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ANNUAL REPORT

OF THE

✠ MEDICAL OFFICER OF HEALTH ✠

FOR THE

EPPING UNION

RURAL SANITARY DISTRICT,

FOR THE YEAR 1894,

TOGETHER WITH

A GENERAL SUMMARY

OF THE

Sanitary Improvements effected during 20 years, 1874-94.

EPPING :

ALFRED B. DAVIS, HIGH STREET.



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ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH
FOR THE
EPPING UNION RURAL SANITARY DISTRICT,
FOR THE YEAR 1894.

MR. CHAIRMAN AND GENTLEMEN,

On the 26th of February, 1876, I had the honour of placing before the Epping Union Rural Sanitary Authority my first Annual Report for the entire Union District for the previous year, and I have now the honour of placing before you my Report for the year 1894. You are aware that by the operation of the Local Government Act, 1894, Chingford, and Buckhurst Hill, have now been constituted separate Urban Districts, each with its own Urban Council.

The present Report thus completes a series of twenty, dating from the time when I was appointed the first Medical Officer of Health for the District, and I have taken advantage of my position to add a short summary of the sanitary history of the District, together with the chief statistics for that period. As regards the new Urban Districts, I have endeavoured as far as possible, to make such distinctions as will enable each Council to ascertain the facts specially relating to its own District, in accordance with the instructions contained in the Memorandum of the Local Government Board of December last.

(I.)—*General Sanitary Condition of the District.*

The Epping Union Rural Sanitary District, as it existed to the end of the year 1894, comprised seventeen parishes, and was divided into the three sub-registration Districts of Chigwell, Epping, and Harlow. The entire area of the District was 48,099 acres; the area of Chigwell being 13,959; Epping, 17,101; and Harlow, 17,039 acres. The particulars relating to the different populations are dealt with in the "Vital Statistics" at the end of this Report, but it may be stated here that the number of persons per acre, according to the estimated population would be for Chigwell, 1.08; Epping, 0.35; Harlow, 0.36. Much of the Chigwell District, and a smaller portion of Epping, are covered with forest, and therefore uninhabited, but in no part of the District can it be said that the health of the people is influenced prejudicially by density of population.

The next point of importance under this heading has reference to the housing of the population, and taking the figures for 1891, we find the average number per house for the whole District was 4.7; for Chigwell it was 5.2; Epping, 4.8; Harlow, 4.5. These figures would seem to show that the people are not underhoused, but I am sorry to say this is far from being the case, and there can be no doubt that overcrowding and bad house accommodation are serious flaws in the sanitary condition of the entire District.

So much clay enters into the composition of the soil, and so much general dampness of the atmosphere is occasioned thereby, that faulty house construction, and jerry-building, produce some of their worst consequences in this District.

(II.)—*Periodic and other Inspections of the District.*

The following is a summary of the work done under this heading during the year, and for the convenience of the new Urban District Councils of Chingford and Buckhurst Hill, I will take the inspections made in those Districts first.

CHINGFORD.—*February.*—Special inspection of Miss Steer's "Home," consisting of a terrace of one-storied brick houses with through communication. This "Home" is properly connected with the sewer, and is supplied by the East London Company's water, but some minor sanitary defects were discovered, and brought to the notice of the Proprietor. It was also suggested that a ward for isolating infectious cases, occurring in the Home, should be provided.

July.—LOW STREET.—A number of old cottages, some of which were very dilapidated and unfit for human habitation, were inspected. Nine of these were condemned under the "Housing of the Working Classes Act," and the others were required to be put into habitable repair. The Pumping Station at Mansfield Hill, recently constructed to convey the sewage from Low Street, to the Works at Chingford Hatch Estate, was inspected, and found to be in excellent working order.

Certain cottages at Forest Side were inspected, cases of Diphtheria had recently occurred here. These cottages, although connected with the sewer, had no water-supply, and generally were in a bad sanitary condition, with many dilapidations. The surrounding premises being dirty and unwholesome, they were reported in consequence as "unfit for human habitation."

BUCKHURST HILL.—Several visits were paid to Buckhurst Hill during the year, but the only periodical inspections about which there is now anything to record were made in September and early in October. A row of cottages, known as Prospect Cottages, situated off Princes' Road were found to be in a very dilapidated and unwholesome condition, and were accordingly condemned as "unfit for human habitation." One was also found to be grossly overcrowded. Another house, situated in Princes' Road, was found with one common cistern, supplying the drinking water and the w.c. The sink-pipe was not disconnected, and no dust-bin was provided. Steps were taken to have these defects remedied. Albert Road North was also inspected, but there is nothing to comment upon now with respect to it.

