluent has been uniformly satisfactory.

A severe thunderstorm in June necessitated the re-laying of part of the main sewer in Queens Road.

House Refuse. Collection is made weekly by public scavengers.

Water Supply, from the deep well of the Metropolitan Water Board, is constant and satisfactory.

Supervised Premises. Several surprise visits have proved these to be satisfactory.

Infectious Disease. The usual steps as to inspection, &c., are taken on notification. Disinfection of rooms is by formalin and of clothing by steam. In August the Council undertook to disinfect after deaths from phthisis.

The Waltham Joint Hospital will shortly be able to receive patients, who will then be sent there instead of to Epping Isolation Hospital.

BURNHAM-ON-CROUCH.

Medical Officer of Health—CHAS. F. DOWNMAN, L.R.C.P., M.R.C.S.

Area in acres, 1901 census (land and inland water) 4,517

Population, 1901 census 2,919

„ 1905 estimated 3,300

Deaths registered in the district ... 37

Corrections ... . None applied

	1905.	Mean for 7 years, 1898—1904.
Nett Death-rate (?)	11·2 ...	13·5
Zymotic Death-rate	·9 ...	1·8
Infantile Mortality	50·6 ...	94·6
Birth-rate	23·9 ...	27·6
Cases of Infectious Disease per 1,000 population ...	3·9 ...	8·7

The report is printed.

Sewerage and Drainage. The bacteria beds still give excellent results.

Excrement Disposal. Of the 772 closets in the town 297 are fitted with flushout apparatus.

House Refuse. Scavenging is carried out by contract, ashbins being emptied once a week.

Water Supply. The average of 30,000 gallons per day is maintained, and the supply from both deep and surface tubes is of excellent quality. In the early part of the week the deep tube is drawn upon, so as to supply the soft water from the Thanet sands for washing purposes.

Infectious Disease. The isolation cottage was used for two cases of typhoid fever.

Special measures were employed in combating an outbreak of diphtheria in the Council Schools, which it was feared

might, as in 1902, assume large proportions. In addition to the closure and disinfection of the school, a special medical inspector was employed, who examined over 400 children and took swabs from 54. None of these, however, showed diphtheria.

CHELMSFORD.

Medical Officer of Health—H. W. NEWTON, M.R.C.S., D.P.H.

Area in acres, 1901 census (land and inland water) 2,308

Population, 1901 census ...	...	12,580
,, 1905 estimated ...	...	13,320
Deaths registered in the district	...	176
Corrections ...	Additions ...	0
,, ...	Deductions ...	32

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	10·8	...	13·9
Zymotic Death-rate	·8	...	1·7
Infantile Mortality	102·4	...	97·0
Birth-rate	22·0	...	25·9
Cases of Infectious Disease per 1,000 population ...	7·3	...	6·8

The report is printed.

House Accommodation. This is ample, and the great majority of the houses are in good condition. A Local Government Board inquiry has recently been held with regard to the proposed purchase by the Corporation of the lower half of Union Yard. The houses here have always been very difficult to deal with, and are insanitary. The Corporation proposes, if permitted to purchase, to maintain them in good repair, and certain other properties might be similarly dealt with.

Sewerage and Drainage. The Bundick's Hill sewer has been completed, and the houses are now being connected. A Local Government Board inquiry has been held with regard to ventilation of the sewers. As result of this the sewers are to be ventilated as quickly as possible.

The sewage is disposed of on a sewage farm in Springfield parish, under the management of a joint sewerage committee.

House Refuse is removed regularly and efficiently by the Corporation's employees. Complaints have been made of nuisance arising from its disposal in a disused gravel pit, and the owner of the pit has consequently given notice to discontinue the arrangement. A similar history attaches to four previous sites for deposition of rubbish, and a Destructor will ultimately be needed.

Water Supply. This is adequate and of excellent quality. The Burgess (shallow) Well has, however, shewn definite signs of failing in its supply. For this reason, and on account of the considerable risk of pollution of such sources a second deep well is recommended. The existing deep well at Mildmay Road furnishes almost half the water consumed at present (yield about 136,000 gallons). The new sewer at Bundick's Hill obviates the risk of sewage contamination to which Admiral's Park well was formerly exposed. A list is given of streets with constant and with intermittent water supply respectively. The whole of the borough should now have a constant supply.

Supervised Premises. The two lodginghouses are frequently inspected and have always been found satisfactory. The same statement applies to the slaughterhouses. Milkshops are often visited and have always been found clean, but milk is frequently exposed for sale in uncovered vessels.

A special inspection of all the dairies and cowsheds has been made, and several cases of gross neglect were met with. These have now been remedied, and the Sanitary Inspector is in future to make a monthly report on these premises. Notices containing the regulations, which include provision for cleanliness of cows' udders and milkers' hands, for dairies, etc., have been sent to all persons concerned.

The two offensive trades are well conducted.

Nuisances. House-to-house inspection has been considerably interfered with by the work entailed by the prevalence of

scarlet fever. No nuisances of any moment have been brought to light.

Infectious Disease. There are at present three hospitals jointly used by the Urban and Rural Districts, in addition to a special building for small-pox. It is hoped that during 1906 the additions to the Baddow Road hospital will be completed and that the primitive buildings in Coval Lane and Galleywood will then no longer be used.

CHINGFORD.

Medical Officer of Health—GEO. F. FULCHER, M.B., C.M.

Area in acres, 1901 census (land and inland water) 2,807

Population, 1901 census	...	...	4,372
„ 1905 estimated	...	...	5,234
Deaths registered in the district		...	78
Corrections	...	Additions ...	0
„	...	Deductions ...	28

	1905.		Mean for 10 years, 1895—1905.
Nett Death-rate	9·4	...	10·9
Zymotic Death-rate	·8	...	1·8
Infantile Mortality	97·7	...	112·5
Birth-rate	25·4	...	24·0
Cases of Infectious Disease per 1,000 population ...	7·1	...	4·8

The report is printed.

Sewerage and Drainage. Improvements and additions have been made as required from time to time. The disposal continues to be fairly satisfactory.

House Refuse. The weekly collection has been carried out satisfactorily by the contractor.

Supervised Premises. Dairies, cowsheds, milkshops, factories and workshops have been periodically inspected, and found in good condition.

CLACTON.

Medical Officer of Health—JNO. W. COOK, M.D.

Area in acres, 1901 census (land and inland water) 4,069

Population, 1901 census	7,456
,, 1905 estimated	7,792
Deaths registered in the district ...	104
Corrections ... Additions ...	1
,, ... Deductions ...	5

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	12·8* ...	12·6
Zymotic Death-rate	·5 ...	1·8
Infantile Mortality	75·6 ...	140·2
Birth-rate	22·1 ...	26·2
Cases of Infectious Disease per 1,000 population ...	13·6 ...	9·9

The report is printed. It contains a report upon the structure of the elementary schools in the district.

Physical Features, &c. The district is very flat, and lies on the London clay, with some pockets of gravel. 1689·7 hours of bright sunshine were registered and 16·68 inches of rainfall. This is the smallest rainfall in England, and the greatest amount of sunshine of all seaside resorts within easy distance of London. The Council has regretfully ceased the publication of the meteorological records in the daily papers, having been surcharged for doing so by the Local Government Board Auditor.

House Accommodation. Houses for the working classes are plentiful and well constructed. Building bye-laws are enforced.

Sewerage and Drainage are in good order. All sewers discharge by two outfalls placed well out to sea, and no sewage returns on the beach.

House Refuse. This is collected systematically by the Council's own men and sorted, and partially burnt about two miles out of the town. A refuse destructor is much needed.

*Dr. Cook, by excluding the deaths of non-residents whether dying in public institutions or not, obtains a nett death-rate of 11·16.

Water Supply. This is abundant and of excellent quality. It is pumped from the Council's well at Great Bentley to the filtering beds and reservoirs at Clacton. Thence it is pumped to a tank on a water-tower and from this distributed by gravitation throughout the district.

Supervised Premises. Inspection is carried out. Many houses are let in lodgings but there are no bye-laws for them.

Factory and Workshop Act. A few minor nuisances have been detected and remedied. Complaint is made of the administration of this Act by the Home Office officials, who have not communicated with the Medical Officer of Health throughout the year. The dual control of premises coming under the Act is found to be unsatisfactory when exercised in this manner.

Infectious Disease. Every effort is made to control infectious disease. The Medical Officer of Health is a warm advocate of isolation hospitals, and enters into a strenuous defence of this method of isolation. No notification of phthisis was received during the year, although eight deaths occurred.

The Isolation Hospital is a permanent building consisting of an administrative and two ward blocks with two wards each. Besides these there are two single-bedded rooms. Seventeen beds are provided altogether. The charges to patients are very small, and when necessary are remitted altogether. The net cost to the ratepayers works out at £4 1s. 3d. per patient (62 cases). Disinfection is provided for by the Council's steam disinfector.

COLCHESTER.

Medical Officer of Health—W. G. SAVAGE, M.D. B.SC., D.P.H.

Area in acres, 1901 census (land and inland water) 11,324

Population, 1901 census	...	...	38,373
,, 1905 estimated ...		...	40,120
Deaths registered in the district		...	539
Corrections ...	Additions	...	0
,, ...	Deductions	...	37

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	12·5	... 14·9
Zymotic Death-rate	·6	... 1·9
Infantile Mortality	93·5	... 138
Birth-rate	25·8	... 26·1
Cases of Infectious Disease per 1,000 population ...	8·3	... 7·6

The report is printed and includes reports by the Surveyor, Waterworks Superintendent, and Sanitary Inspector.

Sewerage and Drainage. New sewers have been constructed of a total length of nearly two miles. The average daily flow of sewage pumped into the tanks at the outfall works was over 1,000,000 gallons. The pressed sludge (3,787 tons) obtained by precipitation of the sewage was all disposed of to the farmers around.

A table is given shewing localities of escapes of sewer gas. A large proportion occurred in kitchens and pantries.

Excrement Disposal. Amongst 501 houses inspected in the older and poorer parts of the town under a scheme of systematic house-to-house inspection there were 417 water closets. Of these no fewer than 338, or 81 per cent., were not supplied with water. Not only are old houses without any proper flushing apparatus, but new houses are allowed to be erected with w.c.'s only hand-flushed.

Water Supply. The average daily consumption per head for all purposes was about 17 gallons. 2,310 yards of new mains were laid down. The water supply of Shrub End was made the subject of a special investigation. The whole village is supplied by surface wells. Examination of the wells, as well as bacteriological and chemical analyses of the water, showed that the supply was most unsatisfactory, almost all the wells being liable to serious pollution. The Council has, in consequence, applied to the Local Government Board for a loan for the extension of the water mains to the village.

Supervised Premises. The registered common lodginghouse has been regularly inspected. Its management is satisfactory.

Tents and vans are regularly inspected. No case of disease was met with.

In consequence of an extensive outbreak of sore throat, which was traced to milk supplied from one of the cowsheds in the borough these are now more frequently inspected by the Medical Officer of Health, who also examines numerous milk samples. Full details are given of this outbreak, and of the means by which its origin was established. The cases were first heard of on April 25th, and the 27th the cause was discovered in the shape of a cow at the shed referred to, which was found to be suffering from suppurative disease of the udder. A letter has been sent to all cowkeepers, pointing out the danger of using milk from diseased cows, and offering to examine milk free of charge, and if necessary to have a veterinary examination made. Dr. Savage considers that it should be made obligatory upon cowkeepers to notify all cases of udder disease to the local authority in whose district they live, or into whose district they send milk, and that the authority should have the power of forbidding the use of milk from such cows.

Nuisances, &c. Much more house-to-house inspection has been carried out than in previous years, and it is hoped that in a few years the houses in the oldest and least sanitary parts of the borough will all be inspected. Prompt inquiry is made into all complaints as to nuisance, and informal notice generally secures abatement.

Infectious Disease. Prompt removal to the isolation hospital is insisted upon where satisfactory isolation cannot be insured at home. In other cases printed instructions are left at the house, and subsequent visits made to see that these are carried out.

Disinfectants are issued where required, and clothing, etc., removed for disinfection by steam. Notices regarding children suffering from infectious disease are sent to the teachers of public elementary and Sunday schools, and steps taken to prevent spread of infection by library books. Arrangements continue in force for the notification by school teachers of

diseases not compulsorily notifiable, and all suspected cases are investigated by the Medical Officer of Health.

The voluntary notification of consumption is continued, but is in many instances received very late in the course of the disease. Expectoration from suspected cases is examined free of charge.

Much use has been made of the Municipal Laboratory in investigating suspected cases of infectious disease and possible channels of its communication.

EAST HAM.

Medical Officer of Health—G. SOWDEN, M.D., D.P.H.

Area in acres, 1901 census (land and inland water) 3,326

Population, 1901 census 96,018

,, 1905 estimated 123,381

Deaths registered in the district ... 1,308

Corrections ... Additions ... 220

,, ... Deductions ... 3

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	12·4 ...	13·3
Zymotic Death-rate	2·2 ...	2·5
Infantile Mortality	129·6 ...	148
Birth-rate	29·9 ...	34·9
Cases of Infectious Disease per 1,000 population ...	11·9 ...	11.2

The report is printed and includes special report upon the schools, and a report by the Chief Sanitary Inspector.

Physical Features, &c. The subsoil is sand and gravel, overlying the London clay. The district is low-lying, its highest point being only about 50 feet above ordnance datum. The valley of the Roding in the east, and some parts of the south of the district are marshy.

House Accommodation. There are about 1,680 empty houses in the borough, and overcrowding, where it exists, is almost

always due to poverty, not lack of accommodation. Plans for 526 buildings have been approved, as compared with 699 in 1904. The Corporation owns 220 convenient and serviceable tenement houses in the neighbourhood of the Docks and Beckton Gas Works.

Sewerage and Drainage. The Council continues to devote much attention to the perfection of the main sewerage, which is still being extended.

The East Ham Improvement Act, 1903, defines a drain so as to include all combined drains within its meaning. Considerably over £1,000 worth of re-construction work, the cost of which would otherwise have fallen on the borough, has been executed during the year upon drains of this description.

The Council employs two special men for the purpose of drain clearing. These men are intimately acquainted with the construction of the drains, and know where to open them, whereas the non-expert "cheap man" when called in generally starts by breaking pipes, doing permanent damage, which gets covered up and overlooked until, perhaps, disease necessitates the drain being tested.

House Refuse. Removal has for many years been effected by the Council. There is a regular weekly collection in all parts of the borough, and very few complaints have been received. Four more roller-top vans have been purchased out of current rate, bringing the total up to 14. These are found to be a great improvement on the old open carts. The new two-cell refuse destructor is now in use. The steam generated by the boilers is used for sewage pumping.

Water Supply. About 30 gallons per head per day are supplied from the mains of the Metropolitan Water Board. No considerable interruption has occurred. The East Ham Improvement Act, 1898, provides a penalty of £5 for permitting a house to be occupied without water. Two convictions have been obtained under this section and fines imposed.

Supervised Premises. The 15 slaughterhouses have been regularly inspected.

There are three cowsheds and 151 dairies on the register. The general condition, as ascertained by the 161 inspections made, may be said to be satisfactory.

The bakehouses registered number 51, of which 12 are underground. The majority are clean and well-kept. The smaller laundries are in many cases unsuited for the purpose, the workers suffering from the effect of wet floors, steam, and insufficient ventilation.

Nuisances, &c. House-to-house as well as special inspections are made. The secondary means of access at the rear of business premises is frequently allowed to get into an insanitary condition. Much useful work has been done by calling upon those responsible for these passages to have them paved and drained. The eight public urinals are cleansed daily, and public-house urinals have been regularly inspected, and the necessary steps taken to keep them in proper condition.

Gipsies continue to give trouble, and have frequently to be moved out of the borough. This is done by serving notices upon them to furnish their dwellings with a supply of water under penalty.

Infectious Disease. Premises are visited immediately after the notification is received, inquiries made into the source of infection, and a report prepared for the Medical Officer of Health. Information of exclusions from schools for non-notifiable diseases is received from attendance officers and head teachers.

The Council has decided to equip a bacteriological laboratory for the diagnosis of diphtheria. Cards have been distributed in the schools stating the symptoms of onset of all the commoner infectious diseases.

Disinfection of premises is by sulphur fumigation.* Books belonging to the public library are disinfected by formalin. The Thresh emergency disinfector at the hospital is to be re-placed by a steam disinfector in a permanent building. Three depots

*Formalin spray has since been substituted.

are maintained in different parts of the borough from which disinfectants are supplied every morning to persons applying for them with an order from the department.