As regards other parts of the District the following inspections were made, viz. :—

February.—DEBDEN GREEN, LOUGHTON.—A roadside pond seriously contaminated with sewage, causing a nuisance dangerous to health. Immediate proceedings were advised.

April.—STEWARDS' GREEN, THEYDON GARNON.—Open ditch receiving sewage, causing a nuisance dangerous to health. Inspector advised.

CHIGWELL ROW.—Cottages, in one of which cases of Scarlet Fever had been notified, were inspected. Sanitary defects brought to notice of Sanitary Inspector. Cleansing and disinfection of house ordered.

LOUGHTON HIGH ROAD.—House inspected, serious sanitary defects found and brought to notice of Inspector, with directions as to alterations required.

May.—NORTH WEALD. House inspected, no action required.

June.—LOUGHTON, PUMP HILL. House inspected, serious sanitary defects brought to notice of Inspector, with directions as to alterations required.

HIGH STREET, EPPING.—Old, dilapidated, and otherwise defective cottage inspected, and reported to Inspector.

ROOKERY, EPPING.—Old, dirty, damp, timber-built cottage out of repair, and otherwise defective. Reported to Inspector with directions.

BROADLEY COMMON AND ROYDON HAMLET.—Houses inspected, old and dilapidated, with defective sanitary arrangements. Reported to Inspector with instructions.

SHEERING STREET.—Many houses and premises inspected. Sanitary condition generally bad, no provision for drainage. Bumby-holes and open ditches used as receptacles for drainage and refuse. Cesspit closets all in a bad state. Some of the houses dilapidated and dirty. Special report made to Rural Sanitary Authority, dated June 21st, in which amongst other things it was advised that the present offices be replaced by earth-closets, that scavenging be contracted for, and that covered drains be laid. The water-supply is drawn from a public well, and it was advised that this should be better protected from surface contamination.

August.—THEYDON GARNON.—Houses on Allnutt's Estate inspected, and Inspector advised as to certain sanitary alterations required.

POTTER STREET, HARLOW.—Several houses inspected, dilapidations and sanitary defects discovered. Inspector advised as to action, and a special report made to Rural Sanitary Authority.

LOUGHTON HIGH ROAD.—House inspected. Interior walls damp, dirty and out of repair. Inspector advised as to action to be taken.

EPPING UPLAND.—Houses inspected and found to be dilapidated, and otherwise in defective sanitary state. Inspector advised as to proceedings.

September.—**THEYDON GARNON.**—Cottage inspected, but no sanitary defects discovered.

SHEERING STREET.—This was a re-inspection of houses and premises inspected in June. Conditions were all practically the same as when last visited. Inspector advised to apply for closing orders for several of the houses, and to insist upon necessary improvements in the case of others.

NORTH WEALD.—Certain cottages at The Wants dilapidated and unfit for human habitation. Inspector advised to apply for a closing order at once.

LOUGHTON HIGH ROAD.—Forest pond by roadside inspected and reported to Rural Sanitary Authority as a dangerous nuisance. Advised proceedings to be taken to have it filled up.

LOUGHTON, STAPLES ROAD AND FOREST.—Ragged School Holiday Home inspected. Various Sanitary defects discovered and reported to Rural Sanitary Authority with suggestions as to how they should be remedied.

October.—**HARLOW, POTTER STREET.**—Re-inspection of houses visited in June. No improvements effected. Inspector advised to take prompt proceedings.

CHIGWELL.—Inspection of Sewerage Works and District beyond. Works found to be inadequate for the amount of Sewage passing through them; and the district beyond, including Henwood Side, at present unsewered. Special Report made to Rural Sanitary Authority recommending new Sewerage Works to provide for the whole of that part of the district.

HARLOW, POTTER STREET.—A second re-inspection of houses inspected in June. Alteration in premises being made.

November.—**THEYDON BOIS.**—A number of old, dirty, and dilapidated houses at Ivy Chimneys inspected, and represented to Rural Sanitary Authority as unfit for human habitation.