The Isolation Hospital consists of temporary buildings with accommodation for 75 cases. In addition to these there is in a different locality a convalescent home for scarlet fever with 27 beds, making a total of 62 beds set apart for this disease. The diphtheria and typhoid wards are well equipped and adequate for present needs, but the scarlet fever block is old and inadequate. A scheme for a new scarlet fever block has been sanctioned, and building should soon commence. The re-building scheme also provides for a new and well equipped laundry. A new mortuary is required.

Open Spaces, Cemeteries, &c. There are five parks and pleasure grounds, with a total area of 150 acres. Besides these seven acres have been apportioned to allotments. The four large cemeteries in the northern part of the borough, covering 250 acres, have been inspected and found satisfactory.

EPPING.

Medical Officer of Health—TREVOR FOWLER, L.R.C.P. & S.I., D.P.H.

Area in acres, 1901 census (land and inland water) 1,420

Population, 1901 census	...	...	3,789
,, 1905 estimated	...	...	4,083
Deaths registered in the district		...	77
Corrections ...	Additions	...	1
,, ...	Deductions	...	25

	1905.	Mean for 9 years, 1897—1904.
Nett Death-rate	13·0 ...	14·1
Zymotic Death-rate	·2 ...	1·5
Infantile Mortality	88·8 ...	111·1
Birth-rate	22·0 ...	25·0
Cases of Infectious Disease per 1,000 population ...	2·0 ...	4·7

The report is printed.

Physical Features, &c. The town is situated in the centre of the district, at an altitude of 360 feet. The soil is loam and gravel, overlying the London clay. The houses are chiefly residential, and except for an iron foundry no industries of importance are carried on.

House Accommodation. Building has been fairly extensive, and of the older houses few are now unconnected with sewers and water-mains. The housing of the working classes, though vastly improved of late, is still defective, and there remains much overcrowding.

Sewerage and Drainage. Complaints continue to be made of nuisances arising at the various sewage works. Measures have been undertaken to prevent such nuisance and to render the effluents innocuous.

House Refuse. The public scavenging has been satisfactory. Proper dustbins are needed in some cases.

Supervised Premises. Bakehouses, dairies, cowsheds, milk-shops and workshops have received special attention, and have been found in a generally satisfactory state.

There are no common lodginghouses, but common rooms are provided in the rear of the inns, where lodgers are received for a few pence. These require supervision by the Sanitary Inspector.

Infectious Disease. Cases requiring isolation are removed to the Rural District Hospital at Rood Street.

FRINTON-ON-SEA.

Medical Officer of Health—H. W. GODFREY, M.D.

Area in acres, 1901 census (land and inland water) 403

Population, 1901 census	...	...	644
,, 1905 estimated	...	..	950
Deaths registered in the district		...	13
Corrections...	...	Additions ...	0
,, ...	...	Deductions ..	0

	1905.	Mean for 4 years, 1901—1904.
Nett Death-rate	13·7 ...	9·0
Zymotic Death-rate	1·0 ...	·3
Infantile Mortality	100·0 ...	114·4
Birth-rate	21·1 ...	24·4
Cases of Infectious Disease per 1,000 population	2·1 ...	1·0

The report is printed.

House Accommodation. A new series of bye-laws for new streets and buildings has been adopted.

Sewerage and Drainage. Eton Road has been sewered. This brings the total length of sewers in use to upwards of nine miles. The drainage of the district is efficient. Complaints have again been made of the sewer ventilating columns. Their height has, accordingly, been increased to 30 feet, and four new columns have been fixed.

Water Supply. This is abundant and of good quality. Some complaints have been received, but it is found that in these cases it is sometimes the house cistern which is at fault.

GRAYS.

Medical Officer of Health—JOHN A. WARD, M.D.

Area in acres, 1901 census (land and inland water) 1,359

Population, 1901 census ...	...	13,834
,, 1905 estimated ...	...	15,250
Deaths registered in the district	...	179
Corrections ...	Additions ...	12
,, ...	Deductions ..	1

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	12·5 ...	11·7
Zymotic Death-rate	1·6 ...	2·1
Infantile Mortality	123·1 ...	121·
Birth-rate	30·4 ...	31·1
Cases of Infectious Disease per 1,000 population ...	16·5 ...	12·5

The report is printed.

Physical Features, &c. The soil is gravel and alluvium, overlying a deep substratum of chalk.

The population consists mainly of the working classes, who are for the most part employed at Tilbury Docks and in cement factories.

House Accommodation. The district is now well supplied with cottages of the better class, *i.e.*, those letting at 8s. per week and upwards, but cheaper houses than these are still required for the labouring class.

Sewerage and Drainage. The three septic tanks at the sewage works have been made to communicate, and the effluent is now discharged from a single exit instead of three as formerly. This alteration has greatly lessened the complaints of smells from the works. As the volume of sewage to be dealt with grows with the increase of the town it becomes increasingly difficult to obtain a sufficiently purified effluent. The works are twelve years old, and modernisation cannot be delayed much longer.

Excrement Disposal. With one or two exceptions all the houses are provided with water closets, and all except about 42 are connected with the sewers.

Water Supply. This is wholly supplied by the South Essex Water Company, and is obtained from deep wells in the chalk to the north of the town, and to a less extent from springs at Linford, a few miles to the east. The supply is constant. The water supplied to the western portion of the district was for a few months in spring and early summer most unsatisfactory in quality owing to admixture with sea water, the proportion of which in one sample analysed was as high as six per cent. Organic matter was also greatly increased and the water quite unfit for use. After communication with the Company the quality of the supply was gradually improved, steps being taken to supply the mains with water from the north adit at the Grays works, *i.e.*, the adit furthest from the river. Even now the quality of this water is inferior to that of the Linford supply.

Supervised Premises. There is one common lodginghouse, which is clean and well kept. The eight slaughterhouses are in a satisfactory states.

There are 26 milkshops and two cowkeepers. The milk regulations enforced include one added in June last, requiring suitable covers for vessels containing milk exposed for sale.

Nuisances. The unpaved back roads, which at times constitute a serious nuisance, are shortly to be made up.

Infectious Disease. A special committee considered the advisability of providing a disinfector in Grays in place of the present system of disinfection at the Joint Isolation Hospital, Stifford, but no decision was arrived at. The voluntary notification of phthisis has been adopted, and premises are disinfected after deaths from this disease. Diphtheria antitoxin is supplied free for preventative purposes.

HALSTEAD.

Medical Officer of Health—C. GORDON ROBERTS, M.B.

Area in acres, 1901 census (land and inland water) 647

Population, 1901 census	...	...	6,073
,, 1905 estimated	...	...	6,100
Deaths registered in the district		...	109
Corrections	... Additions	...	1
,,	... Deductions	...	17

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	15·1	...	16·4
Zymotic Death-rate	2·1	...	1·3
Infantile Mortality	134·3	...	123·4
Birth-rate	22·0	...	23·9
Cases of Infectious Disease per 1,000 population ...	16·1	...	7·2

The report is printed.

Sewerage and Drainage. Storm over-flows have been provided for the lower parts of the town, and parts of the sewers

have been re-laid. The south side of the High Street still requires to be re-sewered.

The sewage farm is much better kept than formerly, the upper portion being in excellent condition. A gas engine is being provided which will facilitate the better cultivation of the lower portion.

Supervised Premises. The slaughterhouses and bakehouses have been inspected and found in fairly good order. A committee is at present considering the question of regulations for cowsheds, dairies and milkshops. It is desired that any action of the kind should be taken jointly by the Urban and Rural Districts.

Nuisances. Several nuisances have arisen from ill-kept pigsties. It is found that the limit of 100 feet from neighbouring premises is too small to secure immunity from this trouble.

HARWICH.

Medical Officer of Health—H. GURNEY, L.R.C.P., M.R.C.S.

Area in acres, 1901 census (land and inland water) 1,541

Population, 1901 census	...	...	10,070
,, 1905 estimated	...	...	10,687
Deaths registered in the district		...	106
Corrections	...	Additions ...	14
,,	...	Deductions ...	0

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	11·2	...	13·4
Zymotic Death-rate	·3	...	1·0
Infantile Mortality	85·6	...	125·
Birth-rate	27·3	...	32·5
Cases of Infectious Disease per 1,000 population ...	5·6	...	3·9

The report is type-written.

Sewerage and Drainage. Upper Dovercourt is now being sewered. This has long been required. The sewers of the

Dovercourt Avenues, where the gradients are steep, require more ventilation at their highest points. The relief sewer from Maria Street now prevents the flooding of basements in the Bathside district.

Infectious Disease. An arrangement has been made for providing gratuitous bacteriological diagnosis in cases of suspected diphtheria, and for the gratuitous supply of antitoxin in necessitous cases. Fines have been inflicted in two cases on parents for allowing their children to attend school although they were aware that an inmate of the house was suffering from scarlet fever.

ILFORD.

Medical Officer of Health—C. F. STOVIN, L.S.A., D.P.H.

Area in acres, 1901 census (land and inland water) 8,496

Population, 1901 census	41,234
,, 1905 estimated	65,021
Deaths registered in the district ...	822
Corrections ... Additions ...	75
,, ... Deductions ...	348

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	9·1 ...	10·4
Zymotic Death-rate	·8 ...	1·9
Infantile Mortality	87·0 ...	126·8
Birth-rate	26·3 ...	28·1
Cases of Infectious Disease per 1,000 population ...	6·9 ...	9·0

[The above rates for 1905, except that of cases of infectious disease, are calculated, not upon the total estimated population but on a nett population of 60,441, obtained by deducting from the total the institutional populations in the Barnardo Homes, and in the Claybury and West Ham Asylums.]

The report is printed, and includes a special report upon the milk supply, report upon school hygiene, and report by the chief Sanitary Inspector.

Sewerage and Drainage. Good progress has been made with the extension of the sewage works, and it is hoped that when they are completed (spring, 1906) complaints will no longer be received of offensive smells from the works. The works include (1) grit chambers and screens, (2) three open septic tanks of a total capacity of 2,500,000 gallons, (3) storm roughing filter of clinker, three feet deep, and (4) ten contact beds of a total area of $2\frac{1}{2}$ acres, five feet deep, and filled with coke breeze.

House Refuse. A weekly collection is made throughout the whole district by the Council's employees. About 14,000 tons of refuse have been thus collected and carted to a brickfield. It is there piled in large heaps and allowed to decompose as a preliminary to sifting and utilisation in the process of brick-making. Precautions are taken to minimize the nuisance resulting, and fewer complaints have been received than in former years. Only one brickfield is now available, and much difficulty would arise should circumstances prevent its use.

The new Ilford District Council Act contains a clause for the regulation of provision of dustbins.

Water Supply. The northern portion of the district receives a satisfactory supply from the Metropolitan Water Board. The southern portion is supplied by the South Essex Water Co. whose water has given a much better result on analysis than heretofore. The Company is sinking a well in the Roding valley in the district, and also one in Mill Road.

Supervised Premises. There are seven cowsheds in the district, four modern and well constructed, the others old but fairly well kept. About one half of the 44 milkshops and dairies are properly constructed and conducted; the remainder include a number of small general shops selling small quantities of milk from an open vessel on the counter amidst insalubrious surroundings. A regulation compelling the covering of such vessels is required.

The local cowsheds supply about 16,800 quarts per week out of the 250,000 quarts sold. The remainder comes from the country, for the most part from farms in Essex within easy reach of Ilford by rail, and the milk is therefore supplied much fresher than in many parts of London. A special examination of 25 samples of milk was made, in cold weather –December and January—by the County Medical Officer of Health. As the result the chemical standard of Ilford milk proves fairly good (3 out of 25 samples below standard), but bacteriologically the result is not good, though probably no worse than in the case of most milks sold in urban districts.

There are three licensed slaughterhouses, one satisfactory, the others not so good.

No offensive trades are carried on.

Nuisances. The district is systematically inspected by three inspectors. The appointment of a female inspector is advocated, but has not been sanctioned by the Council. Her work would be especially directed towards the control of excessive infantile mortality.

Infectious Disease. A "temporary shelter," accommodating eight patients, has been built in the grounds of the Isolation Hospital. It is proposed to pass convalescent scarlet fever patients through this as a "half-way house" between the hospital and their homes, with a view to minimising return cases.

A steam disinfector and two vans are provided at the hospital. Rooms are disinfected by spraying with 1—2 per cent. formalin solution.

The four school attendance officers report personally to the Medical Officer of Health every morning any cases of infectious disease met with, and the teachers take great care in watching for and reporting cases.

LEIGH-ON-SEA

Medical Officer of Health—W. D. WATSON, M.R.C.S., L.R.C.P.

Area in acres, 1901 census (land and inland water) 2,332

Population, 1901 census	3,667
,, 1905 estimated	5,083
Deaths registered in the district ...	53
Corrections ... Additions ...	1
,, ... Deductions ...	0

	1905.	Mean for 8 years, 1897–1904.
Nett Death-rate	10·6 ...	11·8
Zymotic Death-rate	·6 ...	2·8
Infantile Mortality	45·5 ...	103·6
Birth-rate	21·6 ...	25·2
Cases of Infectious Disease per 1,000 population ...	3·0 ...	14·2

The report is printed.

House Accommodation. Twelve dilapidated houses in Belton Row, and three cottages in the Gardens, Leigh Hill, have been closed and demolished.

Sewerage and Drainage. The usual standard of purity of effluent has been maintained, as tested by independent analysis. The amount of sewage requiring treatment is increasing, and the exclusion of surface water is at present engaging the Council's attention.

House Refuse. Refuse is removed by a contractor, and disposed of on brickfields. The work is satisfactorily carried out on the whole, but requires supervision.

Water Supply. The district is supplied by the Council's works from a deep well, but a few isolated houses are still dependent on shallow wells. The supply has been increased, two-thirds of the district receiving a constant, and one-third a twelve hours supply.

Supervised Premises. The Council has, during the year, issued regulations under the Cowsheds, Dairies and Milkshops Order, 1885.

Infectious Disease. Since the termination, in 1900, of the arrangement for isolation in the Rochford Council's hospital, no permanent provision for isolation has been made. A bungalow is rented primarily for small-pox cases and small contributions are sometimes made towards the expense of providing a nurse in other cases. A small hospital, to be closed when not in use, is suggested, but any large expenditure is unjustified by present circumstances.

LEYTON.

Medical Officer of Health—A. F. PESKETT, M.R.C.S.

Area in acres, 1901 census (land and inland water) 2,594

Population, 1901 census	...	98,912
,, 1905 estimated ...	...	105,000
Deaths registered in the district	...	2,054
Corrections ... Additions ... / ,, ... Deductions ...		877

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	11·2	12·6
Zymotic Death-rate	1·8	2·5
Infantile Mortality	94·	136·1
Birth-rate	30·6	30·1
Cases of Infectious Disease per 1,000 population ...	8·0	9·2

The report is printed.

Sewerage and Drainage. Various sewer re-placements and extensions have been carried out, and 48 new ventilators provided.

Excrement Disposal. The public lavatory accommodation is quite inadequate.

House Refuse. 20,169 tons were conveyed to the destructor.

Water Supply. Domestic cisterns are often found in most unsuitable positions, as under floors and over coppers, and an attempt is being made to have this remedied.

Supervised Premises. There are 19 slaughterhouses, which are periodically visited. Three nuisances were met with and

remedied. Four licenses have been transferred and one surrendered.

The cowsheds have been periodically visited, and overcrowding abated where found. In some it was necessary to have alterations carried out for sanitary reasons. Where infectious disease occurred in milk dealers' premises, the patients were immediately removed, the premises disinfected, and the milk destroyed.

Nuisances. Pavements are very inadequately cleansed. The angle between house and pavement is rarely ever touched and is never really clean.

Infectious Disease. Houses in which deaths from consumption have occurred are disinfected, and bills have been distributed warning the public of the possible consequences of expectoration in public places, etc. A charge of 10s., including conveyance, is in future to be made for disinfection of bedding in connection with cases of non-notifiable infectious disease.

Plans have been drawn up for a permanent isolation hospital costing between £30,000 and £40,000. Owing to doubt whether benefit proportionate to this expense would result the Council is not proceeding with the scheme at present. Under these circumstances an addition to the present temporary accommodation is an imperative necessity. An arrangement has been made with the Metropolitan Asylums Board for the reception of small-pox cases from Leyton into their hospitals.

LOUGHTON.

Medical Officer of Health—A. BUTLER-HARRIS, M.A., M.B., B CH. OXON.

Area in acres, 1901 census (land and inland water)			3,961
Population, 1901 census	...	...	4,730
„ 1905 estimated	...	...	5,300
Deaths registered in the district		...	44
Corrections ...	Additions	...	0
„ ...	Deductions	...	0

	1905.	Mean for 5 years, 1900—1904.
Nett Death-rate	8·3 ...	8·7
Zymotic Death-rate	·6 ...	·9
Infantile Mortality	59·4 ...	95·
Birth-rate	19·1 ...	25·2
Cases of Infectious Disease per 1,000 population ...	1·9 ...	6·1

The report is printed.

House Accommodation. The cottage property is, on the whole, in a good condition, but the Council's attention is once more drawn to the group of crowded wooden cottages on Pump Hill, which are dilapidated and back to back.

Sewerage and Drainage. The greater part of the district is sewered. Purification at the outfall works is hampered by the insufficiency of the available land, and by excess of storm water. Bacterial treatment is now required.

Certain portions of the district necessarily drain into cesspools. These receive particular attention, and are on the whole satisfactory. The w.c.'s in the older cottages are not provided with flushing tanks.

House Refuse is removed fortnightly where required, and is dealt with at the sewage farm.

Water Supply. This is derived from the East London Company's deep well in the chalk, and is abundant, but hard. There are no surface wells.

Supervised Premises. Slaughterhouses, cowsheds, dairies, and milkshops have been inspected regularly and are in good order.

MALDON.

Medical Officer of Health—H. REYNOLDS BROWN, M.D., C.M.

Area in acres, 1901 census (land and inland water)			3,028
Population, 1901 census ...		...	5,565
,, 1905 estimated ...		...	5,644
Deaths registered in the district		...	108
Corrections ...	Additions ...		0
,, ...	Deductions ...		23

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	15·1 ...	15·0
Zymotic Death-rate	·9 ...	1·3
Infantile Mortality	94·6 ...	106·
Birth-rate	26·2 ...	24·8
Cases of Infectious Disease per 1,000 population ...	4·4 ...	7·3

The report is type-written.

Physical Features, &c. The town is built on the top and slopes of a ridge running parallel to the river Blackwater, and rising to a height of about 130 feet. Some portions on low ground by the river are liable to flooding.

House Accommodation. Some of the houses date back as far as the sixteenth century, and some in the older part of the town have very insufficient surrounding air-space. The majority, however, are well built modern cottages with abundant air space. The building bye-laws are well enforced.

Sewerage and Drainage. The greater part of the sewage is discharged in a crude state into the estuary of the Blackwater. Owing to the configuration of the ground a common outfall for all the sewage is practically impossible, but the discharge of the principal outfall, about five-sixths of the total, should be treated, which would greatly diminish the pollution of the river.

House Refuse. The sanitary authority collects this on request. A regular and methodical system is much to be desired.

Water Supply. This is derived from the Corporation's two deep wells. It is of excellent quality but inadequate in amount, about ten gallons per head. An arrangement has been made for using waste water from a brewery for road watering, but the supply should be increased by re-boring the bore of one of the wells.

Supervised Premises. There are no bye-laws for dairies, milkshops, and cowsheds. These premises are inspected from

time to time, as are slaughterhouses. Some of the cowsheds are still in an unsatisfactory state.

Infectious Disease. Diphtheria antitoxin is supplied gratuitously for prophylactic purposes, and when used in this way continues to give excellent results. Infectious cases are isolated at the Maldon Joint Hospital Board's hospital at Heybridge.

ROMFORD.

Medical Officer of Health—A. WRIGHT, M.D.

Area in acres, 1901 census (land and inland water) 5,630

Population, 1901 census	13,656
,, 1905 estimated	15,000
Deaths registered in the district ...	296
Corrections ... Additions ...	1
,, ... Deductions ...	94

	1905.	Mean for 10 years 1895—1904.
Nett Death-rate	13·5 ...	12·7
Zymotic Death-rate	2·5 ...	1·7
Infantile Mortality	128·6 ...	113·7
Birth-rate	27·5 ...	30·5
Cases of Infectious Disease per 1,000 population ...	4·1 ...	8·4

The report is printed.

Water Supply. A few samples of drinking water, the purity of which was suspected, have been analysed. When these were found to be impure the South Essex Company's water was laid on.

Supervised Premises. The various bakehouses and slaughter-houses have been inspected, and found in a satisfactory condition.

Infectious Disease. Every case notified is reported to the Sanitary Inspector, who visits and reports to the Medical Officer of Health in all cases not personally investigated by the latter, and who also supplies disinfectants, sees to the patient's

removal to the Isolation Hospital, when such a course is adopted, and disinfects the premises, bedding, etc. So impressed is Dr. Wright with the value of the Isolation Hospital that he unhesitatingly asserts that without it there would have been three or four times as many scarlet fever cases as actually occurred.

SAFFRON WALDEN.

Medical Officer of Health—W. ARMISTEAD, M.B.

Area in acres, 1901 census (land and inland water) 7,502

Population, 1901 census	5,896
,, 1905 estimated	5,813
Deaths registered in the district ...	108
Corrections ... Additions ...	0
,, ... Deductions ...	19

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	15·3 ...	14·3
Zymotic Death-rate	·2 ...	·9
Infantile Mortality	99·1 ...	109·
Birth-rate	19·1 ...	20·1
Cases of Infectious Disease per 1,000 population ...	1·9 ...	5·9

The report is printed.

Physical Features, &c. The district is on the upper chalk, covered on the higher ground with boulder clay, and lies at an altitude varying from 150 to 400 feet.

House Accommodation is fairly adequate. There is not much overcrowding; two cases were reported during the year. Building bye-laws are in force.

Sewerage and Drainage. A Local Government Board inquiry as to the proposed new sewerage scheme was held last September. The general features of the scheme have been accepted, subject to reduction in the size of the septic tanks and contact beds, the Board now considering that contact beds

of the capacity of the dry weather flow and septic tanks of three-fourths that capacity will suffice.

Excrement Disposal. Most of the houses are drained into the existing sewers, but some earth closets and privies are emptied by the public scavenger. These will be done away with when the new sewers are provided.

House Refuse is removed weekly by public scavengers on the "D" card system.

Water Supply is derived from a deep well (350 feet) in the chalk. Hardness is reduced from 27 to 12 degrees by a softening process. Recently complaints have been made that the water is at times delivered in a chalky condition, and much incrustation has been found in the mains. This it is proposed to remove without taking up the pipes.

The mains have been extended to Seward's end at a cost of £510, and sanction has been obtained for a loan of £278 for extension to Pleasant Valley and other parts of the town.

Supervised Premises. Regulations under the Cowsheds, Dairies, and Milkshops Order are in force. No complaints have been made regarding the 15 cowsheds, 17 dairies and milkshops, or 5 slaughterhouses in the district.

Infectious Disease. Cases are removed to the Joint Hospital belonging to the Saffron Walden Urban and Rural District Councils. Chicken-pox is notifiable in the district. The Infectious Diseases (Prevention) Act is adopted.

SHOEBURYNESS.

Medical Officer of Health—E. W. WALTER, M.R.C.S., L.R.C.P.

Area in acres, 1901 census (land and inland water) 1,036

Population, 1901 cenus	...	...	4,081
„ 1905 estimated	...	...	4,370
Deaths registered in the district		...	48
Corrections ...	Additions	...	2
„ ...	Deductions	...	0

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	11·4 ...	12·5
Zymotic Death-rate	2·5 ...	2·5
Infantile Mortality	137·9 ...	134·9
Birth-rate	33·2 ...	35·8
Cases of Infectious Disease per 1,000 population ...	3·7 ...	8·7

The report is type-written.

Physical Features, &c. The soil is principally clay and gravel; the country is flat and fairly well wooded.

House Accommodation. The general condition of the houses of the working classes is satisfactory. Overcrowding becomes less as building increases.

Sewerage and Drainage. The district is drained into two main sewers, which discharge into the sea. Part of the system is supplied with automatic flush tanks. The whole works satisfactorily.

Excrement Disposal. There are 685 water closets connected with the sewers, and 30 earth closets. The latter are emptied three times and ashpits twice a week.

Water Supply. There is a constant public supply of pure water derived from an artesian well.

Supervised Premises. The sanitary condition of the dairies and cowsheds is satisfactory. Bakehouses and workshops conform to requirements.

Infectious Disease. The Isolation Hospital at Sutton Ford Bridge is a great advantage to the district. Ten patients were removed to it during the year.

SOUTHEND.

Medical Officer of Health—J. T. C. NASH, M.D., C.M., D.P.H.

Area in acres, 1901 census (land and inland water) 5,172

Population, 1901 census ...		...	28,857
,, 1905 estimated ...		...	46,380
Deaths registered in the district		...	508
Corrections ...	Additions ...		25
,, ...	Deductions ...		18

	1905.	Mean for 10 years, 1895–1904.
Nett Death-rate	11·1	... 14·4
Zymotic Death-rate	1·2	... 2·0
Infantile Mortality	118·9	... 153·6
Birth-rate	22·8	... 26·2
Cases of Infectious Disease per 1,000 population ...	4·3	... 9·7

The report is printed.

Physical Features, &c. The borough is situated on undulating ground, varying in elevation from sea level to + 120 feet O.D. The surface formation is variable, consisting chiefly of brick earth, gravel, and London clay.

House Accommodation. Generally speaking this is adequate, but the supervision exercised over houses in the course of erection is barely sufficient. Some very old houses on the outskirts of the borough are becoming dilapidated, and may soon have to be condemned. The water supply was cut off from one of the Council's houses in Ruskin Avenue owing to the non-payment of the water rate by the tenant. In consequence of this the weekly rents of the Council's houses have now been increased so as to include all rates.

Sewerage and Drainage. Sewer extensions have been made during the year amounting in all to 37,752 feet. A loan of £20,600 was sanctioned during the year for surface water drainage for the portion of the borough west of High Street. This work, which is at present in hand, will greatly relieve the original main sewers. The first street washings will be carried into the sewers.

The Leigh Cliffs Estate, which, owing to the contour of the ground, cannot be drained into any existing sewer, is specially reported upon in this connection. A new sewer is recommended, and plans have now (March, 1906) been approved.

Excrement Disposal. Regulations, similar to the Home Secretary's code, have been adopted relating to the provision of sanitary conveniences in factories and workshops.

House Refuse is now carted out of the borough to brickfields in the open country some miles away.*

Application has been made for a loan of £10,000 for the construction of a dust destructor at the London Road depôt. In consequence of opposition at the Local Government Board inquiry, the Board's decision has been deferred, and the selection of some other site is consequently urged in the report.

Water Supply. This is of excellent quality, and is efficiently protected from contamination.

Supervised Premises. New bye-laws have been adopted for slaughterhouses, founded upon the Local Government Board model. There are seven of these premises, and these have been inspected 127 times and two notices served. One of the assistant inspectors has obtained a meat inspector's certificate, and if the staff were increased could advantageously give more time to this work, but even then inspection must remain inadequate, and the provision of a public abattoir is consequently once more recommended.

A knacker's license has been applied for and refused.

No action under the new bye-laws for common lodging-houses has been found necessary.

The four cowsheds are greatly improved as to cleanliness, lighting and ventilation, and the health of the cows has improved in consequence. A cowshed was found being used contrary to regulations, but the use was discontinued on receipt of notice.

The model regulations for cowsheds, dairies and milkshops have been adopted and are enforced. Ten notices under them have been served during the year. As ignorance of their provisions is sometimes pleaded it is advised that they should once more be advertised at length in the local papers.

Nuisances. Systematic inspection of the district is carried out by the Medical Officer of Health and by the Sanitary

*Where it is said to cause a grave nuisance to the Rochford Isolation Hospital.—J.C.T.

Inspectors. The improved disposal of house refuse, already referred to, has resulted in the abatement of a most serious nuisance.

Infectious Disease. The voluntary notification of phthisis has been adopted. When a case is notified it is visited, advice given when needed, and printed instructions left, the sanitary condition of the premises is inquired into, and in some cases pocket spittoons or Japanese handkerchiefs are provided. Premises are disinfected after death.

The enlargement of the sanatorium is being considered. No decision has yet been arrived at, but it is probable that a scheme will be approved before very long.

WALTHAM HOLY CROSS.

Medical Officer of Health—J. DAMER-PRIEST, M.R.C.S., D.P.H.

Area in acres, 1901 census (land and inland water) 11,017

Population, 1901 census	...	...	6,549
,, 1905 estimated	...	...	6,832
Deaths registered in the district		...	71
Corrections	...	Additions ...	9
,,	...	Deductions ...	4

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	11·1 ...	13·0
Zymotic Death-rate	1·0 ...	1·5
Infantile Mortality	134·5 ...	120·8
Birth-rate	25·0 ...	26·6
Cases of Infectious Disease per 1,000 population ...	4·0 ...	5·2

The report is printed.

House Accommodation. Deficiency in house accommodation for the working classes no longer exists, owing to reductions in the staffs of the Government factories. One new estate of some hundred houses is being actively developed, and plans have

been approved for another. The modern cottages are in good condition, but a few insanitary wooden structures still exist.

The building bye-laws are found somewhat harsh when applied to the rural portions of the district.

Sewerage and Drainage. The continuous filter at the outfall works is said to have given uniformly satisfactory results. The effluent has been distinctly superior to that of 1904, proving that with age the purifying power of the bacteria beds is increased.

House Refuse. Removal is most efficiently carried out.

Water Supply. The public supply is constant and of excellent quality. It is derived solely from the East London Company's deep well in Lea Road.

The mains have been extended in several directions. Where this is impracticable rain-water storage tanks have been advocated, and in times of drought the large property owners have caused a daily supply to be taken to their tenants.

Infectious Disease. Voluntary was substituted for compulsory notification of measles and German measles on Oct. 1st. The first case only of measles in any family is now notifiable, no further notification being required during the thirty days next following. Compulsory notification of chicken-pox and voluntary notification of phthisis remain in force.

Diphtheria antitoxin is supplied gratuitously, and facilities are provided for bacteriological examination in cases of suspected diphtheria, typhoid fever, and tubercle. Leaflets are distributed when required regarding small-pox, scarlet fever, diphtheria, measles, and consumption, and also dealing with the dangers to health from rats and other animals.

The temporary small-pox hospital has been destroyed, owing to its proximity to the new isolation hospital. Isolation for small-pox is to be obtained at South Minns.

A complete account, with plan, is given of the new Waltham Joint Isolation Hospital, serving Waltham Holy Cross, Chingford, and Buckhurst Hill. There are separate administrative, observation, scarlet fever, diphtheria, and

laundry blocks, with a Thresh steam disinfector. The hospital has accommodation for 24 patients, and the approximate cost per bed is £440. It was opened on December 30th.

WALTHAMSTOW.

Medical Officer of Health—J. J. CLARKE, L.R.C.P.I., D.P.H.

Area in acres, 1901 census (land and inland water) 4,343

Population, 1901 census ...		...	95,131
,, 1905 estimated ...		...	116,300
Deaths registered in the district		...	1,046
Corrections ...	Additions ...		219
,, ...	Deductions ...		16

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	10·7	...	13·0
Zymotic Death-rate	1·7	...	2·6
Infantile Mortality	104·5	...	142·3
Birth-rate	29·1	..	32·8
Cases of Infectious Disease per 1,000 population ...	10·2	...	10·2

The report is printed, and includes a report by the chief Sanitary Inspector.

Physical Features, &c. The subsoil is mainly gravel, but the London clay reaches the surface in various localities, notably Church Hill. Two small streams, the Ching and the Dagenham brook, drain the district into the river Lea.

House Accommodation. There is an abundance of cheap houses in the district, plain good sanitary dwellings rented at 8s. to 10s. per week, but workers with large families find it difficult to get suitable houses at a rental within their means, as landlords object to the wear and tear of large families. Many workers also cannot afford more than 5s. per week. A committee formed to deal with this want under the Housing of the Working Classes Act has in two years failed to do anything except prove that while prices remain as at present suitable accommodation cannot be provided under the Act.

Sewerage and Drainage. The whole district has a duplicate system of sewers. The sewage is disposed of on a farm 162 acres in extent. In spite of every effort it has proved impossible with the existing plant to obtain an effluent satisfactory to the Lea Conservancy Board, and the Council was fined £50 in June. A second summons was adjourned to give the Council an opportunity of formulating a new scheme. This has now been done, the estimated cost being £46,000. This sum would provide settling tanks of 1,000,000 gallons capacity adapted for continuous working, and adequate continuous bacterial filters, after passing through which the effluent would be passed over about 150 acres of land. The sludge from the settling tanks could be treated with lime and pressed as at present, or could be put direct on to the farm.