December.—**THEYDON BOIS, IVY CHIMNEYS.**—Two cottages inspected. Found to be without water-supply, and out of repair. Inspector instructed to take proceedings.

(III.) *Sanitary Improvements effected during the Year.*

The Inspector's Statement, which follows, gives in detail a large number of more or less important Sanitary improvements which have been effected.

Besides these, it should be stated that a Sewer has been laid for the new houses in St. John's Road, Epping, which now number about 60. Land has been obtained, and Sewerage Works are being constructed at a cost of about £1000, for which a loan has been obtained. A new Sewer has been laid for Garden Terrace, Epping, connecting these houses with the Main Sewer in the High Street.

It has been decided to lay a Sewer for the houses in Woburn Avenue, and The Green, Theydon Bois, and the Surveyor's plans for this work have been accepted.

INSPECTOR'S STATEMENT.

Inspections and re-inspections	1,052
Notices served to abate or remove nuisances, &c. ..	401
„ „ connect house drains to public sewer ..	64
Letters <i>re</i> notices, drainage, water-supply, new houses, &c. ..	747
Certificates given for new houses under "Water Act" ..	66
Number of houses certified	123
„ house drains re-constructed and connected to public sewer	245
„ houses disinfected after Infectious Diseases ..	99
„ old privy and other cesspools filled up and discontinued	72
„ Samples of drinking water submitted to Medical Officer of Health	7
„ Samples of drinking water submitted to Public Analyst ..	1
„ Dairies, Cowsheds, and Milk-shops on Register ..	76
„ „ „ „ new Certificates granted	14
„ Notices to Medical Officer of Health <i>re</i> nuisances, &c. ..	13
„ „ under "Housing of Working Classes' Act" to make dwellings habitable	13
„ dwelling-houses under notice to be made habitable ..	34
„ proceedings taken under Act before Magistrates ..	4
„ dwelling-houses under proceedings	11
„ Closing Orders made under proceedings	3
„ dwelling-houses made habitable under Closing Orders ..	8
„ „ „ closed „ „ ..	3
Closing Order cancelled by Magistrates	1
Number of dwellings made habitable after notice	15
„ „ closed by owners after notice	9
„ „ demolished „ „	7
„ notices as to letting new houses without certificates ..	31
„ „ to abate overcrowding	6
„ „ bury corpse	1
„ „ register Cowsheds, Dairies, &c.	11
„ „ discontinue burning refuse	4
„ „ cleanse, pave, drain, and repair Cowsheds ..	3

Number of notices to cleanse water tanks	..	..	..	4
"	"	"	ditches	13
"	"	"	ponds	11
"	"	"	and drain premises	14
"	"	"	and improve piggeries and stables..	3
"	"	"	wells	7
"	"	"	and lime-wash slaughter-houses	4
"	"	"	" " " bake-houses	2
"	"	"	close wells for domestic purposes	4
"	"	"	cleanse and disinfect premises	39
"	"	"	connect house and w.c. drains to sewers	224
"	"	"	convert common privies to w.c.'s	13
"	"	"	" " " pail closets	23
"	"	"	construct brick cesspools	19
"	"	"	" filters to drains and cesspools	5
"	"	"	concrete drains under houses	1
"	"	"	cover over and ventilate cess-pooles	6
"	"	"	cut off w.c. flush pipes from water cisterns..	15
"	"	"	divert drainage from ditches, brooks, &c	10
"	"	"	dis-connect bath and sink pipes and down-spouts from drains	30
"	"	"	drain off stagnant water and level surface of ground	3
"	"	"	empty and cleanse cesspools and tanks	36
"	"	"	" " " fill up and discontinue cesspools and tanks	72
"	"	"	improve drainage of premises..	30
Number of Notices to improve and drain urinals	..	..	..	10
"	"	"	level and drain Premises	6
"	"	"	limewash and cleanse interior of dwellings	13
"	"	"	" " " after infectious diseases	42
"	"	"	disinfect	39
"	"	"	open, cleanse, repair, or re-construct drains	37
"	"	"	pave surface of cabstand	1
"	"	"	provide ashbins	6
"	"	"	" and drain manure receptacles	19
"	"	"	" gully traps to drains	64
"	"	"	" privies or w.c.'s. to dwellings	7
"	"	"	" spouts and gutters to houses	2
"	"	"	" water supply for domestic purposes	17
"	"	"	" " " to w.c.'s.	33
"	"	"	remove vans used as dwellings	3
"	"	"	" manure and other refuse	28
"	"	"	" and discontinue depositing manure and other refuse	3
"	"	"	" pigs and other animals	16
"	"	"	" slaughter-houses' refuse in covered vessels	1
"	"	"	" w.c.'s. soil pipe from inside to outside of dwellings	2
"	"	"	repair and make habitable dwelling houses	57
"	"	"	" roofs of	6
"	"	"	" interior of	10
"	"	"	" surface of yards of	5
"	"	"	" waterpipes in	8
"	"	"	" w.c.'s and privies of,	13
"	"	"	" w.c.'s, flush pipes and tanks	8
"	"	"	take sample of water for analysis	1
"	"	"	Surveyor of Highways..	8