Excrement Disposal. Practically every house has water closet accommodation.

House Refuse. Collection twice a week or oftener is satisfactorily carried out. A larger number of suitable dustbins is now in use, but there is still much room for improvement in this respect. Practically all the refuse, amounting to 7,000 tons during the year, is now burnt in the destructor, and without occasioning any nuisance. Street scavenging is well done.

Water Supply. The supply was good and constant, about 30 to 35 gallons per head per day being used. The quality, as tested by monthly chemical and bacteriological analyses, was above the average of previous years. The supply of drinking water in some houses is derived from cisterns so placed as to be liable to contamination.

Supervised Premises. There are at present 15 licensed cowkeepers and 122 milksellers. The premises of a number of the latter are unsuitable, and their use should be discontinued. The cowsheds are generally well kept, but in one the cows were found in a filthy condition, and even in the others the animals are not kept sufficiently clean to secure the milk

produced from faecal contamination. All the above premises are frequently visited and the regulations enforced in them. A list is given of sanitary works carried out in addition to the periodical cleansing. On the whole opinion is growing in favour of greater cleanliness, and each year shows improvement.

There are 12 licensed slaughterhouses, all of which are kept in very good condition. Three assistant Sanitary Inspectors have obtained certificates as meat inspectors.

Fishmongers and ice-cream makers are also supervised.

Offensive trades consist of combined fat-boiling and pig-keeping businesses. It is mainly the latter which causes nuisance. One of these establishments is now within 100 feet of dwelling houses, and will probably be done away with. A sausage skin factory was started, but was refused a license, and has now been given up.

Factory and Workshop Act. This is actively administered and fully reported upon. Much trouble is caused by delay and inaccuracy of the lists of outworkers furnished by employers.

Nuisances, &c. A list of 19 streets is given in which house-to-house inspection has been carried out.

A nuisance was caused in the summer by removal of fish offal by day. Representations made secured removal after midnight, and no further trouble has arisen.

Infectious Disease. Within at most 24 hours after the receipt of each notification the premises are visited and inquiries made as to the possible source of infection, milk supply, schools and Sunday schools attended, work carried on, need for isolation, etc. Notices are sent to school authorities, and, where inmates of the infected house work outside the district, to the Medical Officer of Health of the district concerned. The disinfection of all houses and clothing is carried out by the Council's workmen. Outfits for diagnosis of diphtheria and typhoid fever are kept at the Town Hall, and diphtheria antitoxin is supplied for gratuitous injection.

Disinfection is offered after all deaths from phthisis and has been carried out in 21 cases. This is the only preventative measure at present taken against this disease.

Accommodation at the Isolation Hospital proved insufficient for both diphtheria and scarlet fever, especially the latter. The accommodation has now (February, 1906) been increased from 46 to 82 beds.

WALTON-ON-THE-NAZE.

Medical Officer of Health—J. W. COOK, M.D.

Area in acres, 1901 census (land and inland water) 2,065

Population, 1901 census	...	2,015
,, 1905 estimated	...	2,115
Total deaths registered in the district	...	25
Corrections ...	Additions ...	2
,, ...	Deductions ...	0*

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	12·8* ...	13·7
Zymotic Death-rate	0· ...	2·0
Infantile Mortality	41·7 ...	95·2
Birth-rate	22·7 ...	22·4
Cases of Infectious Disease per 1,000 population ...	·5 ...	4·9

The report is printed.

Physical Features, &c. The town is situated on a narrow neck of land connecting the Naze with the mainland. It has an eastern exposure, and a heavy clay soil.

House Accommodation. The class of houses has been considerably improved of late, higher rents being compensated for by profits from summer visitors. Building bye-laws are enforced.

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*The Medical Officer of Health, by deducting four deaths of visitors, obtains a death-rate of 10·87.

Sewerage and Drainage. The new system of sewers acts well, and has given rise to no complaints since the ventilation of the septic tank was improved. The house drains are all connected with the sewers.

Excrement Disposal is entirely by water carriage, with modern and well-flushed w.c.'s

House Refuse. The newer houses, and some of the older ones, have portable iron bins. A daily collection of refuse is advocated. [The present collection is weekly, oftener in summer, by the Council's employees.]

Water Supply, derived from the wells of the Tendring Hundred Company at Mistley, is ample and chemically of good quality. Much complaint has been made during the year of dirty appearance and deposit in the water, resulting, it is alleged, from insufficient flushing and from the foreign pipes used by the Company.

Supervised Premises. Regulations for dairies, cowsheds, and milkshops on the lines of the Local Government Board model are under consideration. These premises, as well as bakehouses (4), factories and workshops, are periodically inspected and are in good condition. The adoption of bye-laws for houses let in lodgings is advocated, and would result in the discovery of many cases of overcrowding.

Factory and Workshop Act. The dual working of this act by Home Office officials and by the Sanitary Authority is found most unsatisfactory, co-operation not being obtained.

Infectious Disease. Disinfection and supplies of disinfectants and of diphtheria antitoxin are gratuitous. There is no means of isolation except in patients' own homes, a method which proves unsatisfactory. Combination with neighbouring districts for the provision of a Joint Isolation Hospital is advocated.

WANSTEAD.

Medical Officer of Health —F. ARGLES, M.R.C.P. ED.; M.R.C.S.

Area in acres, 1901 census (land and inland water) 1,679

Population, 1901 census	...	...	8,284*
,, 1905 estimated	..	...	10,025*
Deaths registered in the district		...	71
Corrections ...	Additions	...	11
,, ...	Deductions	..	2

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	8·0 ...	10·4
Zymotic Death-rate	·8 ...	1·2
Infantile Mortality	61·1 ...	105·5
Birth-rate	18·0 ...	20·9
Cases of Infectious Disease per 1,000 population ...	6·5 ...	8·3

The report is printed.

House Refuse is collected weekly by a contractor.

Water Supply. The well at the golf club, being found on analysis unfit for drinking, was closed, and a supply was laid on from the mains of the Metropolitan Water Board.

Supervised Premises. The cowsheds and dairies have been periodically inspected, and the bakehouses (two partly underground) visited monthly and found satisfactory.

Infectious Disease. The agreement with Woodford for isolation of patients from that district terminated on March 25th. In cases of diphtheria antitoxin and bacteriological examination of convalescents are provided gratuitously where required. Disinfectants are supplied gratis on the order of a medical man, and bedding, &c., is removed to the steam disinfector.

*These figures are exclusive of the (895) inmates of the Royal Merchant Seamen's Asylum and the Infant Orphan Asylum.

WITHAM.

Medical Officer of Health—K. C. GIMSON, M.B., B.CH.

Area in acres, 1901 census (land and inland water) 3,706

Population, 1901 census	3,454
,, 1905 estimated	3,542
Deaths registered in the district ...	64
Corrections ... Additions . .	0
,, ... Deductions ...	10

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	15·6	13·2
Zymotic Death-rate	2·5	·6
Infantile Mortality	166·6	102·
Birth-rate	16·9	22·0
Cases of Infectious Disease per 1,000 population ...	2·5	5·7

The report is in manuscript.

Sewerage and Drainage. The arrangements are satisfactory. Sewage disposal is by means of a sewage farm.

House Refuse is removed by the Council's carts as occasion arises and disposed of on the sewage farm.

Water Supply. The defects in the new water supply have been remedied, and there is now a good provision of pure water.

Supervised Premises. The slaughterhouses are quite satisfactory.

Factory and Workshop Act. No register of workshops is kept, but eight have been inspected. The bakehouses are satisfactory.

Infectious Disease. The need for an Isolation Hospital is often sorely felt.

WIVENHOE.

Medical Officer of Health – G. PENDER-SMITH, L.S.A.

Area in acres, 1901 census (land and inland water) 1,564

Population, 1901 census	...	...	2,560
,, 1905 estimated	..	...	2,500
Deaths registered in the district		...	26
Corrections	...	Additions ...	3
,,	...	Deductions ...	0

	1905.	Mean for 7 years, 1898—1904.
Nett Death-rate	11·6 ...	12·3
Zymotic Death-rate	2·0 ...	1·0
Infantile Mortality	200·0 ...	86·4
Birth-rate	18·0 ...	22·6
Cases of Infectious Disease per 1,000 population ...	3·2 ...	7·7

The report is printed and includes a report by the Inspector of Nuisances.

Sewerage and Drainage. The nuisance complained of at the railway station has been completely abated by a catchpit and the use of alumino ferric, the outflow being quite clear and odourless.

Excrement Disposal. The 323 pail closets in use are emptied four times weekly.

Supervised Premises. There are no dairies or slaughter-houses in the district. Bakehouses on inspection have been found very satisfactory.

Infectious Disease. All houses in which infectious diseases have occurred are thoroughly disinfected, also a house in which there had been a case of phthisis was disinfected.

The district has no Isolation Hospital. The arrangement with Colchester to isolate any cases requiring removal is still in force.

WOODFORD.

Medical Officer of Health—W. G. GROVES, M.R.C.S.

Area in acres, 1901 census (land and inland water) 2,161

Population, 1901 census	...	...	13,798
,, 1905 estimated...		...	14,976
Deaths registered in the district		...	169
Corrections ...	Additions	...	3
,, ...	Deductions	...	6

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	11·1	...	11·8
Zymotic Death-rate	·7	...	1·4
Infantile Mortality	89·4	...	130·4
Birth-rate	29·1	...	26·7
Cases of Infectious Disease per 1,000 population ...	5·7	...	6·3

The report is printed.

Physical Features, &c. The district lies fairly high, with a valley on each side, and for the most part is well drained. One portion is liable to flooding. The soil is chiefly clay.

Sewerage and Drainage. There are two systems of drainage, the eastern, by far the larger, and the western. The works have lately been much extended and improved, and in each case treatment is by double contact beds.

House Refuse. Dust is collected weekly by a contractor, the arrangement working well on the whole.

Water Supply is continuous and of first-rate quality.

Factory and Workshop Act. Workshops are small and employ few hands. Brickfields and laundries give most employment. Few defects were found.

Nuisances. Nothing further has been done in the matter of the stagnant and offensive ponds, of which complaint is made in each annual report.

Infectious Disease. The arrangements for dealing with infectious disease are described in much the same terms as

those summarised in last year's report. Phthisis has now been made voluntarily notifiable, and seven cases were notified during the year. The measures taken against the disease include free disinfection, the distribution of leaflets containing instructions for the management of cases, and free bacteriological diagnosis Pocket spittoons are also supplied where necessary.

Nothing further has been done towards the provision of an Isolation Hospital, the Local Government Board not having decided as to the formation of a joint hospital district. The arrangement for isolation in the Wanstead hospital having terminated cases requiring isolation are now removed to Ilford or Walthamstow Isolation Hospitals, This temporary expedient is found satisfactory, and is an improvement on the previous arrangement, securing prompter removal.

III. RURAL DISTRICTS.

BELCHAMP.

Medical Officer of Health—J. SINCLAIR HOLDEN, M.D.

Area in acres, 1901 census (land and inland water) 26,500

Population, 1901 census	...	...	4,847
„ 1905 estimated	...	...	4,847
Deaths registered in the district		...	61
Corrections ...	Additions	...	7
„ ...	Deductions	...	0

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	14·0	...	15·1
Zymotic Death-rate	·2	...	·7
Infantile Mortality	89·9	...	109·1
Birth-rate	18·4	...	18·9
Cases of Infectious Disease per 1,000 population ...	12·6	...	4·7

The report is printed.

House Accommodation. Only one new house has been built. Two were condemned as unfit for habitation and pulled down.

Sewerage and Drainage. Sanitary pails and cesspools are in general use. Nearly every cottage has garden ground or allotments to which the sewage is applied. A better flush has been provided for the Foxearth ditch by diverting into it a surface drain above the village.

Water Supply. The low rainfall, following that of the previous year, seriously affected the wells. The village of Foxearth would have been entirely without water but for the public spirited action of a local brewer, who laid on water from the brewery. Walter Belchamp and Pentlow also suffered severely.

Nuisances. Systematic inspections have been made in each parish during the year, as well as special inspections when required.

BILLERICAY.

Medical Officer of Health—FRED CARTER, M.D.

Area in acres, 1901 census (land and inland water) 49,391

Population, 1901 census	15,192*
,, 1905 estimated ...	15,192*
Deaths registered in the district ...	403
Corrections ... Additions ...	0
,, ... Deductions...	221

	1905.	Mean for 10 years, 1895–1904.
Nett Death-rate	12·0 ...	14·4
Zymotic Death-rate	·4 ...	1·1
Infantile Mortality	74·2 ...	96·3
Birth-rate	25·7 ...	26·1
Cases of Infectious Disease per 1,000 population ...	6·7 ...	6·0

The report is printed.

Sewerage and Drainage. The connections of the Warley Road and Brook Street sewer have been extended. The outfall works at Putwell Bridge are acting satisfactorily.

The Priest's Lane sewer has been extended. The sewage will be conducted to the Shenfield and Hutton works.

The Wickford sewers have been completed, but the connections are not yet made.

No advance has been made during the year in regard to the Billericay sewerage scheme.

Water Supply. The South Essex Water Company have laid mains to Pilgrim's Hatch, Cockstye Green, and South Weald village.

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*Excluding Asylum and Barracks; including Workhouse.

The borehole at Slyce's Gate is still unused. This water supply scheme has been abandoned by 1,777 out of the 4,044 population for which the combination was proposed. Bassildon, Nevendon, and part of Laindon, belonging to the population which has withdrawn from the scheme, could easily be supplied from the Southend Water Co.'s main at Vange. They are at present largely dependent on water collected from the roofs. A small scheme for the areas which have not withdrawn is mooted, but as yet nothing has resulted. Bentley is still without a water supply. Various parts of the district urgently needed a water supply 25 years ago, and without exception they are in the same condition still.

Infectious Disease. The Isolation Hospital is now very complete, and its work is much more easily carried on.

BRAINTREE.

Medical Officer of Health—H. G. K. YOUNG, B.A., M.R.C.S., L.R.C.P.

Area in acres, 1901 census (land and inland water) 62,355

Population, 1901 census	18,109
,, 1905 estimated... ...	18,106
Deaths registered in the district ...	260
Corrections ... Additions ...	3
,, ... Deductions ..	17

	1905.	Mean for 10 years, 1895-1904.
Nett Death-rate	13·6 ...	14·4
Zymotic Death-rate	·9 ...	·8
Infantile Mortality	89·8 ...	92·8
Birth-rate	17·8 ...	20·8
Cases of Infectious Disease per 1,000 population ...	6·7 ...	5·0

The report is printed.

Sewerage and Drainage. All the sewer ditches have been cleaned out by the Council as often as required. The ditch at Kelvedon is in a very bad state, and a scheme for sewage

disposal is required. A special report on the drainage and water supply of Coggeshall has been prepared for the Local Government Board. The drainage question is the more urgent of the two, and the town, which is decreasing in population, can scarcely afford both at present.

Water Supply. It is proposed to sink a deep well into the chalk at Bocking, for the supply of that parish, and application has been made to the Local Government Board for sanction for a loan of £500 for the purpose. A suitable site has been selected and it is believed the expense will be less than that of utilising springs, and that the purity of the supply will be more reliable.

Infectious Disease. Disinfection is carried out after fatal cases of phthisis, if requested by a medical man. A depot has been established for the supply, at cost price, of diphtheria antitoxin, which is used in some cases as a prophylactic. The Joint Small-pox Hospital, belonging to the Urban and Rural Districts, has not as yet been used, but is kept in constant readiness.

BUMPSTEAD.

Medical Officer of Health—W. ARMISTEAD, M.B.

Area in acres, 1901 census (land and inland water) 11,874

Population, 1901 census	...	...	2,541
,, 1905 estimated	...	...	2,403
Deaths registered in the district		...	33
Corrections	...	Additions ...	4
,,	...	Deductions ...	0

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	15·4	...	14·2
Zymotic Death-rate	·8	...	1·1
Infantile Mortality	71·4	...	100·7
Birth-rate	29·1	...	23·6
Cases of Infectious Disease per 1,000 population ...	5·4	...	5·8

The report is printed.

Physical Features, &c. The district lies on the upper chalk at an elevation of 170 to 400 feet. The chalk is covered on the higher ground with boulder clay, and in the valleys with gravel and alluvium.