Number of Notices to Water Companies <i>re</i> waste of water ..	7
„ „ tenants as to well-water unfit for domestic use	14
„ „ ventilate drains and cesspools	30
„ „ „ w.c. soil pipes and privies	9

Signed,

JOHN H. BELL.

(IV.)—Action taken to prevent the spread of Infection.

Infectious Diseases, with the exception of Whooping Cough, have been less prevalent than in the previous year. The number of cases notified for 1894 being 157 as against 290 for 1893. Whilst, however, there has been a marked decrease in the number of cases of Scarlet Fever and Erysipelas, there has been a considerable increase in those of Diphtheria. Membranous Croup too, which is merely another name for Diphtheria affecting the Larynx, reappeared last year with 8 notifications, whilst it was entirely absent in 1893, although, it should be added, two deaths from Membranous Croup were registered in that year.

The following Table gives the number of notifications of each disease for each sub-district, shewing those for Chingford and Buckhurst Hill, separately.

		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhoid Fever.	Continued Fever.	Erysipelas.	TOTALS.
CHIGWELL Sub-District.	(A) Chingford ..		4	11	1	1	1	1	19
	(B) Buckhurst Hill		11	1		4		8	24
	(C) Chigwell, <i>Rural</i>		23	7	2	2		4	38
Totals Chigwell Sub-Dist..			38	19	3	7	1	13	81
EPPING		1	18	16	4	3		9	51
HARLOW			4	8	1	1		7	21
WORKHOUSE								4	4
TOTALS		1	60	43	8	11	1	33	157

Taking these diseases in the order in which they are placed in this Table, the following are the facts concerning them.

SMALL POX.

The one solitary case was that of a labouring man, who walked into my surgery one fine day in the month of June, asking for something to cure a rash which had come out upon him, and which was easily diagnosed to be Small Pox. He had for some days previously been wandering about from town to town in adjoining Districts in search of work, sleeping in Barns, at wayside Inns, and Common Lodging Houses. With this history he was promptly removed from my surgery to the District Infectious Hospital, and afterwards to the Small Pox Hospital at Highgate. Notice was sent to the Medical Officers of Health of the different Districts through which he had passed, and in one of which, I understand, his visit was followed by an outbreak of the disease. This is the only case of Small Pox we have had in this District since the year 1885.

SCARLET FEVER.

The epidemic of this disease which has prevailed in the District for the past three years appears to have reached its maximum in 1893 (during which year as many as 161 cases were notified), and has been severely felt in the Chigwell Sub-district. It will be noticed that for the past year the greatest number of cases occurred during the first four months, and that during the last four, there was a decided diminution in the number. This is contrary to what is known of the disease, namely, that the usual season of greatest prevalence is the Autumn. The disease was chiefly prevalent in the Chigwell and Epping Sub-districts. The proportional prevalence for the three Districts being Chigwell, 2·5 per 1,000 of the population, Epping, 2·9 per 1,000, Harlow, 0·6 per 1,000. Of the 38 cases notified in the Chigwell Sub-district, as many as 18 occurred in the Parish of Chigwell alone. It may be hoped now that the epidemic has exhausted itself. Although so many persons have suffered from the disease, the fatal cases have been remarkably few in this District, and during the past year, with 60 cases notified, there have been only two deaths. Throughout the epidemic, the cases have occurred chiefly in the more populous centres, whilst many of the rural parishes have escaped altogether. Enquiries were made respecting each case notified, and where it appeared to be called for, an inspection of the premises followed. In several instances it was found that the disease was imported from London, or elsewhere, and in some instances the patients had not been medically attended. Twenty cases were removed to the District Infectious Hospital, and with regard to the others every precaution was taken to isolate them in their own homes, and to prevent the spread of infection.