House Accommodation is fairly adequate, and no cases of overcrowding have been reported. There are no building bye-laws.

Sewerage and Drainage. The outfall of the sewer at Steeple Bumpstead has been cleaned out. There is no proper system of sewerage in the district.

Excrement Disposal. Some of the larger houses have w.c.'s connected with cesspools and several houses have adopted the pail closet, but the privy system is in general use. Few houses are without sufficient ground for the disposal of waste matter.

House Refuse is disposed of by the occupiers.

Water Supply is derived chiefly from the chalk, but some parts of the district on the high boulder clay have to depend on ponds. A public supply for Sturmer from a deep well is under consideration.

Supervised Premises. The slaughterhouses, dairies, and cowsheds have been inspected and found fairly satisfactory.

Nuisances. Systematic inspection of the district is made and all necessary steps taken to remedy nuisances. All the schools have been specially reported upon.

Infectious Disease. No use has been made of the Joint Isolation Hospital at Clare, all cases being isolated, as well as practicable in their own homes.

CHELMSFORD.

Medical Officer of Health—JOHN C. THRESH, M.D., D.SC.

Area in acres, 1901 census (land and inland water) 83,849

Population, 1901 census ...		...	23,717
„ 1905 estimated ...		...	23,950
Deaths registered in the district		...	267
Corrections ...	Additions ...		21
„ ...	Deductions . .		2

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	11·9	...	13·8
Zymotic Death-rate	·6	...	1·0
Infantile Mortality	68·0	...	93·1
Birth-rate	22·7	...	23·3
Cases of Infectious Disease per 1,000 population ...	5·0	...	6·5

The report is printed.

Physical Features, &c. The district is undulating in character and includes no dense centres of population. Much of it is situated on the London clay.

House Accommodation. The agricultural labourers in the more outlying parts of the districts are unable to pay more than a small rental, and the resultant difficulty in housing them continues to receive attention. The committee of the Council, referred to in last year's Annual Report, met on two occasions to consider the facts embodied in it, but resolved that it was the duty of the owners of real property to provide cottages rather than of the Sanitary Authority. The Surveyor estimates that, even under the comparatively lenient code of bye-laws now in force the cost of erecting suitable cottages with three bedrooms would be in all about £200 each. The cost during the thirty years while the loan was being re-paid would amount to about £14 per annum, or £4 18s. more than the estimated average rental (£9 2s).

Two cottages have been condemned as unfit for habitation and a number more would be similarly treated were it not for the lack of others to take their places. Several cases of over-crowding have been met with.

Sewerage and Drainage. The only important improvement is the completion of the sewers and sewage disposal works at Writtle at a cost of about £5,000, which, with the cost of pumping, involves an annual charge of close on £400 for the sewerage of 200 houses. Only about 50 have been as yet connected, but in spite of this a great amount of water comes to the works. This will have to be diverted as it adds to the

cost of pumping and tends to overtax the available area of land.

Pollution of the river by the Ingatestone works has led to a change of tenant.

The Waterhouse Estate still remains without sewers, which should be provided for it by the extension of the Chelmsford system, but the two Councils have so far been unable to come to an agreement with respect to this necessary improvement.

House Refuse. Great Baddow and Springfield are scavenged by contract. A scheme for extending the system to Ingatestone was rejected by the Parish Council.

The disposal of Chelmsford Borough refuse causes complaints from Springfield, where it is dumped.

Water Supply. The low rainfall (17·5 inches, average for district 22 inches) has seriously affected the wells. Fortunately the district is now largely supplied by the 25 miles of mains which ramify throughout it. The advantage of these is now so well recognised that property owners often pay considerable sums to secure extensions.

The additions to the Springfield and Great Baddow Waterworks have been completed, at a cost of £1,685, and water under sufficient pressure can now be delivered in the highest part of Springfield.

The works at Ingatestone approach completion. Water has been supplied throughout most of the year from the new well, 800ft. in depth, and the reservoir and pumping machinery are now about to be provided.

The Writtle works are now completed but much trouble has been caused by the intrusion of Thanet sand into the bore tube, rendering the water turbid. Attempts at clarification failed, but steady pumping and improved sedimentation may overcome the difficulty. The cost, £7,000, is excessive for so small a village, but was necessary in order to meet the requirements of the Local Government Board.

Various minor improvements and requirements are chronicled. Some cases of lead poisoning by a well water were met with, and steps were taken to prevent such an occurrence in future.

Supervised Premises. New regulations for Dairies and Cowsheds have been adopted, requiring cleanliness of cows and milkmen. These premises are regularly inspected. Many, unfortunately, are badly supplied with water.

No complaints have been made as to the two offensive trades carried on, but pig-keeping has caused much nuisance. Trouble arises in slaughterhouses from neglect to remove blood and offal promptly.

Factory and Workshop Act. These premises are, generally speaking, satisfactory.

Nuisances. Fourteen of the 25 parishes have been systematically inspected during the year, all premises being visited. Details of various nuisances met with are appended.

Infectious Diseases. An outbreak of an anomalous and indeterminate nature, resembling Scarlet Fever in many particulars is described elsewhere.

An analysis of the Scarlet Fever records, made with a view to ascertaining the degree of protection afforded by hospital isolation to other susceptible children in the patient's homes, shows that if the two series of facts are truly comparable little advantage can be claimed for hospital treatment. If hospital isolation is ineffective—and it is very difficult to prove it otherwise—the reason probably is that for every case of Scarlet Fever notified two milder cases escape notification.

DUNMOW.

Medical Officer of Health—EDMUND E. GOODBODY, M.D.

Area in acres, 1901 census (land and inland water) 73,503

Population, 1901 census ...		...	15,705
,, 1905 estimated ...		...	15,440
Deaths registered in the district		...	226
Corrections ...	Additions ...		1
,, ...	Deductions ...		4

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	14·4 ...	15·5
Zymotic Death-rate	·3 ...	·8
Infantile Mortality	91·7 ...	88·4
Birth-rate	21·9 ...	22·2
Cases of Infectious Disease per 1,000 population ...	3·5 ...	4·7

The report is printed.

Sewerage and Drainage. Nine of the villages in the district have sewers, all of which have been inspected during the year. At High Easter, owing to complaints, it has been found necessary partially to re-lay and extend the sewer so as to obtain a better outfall. The sewer at Rayne Gore, in the parish of Felstead, which formerly entered the Gore, has been made to discharge into two septic tanks, the overflow of which is piped round the Gore. A new scheme for sewerage and sewage disposal at Dunmow is under consideration.

House Refuse. There is no system of removal of house refuse in operation.

Water Supply. A further Local Government Board inquiry was held at Felstead in March as to the provision of a public supply, but no steps towards providing it have up to the present been taken. Estimates have been obtained for the provision of a public supply at Great Dunmow, and the matter is at present being considered.

In consequence of a complaint made to the Local Government Board, the Medical Officer of Health has reported upon the water supply at Hatfield Broad Oak. He finds the complaint unjustified in all particulars, the supply being sufficient and suitable, and of good quality.

Factory and Workshop Act. There has been a marked improvement in the cleanliness of workshops. Bakehouses are cleansed at least three times a year.

Infectious Disease. Cases have been few and of mild type. Home isolation has been, on the whole, successful, and the Medical Officer of Health doubts whether better results will be

obtained by the new Isolation Hospital, completed during the year. A description of this is appended. It consists of a ward block with four two-bed wards, and administrative and laundry blocks. A water supply is provided by a well 284½ feet deep, sunk into the chalk, the water being raised by a hot air engine. The drainage is led to a large cesspool in an adjoining field. Disinfecting rooms with disinfector, mortuary, and ambulance shed, &c., are also provided. The contract cost was £3,952.

EPPING.

Medical Officer of Health—TREVOR FOWLER, L.R.C.P. AND S.I., D.P.H.

Area in acres, 1901 census (land and inland water) 39,055

Population, 1901 census ...	...	12,783
,, 1905 estimated ...	...	13,362
Deaths registered in the district	...	143
Corrections ... Additions	...	14
... Deductions	...	0

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	11·7	...	13·3
Zymotic Death-rate	·6	...	1·3
Infantile Mortality	76·2	...	100·4
Birth-rate	24·5	...	24·0
Cases of Infectious Disease per 1,000 population ...	2·7	...	5·7

The report is printed.

Physical Features, &c. The London clay underlies the whole district, overlaid in the southern and central parts by marl and loam, and in the north by gravel and sand. The district is undulating; some parts are subject to cold mists, but upon the whole the climate is remarkably bracing and invigorating. The inhabitants are mostly engaged in agriculture.

Sewerage and Drainage. The sewage disposal at Potter Street, Theydon Bois (northern portion) and Harlow is unsatisfactory, and the same may be said of the sewerage of Roydon and the drainage of Duck Lane, and Thornwood. North Weald Gullett also, where considerable building has been going on, will soon require a drainage scheme. The earth closets and cesspools throughout the district are regularly attended to.

Water Supply. A few new wells have been provided, and existing supplies sufficiently looked after.

Supervised Premises. Some of the dairies and cowsheds are as nearly perfect as possible, but many cowsheds fall very far short of this standard, being dilapidated, without proper ventilation, drainage, or means of cleansing, and sometimes very dirty and neglected. Improvement is the more called for as the milk industry is a growing one in the district.

Nuisances. Systematic inspections have been made of many portions of the district, with, on the whole, satisfactory results.

HALSTEAD No. 1.

Medical Officer of Health—J. H. ASHWORTH, M.D.

Area in acres ...	...	18,072	
Population, 1901 census ...	...	4,481	
,, 1905 estimated ...	...	4,647	
Total deaths registered in the district		51	
Corrections ...	Additions ...	12	
,, ...	Deductions ...	0	

	1905.		Mean for 10 years, 1895—1904.
Nett Death-rate	13·6	...	12·5
Zymotic Death-rate	·2	...	·5
Infantile Mortality	52·1	...	89·1
Birth-rate	20·7	...	20·2
Cases of Infectious Disease per 1,000 population ...	11·0	...	5·2

The report is printed.

House Accommodation. Twenty new cottages have been built, two old ones closed as unfit for habitation, and five put in habitable repair.

Sewerage and Drainage. The report by the Local Government Board Inspector upon the drainage (and water supply) of Earls Colne has been received, and is engaging the Council's attention.

Supervised Premises. All registered slaughterhouses, bakehouses, dairies, &c., have been inspected and found satisfactory. The Council has appointed a committee to consider the advisability of framing regulations for cowsheds, dairies and milkshops.

Nuisances. Systematic inspection has been carried out at Pebmarsh, and parts of Earls Colne.

Infectious Diseases. During the Scarlet Fever epidemic which occurred in the summer cases were sent both to the Hedingham Isolation Hospital and to the Halstead Urban Hospital.

HALSTEAD No. 2.

Medical Officer of Health—J. B. BROMLEY, M.R.C.S.

Area in acres	20,518
Population, 1901 census	5,695
„ 1905 estimated	5,695
Deaths registered in the district ...	82
Corrections ... Additions ...	7
„ ... Deductions...	0

	1905.	Mean for 10 years, 1895—1901.
Nett Death-rate	15·6 ...	14·4
Zymotic Death-rate	·9 ...	·5
Infantile Mortality	84·0 ...	82·5
Birth-rate	23·0 ...	22·4
Cases of Infectious Disease per 1,000 population ...	7·4 ...	4·4

The report is printed.

Sewerage and Drainage. The sewerage of Castle Hedingham has been repaired and extended. At Sible Hedingham a bacterial tank and filter bed have been constructed in connection with the Church Street sewer, and the Swan Street has been extended and ventilated.

Water Supply. A new pump has been fixed to the ram reservoir at Toppesfield. Improved water supplies are required at Chapel End and Craig's End, Stambourne, and at Gainsford End, Toppesfield. A committee has been appointed to consider this matter.

Supervised Premises. Slaughterhouses are in a satisfactory state. The dairies and cowsheds have all been inspected. In four cases new impervious floors have been laid.

Nuisances, &c. Systematic inspections have been made of portions of Castle and Sible Hedingham, Great Yeldham, Toppesfield, and Ridgewell.

LEXDEN AND WINSTREE.

Medical Officer of Health—J. W. COOK, M.D.

Area in acres, 1901 census (land and inland water) 69,637

Population, 1901 census	18,572
,, 1905 estimated	19,313
Deaths registered in the district ...	254
Corrections ... Additions ...	0
,, ... Deductions...	2

	1905.	Mean for 10 years, 1895–1904.
Nett Death-rate	13·0 ...	13·5
Zymotic Death-rate	1·82 ...	1·1
Infantile Mortality	64·7 ...	87·6
Birth-rate	21·6 ...	23·6
Cases of Infectious Disease per 1,000 population ...	5·4 ...	4·7

The report is printed, and includes a detailed report upon all the public elementary schools in the district.

House Accommodation. Cottages for the working classes continue to be built, but there are still a good many of the old type. Building bye-laws are in force.

Sewerage and Drainage. As the result of an action in respect of a sewage nuisance at Dedham a scheme for the sewering of that village has been framed. A Local Government Board inquiry has been held, but the Board's decision has not yet been received. Other villages also, *e.g.*, West Mersea, Rowhedge, and Stanway, require sewering.

Excrement Disposal. Pail closets are largely used, but generally without the application of dry earth, so that they are often quite as great a nuisance as the old-fashioned privy. Disposal is contracted for at Rowhedge and West Mersea, while at Dedham a contractor empties the catchpits on the line of sewer.

House Refuse. Removal is contracted for at Rowhedge and West Mersea; elsewhere it is effected by the occupants.

Water Supply. London Road, Stanway, is still supplied from the Colchester waterworks, but an equally good supply can now be had locally at a much cheaper rate. In the lower parts of the district water is badly needed.

Supervised Premises. The 15 slaughterhouses are frequently inspected and are generally found satisfactory. Dairies, cowsheds, and milkshops are not systematically inspected.

Factory and Workshop Act. The 26 bakehouses are in good order and generally clean, but are not regularly limewashed. The working of the Act generally is found unsatisfactory, owing to lack of co-operation between the Home Office and the Sanitary Authority.

Infectious Disease. Cases are isolated as well as possible at home, and in addition there is a tent hospital for eight patients, used only when there is a number of cases in one neighbourhood. A central properly constructed hospital is greatly needed.

Disinfection of houses is by formalin spray and fumigation, and of bedding, etc., by a Thresh emergency disinfector.

MALDON.

Medical Officer of Health—JOHN C. THRESH, M.D., D.Sc.

Area in acres, 1901 census (land and inland water) 82,342

Population, 1901 census	...	...	14,633
„ 1905 estimated	...	...	14,700
Deaths registered in the district		...	211
Corrections	...	Additions ...	19
„	...	Deductions ...	0

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	15·6 ...	14·1
Zymotic Death-rate	1·3 ...	·9
Infantile Mortality	95·9 ...	95·6
Birth-rate	23·4 ...	24·8
Cases of Infectious Disease per 1,000 population ...	3·3 ...	5·3

The report is printed.

House Accommodation. Cottages are required in many parishes, especially in Little Totham. Many cases of dilapidation and overcrowding have been reported, but the absence of other available accommodation renders these difficult to deal with. Some dilapidated cottages have been repaired. Improved supervision has resulted in the surroundings of houses being kept in a more cleanly state.

The new building bye-laws permit of cottages being built of other than hard and incombustible material, and have proved a great advantage.

Sewerage and Drainage. Lack of water at Tollesbury caused a block in one of the sewers, resulting in the flooding of certain premises with sewage. The thick character of the sewage also rendered it difficult to deal with at the works. Water is now carted to flush the sewers, and the bacteria beds act much more efficiently in consequence.

The Tolleshunt D'Arcy irrigation area is now properly supervised and is successful, but the Tillingham irrigation area admits of improvement.

The discharge of sewage into ditches causes nuisance in various places, especially Latchingdon and Southminster. A scheme of sewage disposal by broad irrigation is being worked out for the former, but at Southminster a satisfactory scheme would be very expensive.

Excrement Disposal. Pail closets are in general use. Except in Southminster, Tollesbury, and Heybridge Basin, where public scavenging exists, pail contents are disposed of in the cottage gardens, which as a rule are ample.

House Refuse. A system of weekly scavenging is maintained in Tollesbury and Southminster. The bumby holes in common use elsewhere cause nuisance in many cases from the neglect of the tenants to cover the refuse with earth.