DIPHTHERIA.

There was again a considerable increase in the number of cases of this disease during the year, as many as 43 having been notified, besides which there were eight cases of Membranous Croup, which would rightly be included as Diphtheria. This gives a total of 51 cases, amongst which there were 16 deaths, viz.: 9 from Diphtheria and 7 from Membranous Croup. In the Chigwell Sub-district there were 22 cases, including 3 of Membranous Croup. In the Epping Sub-district there were 20 cases, including 4 of Membranous Croup; and in the Harlow Sub-district there were 9 cases, including 1 of Membranous Croup. This gives a case rate per 1,000 of the population for each district as follows, viz.: Chigwell, 1·4, Epping, 3·2, Harlow, 1·4. Of the parishes affected, these were chiefly Chingford, in which 12 cases occurred, and Theydon Garnon, in which there were 11. In my Annual Report for the previous year (1893) special attention was called to the prevalence of Diphtheria in Chingford. The disease has not been confined to any particular part of the parish, nor to any one class of the community. It has not been possible, therefore, to associate the different cases with any particular article of food-supply, such as milk, nor with any particular school in the District. This prevalence of the disease for so long a period in Chingford is a matter which I would wish to bring to the especial attention of the new Urban Council for that District; and it should be borne in mind that this greater prevalence of the disease there has been nearly co-incident with the laying of the Sewerage System.

Of the cases occurring in Theydon Garnon, in one instance infection was undoubtedly imported from one of the Chingford cases. Three occurred in one family, where it could not be said that the house was in a bad sanitary state, and four occurred in the month of December at a farm-house. With reference to this, it should be noted that two of the Harlow cases occurred also at a farm-house. In the month of August three cases of Diphtheria occurred in the family of a Fishmonger living at Potter Street, Harlow. Upon inspection it was found that the back-yard was reeking with overflow sewage, which came right up to the back-door. The premises being otherwise in a filthy state. The general conditions of the house and premises being as bad as they could be. The circumstances were brought under notice of the Rural Sanitary Authority in a Special Report at the time, and the Inspector was instructed to take the necessary proceedings. Towards the end of September I again inspected these premises, when I found the conditions precisely as when previously visited, and it was not until nearly the end of October that the men were set to work to do what was

required. Meanwhile, fresh cases of Diphtheria had occurred in the family, necessitating further removals to the District Infectious Hospital. It was in respect of some of these cases removed to the Isolation Hospital that I had the first opportunity of testing the efficiency of DR. BEHRING'S Antitoxin Serum in the treatment of this disease. These cases were amongst some of the earliest published in the British Medical Journal as having been treated in this Country, and here it need only be stated that the result of the treatment was both remarkable and satisfactory. As regards the period of greatest activity of the disease, the largest number of cases occurred in the months of August and September, but at no time during the year was the District entirely free from the disease. No new light has been thrown upon the mode of origin and spread of the disease by our experiences during the year, but that filth and soil polluted surroundings, are conducive to the development of the disease, has been amply confirmed. Only 7 of the 43 cases were removed to Hospital. The disease is so rapid in its progress that the condition of the patients often becomes critical, even with early notification, before steps can be taken for removal, and then it would not be justifiable.

TYPHOID FEVER.

Isolated cases of this disease occurred in the district in the months of April, May, August, October, November and December. In several of these instances there was reason to believe the disease had been imported, and in three instances it was beyond doubt that this was so. Two were clearly attributable to the drinking of impure water. Each case was carefully investigated, and precautions were taken to prevent the spread of the disease.

ERYSIPELAS.

There were 33 cases of this disease notified, compared with 61 for the previous year. Although the decrease is satisfactory, still it must be admitted the figure for the past year is higher than it should be. Four cases occurred in the Epping Union Workhouse, two of which were fatal. The period of greatest prevalence was the first two months of the year, which corresponds to the season at which the disease usually attains its maximum height.

WHOOPING COUGH.