Water Supply. The Tolleshunt Knights waterworks have now been in successful operation for a year, yielding a good supply, and burdening the rates but little.

The Southminster waterworks yield a good supply, and an adjoining spring would suffice to supply Tillingham. The Purleigh works are also most satisfactory, and an extension of the mains is being considered. This might be made to include Mundon.

Tollesbury still remains dependent upon a few shallow wells yielding water of a very inferior quality. A scheme for public supply is necessary, and is the most urgent sanitary requirement of the district. The development of the town is being retarded, and typhoid fever has recently been prevalent.

The public wells and springs have been greatly improved in many parishes.

Supervised Premises. The more recent slaughterhouses, and some of the older ones, are satisfactory. Increased inspection has resulted in increased cleanliness.

Dairies and cowsheds are being gradually improved. Some are satisfactory, others not. Public water supplies, where available, are found of the greatest service.

The only offensive trades are two knackers yards, which are in out-of-the-way places, and cause no nuisance.

Nuisances, &c. The general inspection of the district has been much more satisfactory than in previous years, an inspector having been appointed to give his whole time to the work.

Infectious Diseases, &c. Few cases of Scarlet Fever or Diphtheria have required isolation, and no spread occurred which could have been prevented by hospital treatment. Typhoid Fever on the other hand spread in patients' houses in several instances, the sufferers not being removed, owing to a resolution, since rescinded, to reserve the hospital for Scarlet Fever and Diphtheria.

The southern half of the district is without isolation accommodation, but it is believed that one or two cottages would suffice. An efficient disinfector is provided at the hospital.

ONGAR.

Medical Officer of Health—J. C. QUENNELL, M.R.C.S.

Area in acres, 1901 census (land and inland water) 47,236

Population, 1901 census	10,044
,, 1905 estimated	10,044
Deaths registered in the District ...	137
Corrections—none applied	

	1905.	Mean for 10 years, 1895—1904.
Death-rate	13·6 ...	14·0
Zymotic Death-rate	·3 ...	1·1
Infantile Mortality	74·4 ...	110·5
Birth-rate	21·4 ...	23·4
Cases of Infectious Disease per 1,000 population ...	2·0 ...	5·2

The report is printed, and includes a report by the Inspector of Nuisances.

House Accommodation. Accommodation for the working classes is insufficient, as the agricultural labourer cannot afford to pay a rent which would make private enterprise remunerative.

Sewerage and Drainage. The drainage schemes at Chipping Ongar, High Ongar, and Abridge are working well and some improvement has been effected at Fyfield.

Excrement Disposal. The old-fashioned overflowing cesspits are gradually being re-placed by pail closets.

Water Supply. The supplies at Ongar, Bobbingworth, and Theydon Mount are satisfactory. Toot Hill urgently requires an adequate supply of wholesome water.

Supervised Premises. Bye-laws have been framed and are about to be put in force with reference to cowsheds. The condition of the cows, which are in many instances kept in a very filthy state, also demands attention.

Factory and Workshop Act. This has not been put in force in the district.

Infectious Disease. Progress has been made in the laying out of the Isolation Hospital site in readiness for the erection of the tents if required, and a large shed has been erected for the storage of the tents and the ambulance van.

ORSETT.

Medical Officer of Health—REA CORBET, M.R.C.S.

Area in acres, 1901 census (land and inland water) 39,939

Population, 1901 census ...		...	19,912
,, 1905 estimated ...		...	22,240
Deaths registered in the district		...	287
Corrections ...	Additions ...		4
,, ...	Deductions ...		23

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	11·1	... 14·9
Zymotic Death-rate	1·6	... 2·8
Infantile Mortality	108·7	... 136·3
Birth-rate	33·1	... 32·2
Cases of Infectious Disease per 1,000 population ...	7·4	... 12·0

The report is printed.

Physical Features, &c. The underlying formation is chalk throughout. On the surface are found, at different parts of the district, chalk, Thanet sands, Woolwich beds, London clay, Bagshot beds, brick earth, gravel, and alluvial deposits. The district is for the most part flat and low.

House Accommodation. Of late years many cottages have been condemned and closed, and many more put into a good state of repair. Overcrowding does not prevail to any great extent.

Sewerage and Drainage. Tilbury Docks, Chadwell St. Mary, Little Thurrock, Stanford-le-Hope, and Corringham are wholly or partially sewered. In no other parish is there a proper sewerage system. Tank-vans are employed to empty the cesspools at South Ockendon, Stifford, Little and West Thurrock, and Purfleet.

House Refuse. Public scavenging is in force in five districts.

Water Supply. The district is mainly supplied by the deep wells of the South Essex Water Company. Fobbing is supplied by the Southend Water Company, and Laindon Hills is badly supplied by springs. Two of these have been enclosed and now yield a good supply.

The underground water level is sinking, and at Orsett, though many wells have been lowered, there is a scarcity of water.

Supervised Premises. Bakehouses and slaughterhouses are in good order. Cowsheds, dairies, and milkshops are frequently inspected, and, except a few of the smaller, are well kept.

Nuisances. A house to house inspection of about 160 houses at Aveley, Orsett, and the Docks has been made, and in other parts over 400 inspections.

Infectious Disease. Bedding, &c., is disinfected at the Isolation Hospital by a Thresh portable steam disinfector.

ROCHFORD.

Medical Officer of Health—F. DORRELL GRAYSON, M.R.C.S.

Area in acres, 1901 census (land and inland water) 55,386

Population, 1901 census	14,565
,, 1905 estimated	15,680
Deaths registered in the district	219
Corrections ... Additions ...	1
,, ... Deductions ...	29

	1905.	Mean for 10 years, 1895-1904.
Nett Death-rate	12·2	15·0
Zymotic Death-rate	·6	1·7
Infantile Mortality	118·8	108·9
Birth-rate	26·8	28·5
Cases of Infectious Disease per 1,000 population ...	5·4	9·8

The report is printed.

House Accommodation. New houses are being built in many parts of the district, and from various causes many houses are unoccupied.

Sewerage and Drainage. The sewerage of Rochford has been commenced and a Local Government Board inquiry has been held with regard to a scheme for South Benfleet. Similar works are required at Hadleigh, Rayleigh, and Great Wakering.

Water Supply. A Local Government Board inquiry was held in July as to the supply of Great Wakering, and pipes from the Southend Water Company's main are now being laid. Covered reservoirs are to be constructed at South Benfleet and

near Potash Hill in connection with the Western District water mains.

Supervised Premises. Thirty-seven dairies, cowsheds and milkshops have been inspected. The larger and more recent ones are fairly satisfactory, but the smaller, mostly consisting of converted farm buildings, are all more or less defective. The provision for cleansing utensils is good, and it is hoped that the new Regulations, when distributed, will have a beneficial and educative effect.

Nuisances. There have been no complaints as to the brickfields, and the gipsies have caused less trouble than formerly, many having left the district.

Infectious Diseases. The disinfector has broken down, and is to be re-placed by a Thresh pattern instrument. It is suggested that carbolic acid should be re-placed by cyllin for ordinary disinfection, a case of suicide having occurred where a man drank carbolic acid supplied by the Council.

ROMFORD.

Medical Officer of Health—A. WRIGHT, M.D.

Area in acres, 1901 census (land and inland water) 29,723

Population, 1901 census	19,018
,, 1905 estimated	21,000
Deaths registered in the district ...	256
Corrections ... Additions ...	23
,, ... Deductions ...	1

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	13·2 ...	14·2
Zymotic Death-rate	2·1 ...	2·3
Infantile Mortality	131·5 ...	140·7
Birth-rate	31·1 ...	30·0
Cases of Infectious Disease per 1,000 population ...	14·5 ...	11·1

The report is printed.

Sewerage and Drainage. The very complete sewerage system at Dagenham is now approaching completion. It is anticipated that this will effect a great improvement in the sanitary condition of the village, which is now bad, the ground being saturated with sewage.

The Rainham sewerage system is also approaching completion.

Complaints have been made of the foul smell proceeding from the sewage outfall works at Upminster. This nuisance was reported upon by the County Medical Officer of Health, and is now being remedied.

Several cases of escape of sewer gas into houses, owing to insufficient ventilation of the sewers, were detected at Upminster, Cranham, and Corbets Tey. Several ventilating shafts have now been provided.

Excrement Disposal. At Dagenham pail closets are in general use and are emptied weekly by the Council. Cesspools are also periodically emptied.

Disposal at Rainham and Wennington is by cesspools, periodically emptied by the Council, and at Havering by privies.

House Refuse. Dust-bins are periodically emptied by the Council's employees at Dagenham.

Water Supply. This is chiefly derived from the South Essex Water Company. Parts of Havering and Great Warley are badly supplied from ponds.

Infectious Disease. The prevalence of infectious disease is attributed in part to the absence of sewers in certain portions of the district, in part to escapes of sewer gas from badly ventilated sewers in another portion, and in part to the extremely mild type of Scarlet Fever prevailing, which prevented detection in many cases.

SAFFRON WALDEN.

Medical Officer of Health—W. ARMISTEAD, M.B.

Area in acres, 1901 census (land and inland water) 59,975

Population, 1901 census	...	...	10,764
,, 1905 estimated	...	...	10,086
Total deaths registered in the district		...	122
Corrections	...	Additions ...	19
,,	...	Deductions ...	0

	1905.	Mean for 10 years, 1895—1904.
Nett Death-rate	14·0	... 14·7
Zymotic Death-rate	·3	... ·9
Infantile Mortality	71·1	... 104·8
Birth-rate	22·3	... 22·0
Cases of Infectious Disease per 1,000 population ...	1·0	... 4·0

The report is printed.

Physical Features, &c. The geological formation is chalk, covered on the higher ground with boulder-clay. The elevation varies from 120 to 450 feet. Most of the inhabitants are engaged in agriculture.

House Accommodation is in most parishes fairly adequate, but in some there is a lack of cottages with three decent bedrooms. No building bye-laws are in operation.

Sewerage and Drainage. In the smaller villages sewers are not required, as the houses are scattered and can dispose of their slop-water on their gardens. A part of the Rickling and Quendon sewer, which had become blocked, has been re-laid. The sewer at Great Chesterford has been extended 200 yards. Stream pollution by the old storm water drains occurs at Newport and Great Chesterford.

Excrement Disposal. The older type of privy is gradually being re-placed by pail closets or privies of approved type. Some houses have w.c.'s connected with cesspools.

House Refuse. There is no system of public scavenging in any part of the district. Refuse is removed by the occupiers

under notice when necessary. Many cottages in Newport and Great Chesterford have no gardens and the occupiers have some difficulty in disposing of their refuse.

Water Supply. Owing to the scanty rainfall the water has fallen low in some of the chalk wells by which the district is chiefly supplied.

Supervised Premises. The 12 slaughterhouses, 18 cowsheds, and 7 dairies and milkshops were found fairly satisfactory on inspection. Regulations for cowsheds, dairies and milkshops are in operation. The knacker's yard at Debden has been visited six times and found satisfactory.

Infectious Disease. Isolation is provided for by the Joint Hospital belonging to the Saffron Walden Urban and Rural District Councils. The incidence of infectious disease is very much less than in any previous year since notification became compulsory.

STANSTED.

Medical Officer of Health—R. A. DUNN, M.D., D.HY.

Area in acres, 1901 census (land and inland water) 22,954

Population, 1901 census	...	...	6,888
„ 1905 estimated	...	...	6,888
Deaths registered in the district		...	73
Corrections	...	Additions ...	13
„	...	Deductions ...	0

	1905.		Mean for 9 years, 1896—1904.
Nett Death-rate	12·5	...	12·7
Zymotic Death-rate	·1	...	·9
Infantile Mortality	60·2	...	109·6
Birth-rate	24·1	...	21·6
Cases of Infectious Disease per 1,000 population ...	2·6	...	4·6

The report is printed.

Sewerage and Drainage. The Liernur system at Stansted

having proved satisfactory, the Council is ready to take it over when accorded permission by the Local Government Board.

New storm-water drains have been provided at Manuden, and the old storm-water drain, now used as a sewer, has been connected with a large tank, whence the sewage is pumped on to a field.

Supervised Premises. Slaughterhouses and bakehouses are regularly inspected. Cowsheds are kept in a fairly satisfactory condition.

Nuisances. Inspection of the district is regularly carried out.

Infectious Disease. The hospitals for small-pox and for other infectious diseases are the joint property of the Hadham and Stansted Rural and the Sawbridgeworth Urban District Councils. A steam disinfector is provided. Examination for diphtheria is made at the Isolation Hospital, Hertford.

TENDRING.

Medical Officer of Health—J. W. COOK, M.D.

Area in acres, 1901 census (land and inland water) 73,131

Population, 1901 census	...	...	20,507
,, 1905 estimated	...	...	21,484
Deaths registered in the district		..	279
Corrections	...	Additions ...	0
,,	...	Deductions ...	22

	1905.	Mean for 10 years 1895—1904
Nett Death-rate	12·0	... 13·7
Zymotic Death-rate	·9	... 1·0
Infantile Mortality	91·3	... 102·2
Birth-rate	24·5	... 25·1
Cases of Infectious Disease per 1,000 population ...	5·7	... 3·1

The report is printed, and includes a detailed report upon all the public elementary schools in the district.

House Accommodation. Building bye-laws are in force which in the towns of Manningtree and Parkeston, but not elsewhere, render the use of brick or similar material obligatory. Bye-laws are also in force with regard to movable dwellings, and five convictions have been obtained during the year for offences against them.

Water Supply. All new wells are analysed before certificates are granted for houses under the Public Health (Water) Act.

The Tendring Hundred Water Company's supply has given rise to much complaint. Chemically it is unexceptionable but for a time its physical characteristics rendered it quite unfit for drinking purposes.

The water supply at Great Holland has been improved by deepening and protecting the well, and fitting it with a gravel filter.

Supervised Premises. The dairies and cowsheds are generally well cared for and kept clean. Farms without proper cowsheds are gradually getting fewer.

Factory and Workshop Act. The dual working of this Act proves unsatisfactory.

Infectious Disease. The tent isolation hospital was used for the isolation of twenty cases of Scarlet Fever. The epidemic at St. Osyth would have been very much less had a permanent hospital been available, into which to send the primary cases.

TABLE A.

DEATHS IN EACH DISTRICT CLASSIFIED ACCORDING TO DISEASES.

Corresponding to Table IV. of the Local Government Board

1905.

Names of Localities.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fever: Typhus.	Fever: Typhoid.	Fever: Other continued.	Epidemic Influenza.	Cholera.	Plague.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.
URBAN.																	
Barking ...	...	14	...	4	14	1	...	1	...	4	...	...	43	...	...	2	...
Braintree a	...	...	3	...	1	1	...	...	...	...	...	...	2	1	...	...	...
Brentwood	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...
Brightlingsea	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	...	1
Buckhurst Hill	...	...	...	1	1	...	...	...	...	...	...	...	...	2	1	...	...
Burnham ...	...	...	...	...	1	...	...	1	...	...	...	...	1	...	...	...	1
Chelmsford	...	5	2	2	...	...	...	1	...	1	...	...	1	...	...	...	...
Chingford	...	...	...	4	...	...	...	...	...	1	...	...	...	4	...	...	...
Clacton a ...	...	...	...	...	1	...	...	1	...	2	...	...	2	3	...	...	1
Colchester	...	...	1	5	10	...	...	1	...	5	...	...	6	4	...	...	8
East Ham	...	48	22	57	38	2	...	16	...	12	...	...	97	22	2	6	3
Epping b ...	...	...	...	...	...	...	...	...	...	2	...	...	1	2	...	...	...
Frinton ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Grays ...	...	11	2	...	3	1	...	...	...	...	...	...	11	...	1	...	4
Halstead a	...	...	...	13	...	1	...	...	...	...	...	...	...	1	...	...	...
Harwich a	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Ilford b ...	...	3	4	14	4	...	...	4	...	4	...	...	18	13	3	4	4
Leigh-on-Sea a	...	...	...	...	...	...	...	1	...	...	...	...	2	1	...	...	...
Leyton b ...	...	31	9	24	12	...	...	9	...	8	...	...	53	8	2	7	...
Loughton	...	...	...	2	...	...	...	...	1	...	...	...	...	2	...	...	...
Maldon ...	...	...	...	5	...	...	...	...	...	...	...	...	...	1	1	...	...
Romford ...	...	11	...	4	2	...	...	...	...	...	...	...	20	5	...	...	...
Saffron Walden	...	...	...	...	...	...	...	...	...	13	...	...	2	...	...	1	...
Shoeburyness	...	...	...	2	...	...	...	...	...	1	...	...	9	...	...	...	...
Southend-on-Sea	...	6	...	18	1	3	...	8	...	6	...	...	24	10	...	...	8
Waltham H'ly Cr'ss	...	5	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...
Walthamstow	...	35	17	31	28	...	...	8	...	6	...	...	78	13	...	7	15
Walton-on-the-Naze a	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wanstead	...	1	1	2	3	...	...	...	...	...	...	...	1	...	...	...	...
Witham ...	...	8	1	...	...	...	...	...	...	4	...	...	...	...	...	...	...
Wivenhoe	...	4	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Woodford b	...	1	...	2	2	...	...	1	...	2	...	...	4	3	1	...	...
Total ...	...	183	64	192	122	9	...	52	1	73	...	...	382		11	...	
RURAL.																	
Belchamp ...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Billericay b	...	2	...	1	3	...	...	...	...	4	...	...	...	2	2	1	1
Braintree	...	1	2	6	7	...	...	...	...	6	...	...	...	6	...	1	...
Bumpstead	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Chelmsford	...	1	1	9	1	...	...	...	...	2	...	...	2	...	1	...	2
Dunmow ...	...	...	...	2	1	...	...	...	...	2	...	...	2	3	...	2	1
Epping ...	...	2	...	1	...	...	...	...	...	...	...	...	5	3	...	...	...
Halstead I.	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	2
Halstead II.	...	...	...	1	1	1	...	...	...	...	...	...	3	2	...	...	...
Lexden & Winstree	...	2	1	5	3	...	...	...	...	1	...	...	2	2	...	...	...
Maldon ...	...	...	...	6	...	...	...	9	...	1	...	...	4	3	...	1	3
Ongar a ...	...	1	...	2	...	...	...	...	...	8	...	...	...	...	...	...	...
Orsett ...	...	6	3	...	3	...	...	1	...	...	...	...	22	7	...	1	2
Rochford	...	...	...	5	...	...	...	3	...	1	...	...	2	2	...	...	1
Romford a ...	...	7	7	6	...	...	...	1	...	...	...	...	24	2	3	...	...
Saffron Walden	...	...	...	1	...	...	...	1	...	7	...	...	1	...	...	...	...
Stansted	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	1	4
Tendring a	...	5	4	5	2	...	...	...	...	5	...	...	3	2	...	2	...
Total ...	...	27	18	52	22	2	...	16	...	40	...	...	71	35	6	9	16

Names of Localities.	Phthisis.	Other Tubercular Diseases.	Malignant Disease, Cancer.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. / Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other causes.	All Causes.
URBAN.																
Barking ...	22	9	13	28	26	...	2	2	3	18	...	25	9	7	132	379
Braintree a	8	3	2	4	3	1	1	2	...	3	1	2	3	...	33	74
Brentwood	4	1	1	4	2	...	...	1	...	2	...	9	...	...	28	55
Brightlingsea	5	2	4	1	2	...	...	...	...	3	...	8	1	...	32	62
Buckhurst Hill	2	3	3	2	2	1	...	...	...	1	...	8	5	...	28	60
Burnham ...	...	...	2	10	...	...	...	2	1	...	...	1	1	...	16	37
Chelmsford	9	3	11	14	5	1	...	2	...	7	1	...	...	...	...	...
Chingford	3	1	2	3	4	...	...	1	...	3	...	9	1	1	12	49
Clacton a ...	8	4	5	5	7	1	...	5	...	3	1	10	3	2	40	104
Colchester	44	12	30	58	17	...	3	6	1	13	5	52	5	7	209	502
East Ham	106	52	84	133	136	5	6	18	2	61	13	111	36	8	429	1525
Epping b ...	2	...	6	6	5	...	...	1	...	2	...	3	1	...	17	48
Frinton ...	2	...	...	2	...	...	...	...	...	...	...	1	...	...	7	13
Grays ...	12	8	6	13	15	...	...	2	3	10	1	14	5	3	65	190
Halstead a	4	5	9	4	7	...	...	1	2	2	1	8	2	2	47	109
Harwich a	10	5	7	8	5	...	6	2	...	6	...	18	5	2	29	106
Ilford b ...	38	8	35	37	48	1	7	8	...	36	4	50	3	4	160	514
Leigh-on-Sea a	5	...	7	4	2	...	1	4	1	1	...	6	2	...	16	53
Leyton b ...	95	29	84		(224)	...	...	...	...	42	...	99	(58)			1177
Loughton	3	1	5	3	2	...	...	4	...	2	...	4	1	...	14	44
Maldon ...	5	5	6	6	1	...	...	1	1	3	...	17	3	...	30	83
Romford ...	16	6	13	8	24	...	...	...	...	5	1	17	3	...	52	187
Saffron Walden	5	...	7	1	7	...	1	1	...	3	...	13	2	4	29	89
Shoeburyness	1	5	2	7	3	...	...	1	1	2	1	1	1	1	12	50
Southend-on-Sea	52	24	41	34	16	3	...	14	1	19	4	32	8	6	177	515
Waltham H'ly Cr'ss	4	7	5	5	3	...	...	4	...	4	...	6	3	...	22	71
Walthamstow	93	42	55	106	118	3	9	11	3	56	10	38	34	10	448	1249
Walton-on-the-Naze a	1	...	1	1	2	...	...	1	...	1	...	4	2	1	11	25
Wanstead	4	1	6	4	5	...	5	1	...	2	4	7	2	3	19	71
Witham ...	1	4	5	5	1	...	...	...	...	2	...	6	12	2	13	64
Wivenhoe	1	...	3	3	5	...	...	...	...	1	...	2	1	...	7	29
Woodford b	15	2	15	10	8	...	5	6	...	12	...	18	5	4	56	172
Total ...																
RURAL.																
Belchamp ...	2	1	4	1	2	1	...	1	...	3	1	7	1	1	40	68
Billericay b	12	5	8	20	14	...	...	3	...	8	1	22	8	2	81	209
Braintree	20	8	17	27	11	...	1	3	...	7	1	23	8	3	88	246
Bumpstead	...	2	2	4	4	...	...	1	...	...	...	5	...	...	17	37
Chelmsford	22	9	27	27	11	...	2	3	...	4	4	32	11	2	113	286
Dunmow ...	21	6	25	15	7	1	2	4	1	13	...	24	5	...	86	223
Epping ...	10	3	15	15	9	1	...	1	...	7	...	17	7	3	58	157
Halstead I.	2	...	9	1	1	...	...	...	1	4	1	15	3	...	21	63
Halstead II.	6	2	5	9	1	1	1	1	...	1	...	12	1	...	41	89
Lexden & Winstree	20	6	20	23	17	...	2	5	...	12	...	28	3	2	100	254
Maldon ...	20	4	19	10	14	...	1	4	1	7	1	34	1	2	85	230
Ongar a ...	8	4	18	7	4	...	...	2	...	3	1	6	9	1	63	137
Orsett ...	17	13	16	33	14	1	4	3	2	15	3	21	20	1	60	268
Rochford	14	3	7	13	17	2	...	2	...	6	...	32	6	3	72	191
Romford a ...	7	6	12	16	23	...	...	...	...	24	3	32	6	1	76	256
Saffron Walden	7	1	16	10	6	1	3	3	...	5	1	19	1	1	57	141
Stansted	4	...	8	5	1	1	2	...	...	4	...	14	...	1	38	86
Tendring a	13	12	17	33	11	...	1	7	...	13	4	29	5	6	100	279
Total ...	206	85	245	269	167	9	19	43	5	136	21	372	95	29	1196	3211

a Deaths registered in the district uncorrected.
b Nett deaths do not correspond with the number of deaths given in the Table.

TABLE B.

DEATHS IN EACH DISTRICT CLASSIFIED ACCORDING TO AGES.

Corresponding to Tables I. & IV. of the Local Government Board.

AREA, POPULATIONS, 1891, 1901 & 1905, & No. OF BIRTHS.

Names of Localities.	Area in acres, land and inland water	Population, Census 1891	Population, Census 1901	Increase per cent. during decennium.	Decrease per cent. during decennium.	Population, middle of 1905 (estimated mid-year)	Persons per acre.	No. of Births.	Birth-rate.	No. of Deaths Nett.	Death-rate.	Deaths from all causes at subjoined Ages. Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Deaths under 1 year per 1,000 births.	Deaths per 1000 living at subjoined ages. 1 and under 15.	15 and under 65.	65 and upwards.	Deaths per cent. of Total Deaths, subjoined ages. Under 1.	1 and under 15.	15 and under 65.	65 and upwards.
URBAN.																									
Barking	3,803	14,301	21,547	50·7	...	28,000	7·4	900	32·1	379	13·5	128	58	22	19	95	57	142·2	7·3	7·3	91·2	33·8	21·1	30·1	15·0
Braintree	2,224	5,303	5,330	·5	...	5,330	2·4	123	23·1	83	15·6	9a	8a	2a	3a	28a	24a	73·2	...	...	...	12·2	13·5	41·9	32·4
Brentwood	460	4,949	4,932	...	·35	6,243	13·6	108	17·3	55	8·8	10	4	1	2	15	23	92·6	2·2	4·7	86·8	18·2	9·1	30·9	41·8
Brightlingsea	2,867	3,920	4,501	14·8	...	4,764	1·7	102	21·4	62	13·0	8	3	2	...	25	24	78·4	3·2	9·2	65·8	12·9	8·1	40·3	38·7
Buckhurst Hill	873	4,130	4,786	15·9	...	5,050	5·8	110	21·8	60	11·9	12	7	...	2	23	16	109·1	4·8	7·7	66·7	20·0	11·7	41·6	26·7
Burnham	4,517	2,360	2,919	23·7	...	3,300	·7	79	23·9	37a	...	4a	5a	2a	2a	9a	15a	50·6	...	...	...	10·8	18·9	29·7	40·6
Chelmsford	2,308	11,008	12,580	14·3	...	13,320	5·8	293	22·0	144	10·8	30	14	7	8	35	49	102·4	5·5	5·1	58·1	21·0	14·7	30·1	34·3
Chingford	2,808	2,737	4,373	59·8	...	5,234	1·9	133	25·4	49	9·4	13	2	4	0	12	18	97·7	3·6	3·7	90·5	26·5	12·3	24·5	36·7
Clacton	4,069	3,584	7,456	108·0	...	7,792	1·9	172	22·1	100	12·8	13a	6a	4a	7a	38a	36a	75·6	...	...	...	12·5	9·6	43·3	34·6
Colchester	11,333	34,559	38,373	11·0	...	40,120	3·5	1,037	25·8	502	12·5	97	35	16	33	164	157	93·5	4·6	7·5	86·4	19·3	10·2	39·2	31·3
East Ham	3,326	32,712	96,018	193·5	...	123,381	37·1	3,687	29·9	1,525	12·4	478	225	81	51	428	262	129·6	6·8	6·7	93·1	31·3	20·1	31·4	17·2
Epping	1,420	3,223	3,789	17·6	...	4,083	2·9	90	22·0	53	13·0	8	2a	1b	2a	18b	17b	88·9	...	...	...	16·7	6·2	41·7	35·4
Frinton	402	75	644	758·7	...	950	2·4	20	21·1	13	13·7	2	...	...	...	5	6	100·0	...	...	...	15·4	0	38·5	46·1
Grays	1,359	12,397	13,834	11·6	...	15,250	11·2	463	30·4	190	12·5	57	28	12	17	53	23	123·1	6·5	8·4	54·6	30·0	21·1	36·8	12·1
Halstead	647	6,056	6,073	·3	...	6,100	9·4	134	22·0	93	15·2	18a	10a	8a	4a	25a	44a	134·3	...	...	...	16·5	16·5	26·6	40·4
Harwich	1,541	8,202	10,070	22·8	...	10,687	6·9	292	27·3	120	11·2	24a	13a	2a	4a	41a	22a	85·6	...	...	...	22·6	14·1	42·5	20·8
Ilford[c]	8,496	10,913	41,234	277·8	...	65,021	7·7	1,587	26·3	549	9·1	138b	35b	25b	17b	187b	112b	87·0	...	...	...	26·8	11·7	39·7	21·8
Leigh-on-Sea	1,527	2,108	3,667	74·0	...	5,083	3·3	110	21·6	54	10·6	5a	2a	2a	1a	25a	18a	45·5	...	...	...	9·4	7·5	49·1	34·0
Leyton	2,594	63,106	98,912	56·7	...	105,000	40·5	3,209	30·6	1,177	11·2	303	144	31	57	367	275	91·4	5·1	6·7	65·4	25·7	14·8	36·1	23·4
Loughton	3,961	3,880	4,730	21·9	...	5,500	1·3	101	19·1	44	8·3	6	4	3	3	15	13	59·4	4·3	5·4	53·9	13·6	15·9	40·9	29·6
Maldon	3,028	5,397	5,565	3·1	...	5,644	1·9	148	26·2	85	15·1	14	3	1	5	26	36	94·6	2·4	9·1	78·8	16·5	4·7	36·5	42·3
Romford	5,630	10,473	13,656	30·4	...	15,000	2·7	412	27·5	203	13·5	53b	30b	3b	6b	38b	53b	128·6	...	...	...	28·7	17·8	23·8	29·7
Saffron Walden	7,502	6,104	5,896	...	3·4	5,813	·8	111	19·1	89	15·3	11	1	2	3	27	45	99·1	1·8	8·5	87·3	12·3	3·4	33·7	50·6
Shoeburyness	1,036	2,990	4,081	36·5	...	4,370	4·2	145	33·2	50	11·4	21	4	2	3	9	11	137·9	4·4	4·3	122·2	42·0	12·0	24·0	22·0
Southend-on-Sea	5,172	13,242	38,857	117·9	...	46,380	9·0	1,060	22·8	514	11·1	126	46	12	20	186	125	118·9	4·4	6·8	64·0	24·5	11·3	40·0	24·3
Waltham Holy Cross	11,017	6,066	6,549	8·0	...	6,832	·6	171	25·0	76	11·1	22a	7a	5a	3a	12a	22a	134·5	...	...	...	31·0	16·9	21·1	31·0
Walthamstow	4,343	46,346	95,131	105·3	...	116,300	26·8	3,389	29·1	1,249	10·7	354	191	63	41	337	263	104·5	6·0	5·6	89·4	28·3	20·3	30·3	21·1
Walton-on-Naze	2,065	1,586	2,014	27·0	..	2,115	1·0	48	22·7	27	12·8	2a	1a	1a	1a	6a	14a	41·7	...	...	...	8·0	8·0	28·0	56·0
Wanstead[c]	1,679	7,043	9,179	30·3	...	10,920	6·0	180	18·0	80	8·0	11a	7a	2a	3a	27a	21a	61·1	...	...	...	15·5	12·7	42·2	29·6
Witham	3,706	3,444	3,454	·3	...	3,542	1·0	60	16·9	64	18·1	11	8	4	3	19	19	166·6	10·4	10·7	68·8	17·2	18·7	34·4	29·7
Wivenhoe	1,564	2,441	2,560	4·9	...	2,500	1·6	45	18·0	29	11·6	9	4	2	...	3	11	200·0	7·5	2·0	68·7	31·0	20·7	10·4	37·9
Woodford	2,161	11,024	13,798	25·2	...	14,076	6·9	436	29·1	166	11·1	39b	12b	4b	5b	61b	51b	89·4	...	...	...	22·7	9·3	38·4	29·6
Total	169,439	345,679	576,598	66·8		694,400	6·3	18,955	27·3	7,921		2,026b	919b	329b	329b	2,359b	1,884b	107·4	5·4	6·4	72·0	25·9	15·9	34·2	24·0
RURAL.																									
Belchamp	26,500	5,719	4,847	...	15·3	4,847	·18	89	18·4	68	14·0	8	2	1	2	19	36	89·9	2·0	7·5	81·8	11·8	4·4	30·9	52·9
Billericay[c]	49,391	15,606	17,594	12·2	...	17,594	·31	391	25·7	182	12·0	29b	16b	11b	12b	59b	73b	74·2	...	...	...	14·5	13·5	35·5	36·5
Braintree	62,355	19,734	18,109	...	8·2	18,106	·29	323	17·8	246	13·6	29	15	11	15	52	124	89·8	4·8	6·3	74·1	11·8	10·6	27·2	50·4
Dumpstead	11,874	2,826	2,541	...	11·3	2,403	·20	70	29·1	37	15·4	5	4	1	...	7	20	71·4	6·6	5·2	80·0	13·5	13·5	18·5	54·1
Chelmsford	83,849	23,174	23,717	2·3	...	23,950	·29	544	22·7	286	11·9	37	15	8	17	80	129	68·0	3·2	6·7	70·5	13·0	8·0	33·9	45·1
Dunmow	73,503	16,074	15,705	...	5·8	15,440	·21	338	21·9	223	14·4	31	5	5	4	68	110	91·7	2·1	8·1	73·6	13·9	4·5	32·3	49·3
Epping	39,055	12,167	12,783	5·1	...	13,362	·34	328	24·5	157	11·7	25	9	1	5	47	70	76·2	2·4	6·5	79·4	15·9	6·4	33·1	44·6
Halstead I.	18,200	4,764	4,481	...	5·9	4,647	·25	96	20·7	63	13·6	6	1	1	4	19	32	52·1	3·2	9·3	75·7	9·5	3·2	36·5	50·8
Halstead II.	20,512	6,049	5,695	...	5·9	5,695	·28	131	23·0	89	15·6	11	6	2	2	32	36	84·0				12·4	9·0	38·2	40·4
Lexden and Wivenhoe	69,485	19,281	18,586	...	3·6	19,313	·28	417	21·6	252	13·0	27a	20a	9a	3a	73a	122a	61·7	...	...	...	10·6	11·4	29·9	48·1
Maldon	82,342	15,741	14,633	...	7·0	14,700	·18	344	23·4	230	15·6	33	13	4	14	67	99	95·9	3·6	9·6	78·8	14·4	7·4	35·2	43·0
Ongar	47,236	10,557	10,044	...	4·9	10,044	·21	215	21·4	137a	13·6a	16a	11a	2a	9a	37a	62a	74·4	...	...	...	11·7	9·5	33·6	45·3
Orsett	39,939	14,913	19,912	33·5	...	22,240	·56	756	33·1	268	12·1	78	24	15	18	73	60	103·7	5·2	6·9	62·9	29·1	14·5	34·0	22·4
Rochford	55,386	11,931	14,565	22·1	...	15,689	·28	421	26·8	191	12·2	50	6	3	6	62	64	118·8	1·8	7·4	59·6	26·2	4·7	35·6	33·5
Romford	29,723	14,326	19,018	32·8	...	21,000	·71	654	31·1	278	13·2	86a	29a	12a	13a	51a	65a	131·5	...	...	...	33·6	16·0	25·0	25·4
Saffron Walden	59,975	12,458	10,764	...	13·6	10,086	·17	225	22·3	141	14·0	16	4	2	5	42	72	71·1	1·9	8·2	77·7	11·3	4·3	33·3	51·1
Stansted	22,954	6,908	6,888	...	·3	6,888	·17	166	24·1	86	12·5	10	2	2	1	20	51	60·2	1·9	5·3	88·1	11·6	4·7	24·4	59·3
Tendring	73,131	19,904	20,346	2·2	...	21,454	·29	526	24·5	257	12·0	45a	18a	14a	14a	55a	133a	91·3	...	...	...	16·1	11·5	24·7	47·7
Total	865,410	232,792	240,132	3·2		247,359	·29	6,014	24·3	3,191		542b	200b	104b	144b	863b	1358b	90·1	3·9	6·9	72·8	16·9	9·5	31·4	42·3

a. Deaths registered in the district, uncorrected.
b. Numbers do not correspond with net total.
c. In these districts rates are not calculated upon the total population, but on this less certain institutional

TABLE C.

(Corresponding to Table III. of the Local Government Board.)

NUMBER OF CASES OF DISEASE NOTIFIED IN EACH DISTRICT AND NUMBER REMOVED TO HOSPITAL.

1905.

Names of Localities.	Cases Notified in each Locality.													Number of Cases Removed to Hospital from each Locality.										
	Small-pox.	Cholera.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	Totals.	Small-pox.	Cholera.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	Totals.
URBAN.																									
Barking ...	1	...	116	2	27	98	...	14	...	...	2	...	260	1	...	91	1	...	77	...	9	...	...	...	...	179
Braintree ...	...	...	1	...	...	34	...	...	...	...	...	...	35	...	...	1	...	...	15	...	1	...	...	...	...	17
Brentwood ...	...	...	3	...	3	17	...	3	...	...	...	...	28	...	...	...	...	...	...	...	...	...	...	...	...	0
Brightlingsea ...	...	...	...	...	1	7	...	1	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	4
Buckhurst Hill ...	...	...	3	...	5	6	...	...	...	...	1	...	15	...	...	...	...	...	...	...	...	...	...	...	...	2
Burnham ...	...	...	7	...	3	...	...	3	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	69
Chelmsford ...	...	...	15	..	5	70	...	6	...	...	...	...	97	...	...	10	...	...	55	...	2	...	...	...	...	125
Chingford ...	...	...	4	...	8	24	...	1	...	...	...	...	37	...	...	...	...	...	...	...	4	...	...	...	...	606
Clacton ...	...	...	24	...	4	75	...	1	...	...	2	...	106	...	...	9	...	...	53	...	...	...	...	...	...	4
Colchester ...	...	...	60	38	223	...	...	12	...	...	...	...	333	...	...	40	...	1	77	...	7	...	...	...	...	0
East Ham ...	...	...	277	13	129	968	...	77	...	1	8	...	1473	...	...	152	6	4	383	...	60	...	...	1	...	41
Epping ...	...	...	1	...	2	3	...	1	...	...	1	...	8	...	...	1	...	...	2	...	1	...	...	...	...	0
Frinton ...	...	...	...	...	1	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	82
Grays ...	...	...	16	...	16	213	...	6	...	...	1	...	252	...	...	4	...	2	31	...	4	...	...	...	...	44
Halstead ...	...	...	12	...	3	83	...	...	...	...	...	...	98	...	...	4	...	...	78	...	...	...	...	...	...	189
Harwich ...	...	...	6	...	7	44	...	3	...	...	...	...	60	...	...	2	...	...	40	...	2	...	...	...	...	0
Ilford ...	...	...	82	3	48	288	...	22	...	...	3	...	446	...	...	54	...	1	120	...	13	...	...	1	...	394
Leigh-on-Sea ...	...	...	3	...	2	4	...	6	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	0
Leyton ...	...	...	118	8	125	526	...	54	1	1	5	...	838	...	...	52	1	7	295	...	37	1	...	1	...	394
Loughton ...	...	...	1	...	2	4	...	3	...	...	...	...	10	...	...	...	...	...	4	...	3	...	...	...	...	7
Maldon ...	...	...	9	1	4	4	...	...	...	...	...	...	25	...	...	13	...	...	14	...	5	...	...	...	...	32
Romford ...	...	...	26	...	6	21	...	6	...	...	2	...	61	...	...	...	...	...	2	...	...	...	...	...	...	2
Saffron Walden ...	...	...	...	...	6	4	...	1	...	...	...	...	11	...	...	4	...	...	15	...	1	...	...	...	...	10
Shoeburyness ...	...	...	4	...	1	5	...	6	...	...	...	...	16	...	...	57	...	...	66	...	14	...	...	...	...	137
Southend-on-Sea ...	...	...	74	...	17	87	...	21	...	...	...	...	199	...	...	10	...	...	6	...	...	...	...	...	...	16
Waltham Holy Cross ...	...	...	11	...	5	11	...	...	...	...	...	...	27	...	...	149	2	4	257	...	21	...	...	...	...	433
Walthamstow ...	...	...	254	4	122	755	...	50	...	...	2	...	1188	...	...	9	...	...	13	...	...	...	...	...	...	0
Walton-on-the-Naze ...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	22
Wanstead ...	...	...	27	...	4	33	...	...	...	...	1	...	65	...	...	...	...	...	...	...	...	...	...	...	...	0
Witham ...	...	...	...	...	...	8	...	1	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	0
Wivenhoe ...	...	...	3	...	3	2	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	58
Woodford ...	...	...	5	...	6	68	...	5	...	...	2	...	86	...	...	4	...	...	49	...	5	...	...	...	...	
Total ...	1	...	1164	31	604	3687	...	311	1	2	30	...	5831													
RURAL.																										
Belchamp ...	...	...	...	...	3	57	...	1	...	...	...	...	61													
Billericay ...	...	...	28	...	9	70	...	8	...	...	2	...	117	...	...	14	...	...	22	...	6	...	...	...	...	0
Braintree ...	...	...	18	...	8	91	...	4	...	...	...	...	121	...	...	4	...	...	47	...	1	...	...	...	...	42
Bumpstead ...	...	...	9	...	3	1	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	52
Chelmsford ...	...	...	14	...	10	91	...	3	...	...	2	...	120	...	...	6	...	...	47	...	1	...	...	...	...	0
Dunmow ...	...	...	6	...	18	30	...	...	...	...	...	...	54	...	...	...	...	...	...	...	...	...	...	...	...	55
Epping ...	...	...	3	...	13	19	...	1	...	...	...	...	36	...	...	3	...	...	13	...	...	...	...	...	...	...
Halstead No. 1 ...	...	...	4	...	7	40	...	...	...	...	...	...	51	...	...	...	...	...	15	...	...	...	...	...	...	16
Halstead No. 2 ...	...	...	5	...	10	27	...	...	...	...	...	...	42	...	...	2	...	...	24	...	...	...	...	...	...	15
Lexden & Winstree ...	...	...	12	1	19	66	...	7	...	...	...	...	105	...	...	...	...	...	...	...	...	...	...	...	...	26
Maldon ...	1	...	9	...	11	12	...	16	...	...	...	...	49	...	...	1	...	...	1	...	3	...	...	...	...	0
Ongar ...	...	...	7	..	4	7	...	1	...	...	1	...	20	...	...	...	...	...	...	...	...	...	...	...	...	5
Orsett ...	...	...	16	...	21	119	...	7	...	...	2	...	165	...	...	5	...	1	79	...	5	...	...	...	...	0
Rochford ...	...	...	4	...	16	38	...	26	...	...	...	...	84	...	...	2	...	...	22	...	14	...	...	...	...	90
Romford ...	1	...	97	...	24	166	...	9	...	...	8	...	305	1	...	42	...	...	153	...	...	...	...	...	...	38
Saffron Walden ...	...	...	...	...	3	4	...	3	...	...	...	...	10	...	...	...	...	...	3	...	...	...	...	...	...	197
Stansted ...	...	...	6	1	7	4	...	...	...	...	...	...	18	...	...	5	...	...	4	...	...	...	...	...	...	3
Tendring ...	...	...	18	...	10	94	...	1	...	...	...	...	123	...	...	...	...	...	24	...	...	...	...	...	...	2
Total ...	2	...	256	2	196	936	...	87	...	...	15	...	1494													24

TABLE D.

INFANTILE MORTALITY.

	URBAN DISTRICTS.																			RURAL DISTRICTS.																			
	Under 1 week.	1–2 weeks.	2–3 weeks.	3–4 weeks.	Total under 1 month.	1–2 months.	2–3 months.	3–4 months.	4–5 months.	5–6 months.	6–7 months.	7–8 months.	8–9 months.	9–10 months.	10–11 months.	11–12 months.	Total deaths under 1 year.	Percentage of total deaths due to each cause.	Mortality rate per 1,000 Births.	Under 1 week.	1–2 weeks.	2–3 weeks.	3–4 weeks.	Total under 1 month.	1–2 months.	2–3 months.	3–4 months.	4–5 months.	5–6 months.	6–7 months.	7–8 months.	8–9 months.	9–10 months.	10–11 months.	11–12 months.	Total deaths under 1 year.	Percentage of total deaths due to each cause.	Mortality rate per 1,000 Births.
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	·05	·05	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	1	...	1	...	...	2	2	...	1	3	7	11	5	6	38	1·9	2·0	...	...	...	...	...	1	...	...	1	...	...	...	...	1	2	5	1·0	·9
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria & Croup	...	...	...	1	1	...	...	...	...	3	1	...	...	...	2	1	8	·4	·4	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	·2	·2	...
Whooping Cough	...	...	...	2	2	3	11	6	8	9	10	8	11	10	9	6	93	4·6	4·9	...	...	...	...	...	1	6	1	...	...	3	2	3	2	4	2	24	4·7	4·3
Diarrhœa, all forms	...	1	2	11	14	28	31	37	24	32	30	20	29	24	18	13	300	14·8	15·9	...	...	...	...	...	4	3	5	5	5	4	4	1	2	5	2	40	7·8	7·1
Enteritis	...	...	1	4	5	6	6	12	11	5	5	6	5	4	1	2	68	3·4	3·6	...	2	1	1	4	4	...	3	1	4	...	...	...	...	1	...	17	3·3	3·0
Gastritis, &c.	3	2	3	5	13	4	8	3	1	4	...	5	3	1	1	...	43	2·1	2·3	...	...	...	...	...	...	1	1	...	...	1	...	1	...	...	...	4	·8	·7
Premature Birth	219	35	21	19	294	14	4	6	3	2	2	...	2	...	...	...	327	16·1	17·4	92	6	5	4	107	3	1	2	...	...	1	...	...	...	...	114	22·2	20·4
Congenital Defects	46	8	6	5	65	9	3	4	3	1	2	...	...	2	1	...	90	4·4	4·8	10	...	3	2	15	3	...	...	2	1	1	1	...	...	1	...	24	4·7	4·3
Injury at Birth	15	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	15	·8	·8	4	...	...	...	4	...	...	...	...	...	...	...	...	...	...	4	·8	·7
Want of Breast-milk	...	1	1	...	2	3	...	1	1	1	...	...	...	...	...	...	8	·4	·4	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	2	·4	·4
Atrophy Debility, &c.	65	28	15	27	135	54	39	21	19	8	10	5	6	1	4	1	313	14·9	16·1	21	3	5	8	37	8	9	4	3	4	1	3	2	1	1	...	73	14·3	13·0
Tub. Meningitis	1	...	...	2	3	...	4	1	1	5	1	3	3	2	...	3	26	1·3	1·4	...	...	...	...	...	...	1	1	1	...	1	...	...	1	2	1	8	1·6	1·4
Tub. Peritonitis	...	...	...	...	...	3	...	3	2	5	1	1	3	1	3	3	25	1·2	1·3	...	...	...	...	...	1	...	1	1	...	...	...	...	...	1	...	4	·8	·7
Other Tuberculous	1	...	...	1	2	2	3	4	2	4	3	1	1	...	...	1	23	1·1	1·2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	·2	·2
Erysipelas	1	1	...	2	4	2	...	...	...	...	1	...	...	...	...	...	7	·3	·4	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	2	·4	·4
Syphilis	...	2	1	...	3	3	2	1	1	...	...	1	1	...	...	...	12	·6	·6	...	2	1	...	3	...	...	...	...	...	...	...	...	...	...	3	·6	·5
Rickets	...	...	...	...	...	1	...	...	...	...	1	...	1	2	2	1	8	·4	·4	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2	·4	·4
Meningitis (not Tub.)	...	...	...	...	...	...	2	...	...	4	6	1	2	1	6	2	24	1·2	1·3	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	3	·6	·5
Convulsions	33	17	8	5	63	17	13	12	10	5	10	6	8	7	4	4	159	7·8	8·4	8	1	3	...	12	4	6	2	2	2	3	4	6	1	...	2	44	8·6	7·8
Bronchitis	3	2	6	12	23	22	10	18	17	20	10	14	12	8	16	11	181	8·9	9·6	...	1	1	1	3	5	6	2	5	3	4	4	1	3	4	4	44	8·6	7·8
Laryngitis	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	3	·15	·16	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	·2	·2
Pneumonia	1	2	2	5	10	11	8	5	10	13	8	11	8	8	10	13	115	5·7	6·1	...	2	...	...	2	2	5	2	1	5	...	3	2	4	1	...	27	5·2	4·8
Suffocation, overlaying	6	...	1	2	9	5	2	8	2	...	2	...	...	1	...	1	30	1·5	1·6	3	...	...	...	3	...	...	...	1	...	...	...	...	...	...	...	4	·8	·7
Other causes	26	8	7	6	47	7	10	5	9	5	6	4	6	6	7	10	122	6·0	6·5	17	4	6	1	28	7	5	2	3	5	2	2	3	2	1	3	63	12·2	11·2
Total	420	107	75	109	711	194	156	149	126	128	110	89	109	90	89	78	2029	100·0	107·6	155	21	27	17	220	43	44	29	25	31	23	25	19	16	22	17	514	100·0	91·4

(Deaths for all districts except Loughton included.)

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