This disease caused 25 deaths in the district during the year, a larger number than I have ever hitherto had to record. During the two previous years the district was remarkably free from the disease. Fourteen of the deaths occurred in the Chigwell sub-

district, seven in Epping, including one in the Workhouse, and four in Harlow. The disease has in fact been generally epidemic throughout the district during the year, and in consequence of its continuing into the early winter months, many of the cases became complicated with Bronchitis, and other Pulmonary diseases, which led to fatal terminations.

As regards other zymotic diseases there is nothing particularly calling for notice in this Report, Measles was entirely absent. Of the eleven deaths from Diarrhoea six occurred in the Chigwell District, one of these registered Cholearic Diarrhoea occurred at Theydon Bois in the month of August. Influenza, which was prevalent in the early part of the year, caused 14 deaths, six of these occurred in the Chigwell district, seven in Epping, including three in the Workhouse in January, and one in the Harlow district.

Table of Notifications for each Month.

	Jan.	Feb.	Mch.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ttals.
Smallpox						1							1
Scarlet Fever ..	8	8	7	12	1	6	4	4	3		6	1	60
Diphtheria	3	2	1	2	1	3	5	8	10	1	2	5	43
Membranous C'rp.	2		2			2			1		1		8
Typhoid Fever..				1	2					3	3	2	11
Continued Fever								1					1
Erysipelas	5	6	1	2	3	5	2	3	1	4		1	33
Totals	18	16	11	17	17	17	11	16	15	8	12	9	157

Monthly returns of all notifications have been regularly sent to Dr. Thresh, County Medical Officer, by whom they are Tabulated with the returns from the rest of the County. A copy of these Tabulated Returns is forwarded immediately to each Medical Officer of Health in the County, who is thus kept acquainted with conditions of health surrounding his own district.

DISTRICT INFECTIOUS HOSPITAL.

The following Table gives particulars of the cases treated in the Infectious Diseases Hospital during the year. These numbered 28, viz: Smallpox, 1; Scarlet Fever, 20; Diphtheria, 7.

Date of Admission	Sex.	Age.	District from which received.	Nature of Disease.	Remarks.
Jany 1	Male	8 yrs.	North Weald	Scarlet Fever	Discharged Feb. 11th
" 24	Female	14 "	Epping	"	" March
" 26	Female	8 "	"	"	" "
Feby 17	Female	17 "	Buckhurst Hill	"	" 31st
March 6	Female	15 "	"	"	" April 24th
April 18	Female	17 "	Loughton	"	" June 13th
" 28	Female	9 "	Chigwell Row	"	" 12th
" 28	Female	6 "	"	"	" " "
" 28	Male	8 "	"	"	" " "
" 28	Male	2 "	"	"	Died, .. May 5th
June 18	Male	30 "	Waltham Abbey	Small-pox	Rmvd to H'gate, June 19th
Aug 17	Female		Theydon Garnon	Scarlet Fever	Discharged, Sep 25th
" 17	Male		"	"	" Oct. 2nd
" 18	Female	11 "	Potter Street	Diphtheria	Died .. Aug. 23rd
" 18	Male	3 "	"	"	" .. " 24th
" 22	Male	9 "	"	"	Discharged Sept. 6th
" 24	Male	41 $\frac{9}{12}$ "	Theydon Garnon	Scarlet Fever	" Oct. 2nd
" 24	Male	3 "	"	"	" " "
" 29	Male	5 "	Theydon Bois	Diphtheria	Died .. Aug. 31st
" 29	Female	7 "	"	"	Discharged Sept. 8th
" 29	Female	9 $\frac{1}{2}$ "	Theydon Garnon	"	" " "
Sept. 6	Female	9 "	"	Scarlet Fever	" Oct. 12th
" 8	Female	8 "	"	"	" " "
" 18	Female	3 $\frac{1}{2}$ "	Chingford	"	" " 13th
Oct. 15	Female	12 "	Potter Street	Diphtheria	" " 29th
Nov. 10	Female	13 "	Theydon Garnon	Scarlet Fever	" Dec. 19th
" 15	Male	11 "	North Weald	"	" " 24th
" 15	Female	7 "	"	"	" " "

(V.)--Cause and Distribution of Disease.

Except in the continued prevalence of Diphtheria in the parish of Chingford, to which reference has already been made, it may be said that Zymotic diseases have been almost evenly distributed throughout the district during the year. Although in previous years attention has had to be called to the influence of schools in the distribution of infectious diseases, and to the number of times the schools have had to be temporarily closed as a means of prevention, yet during the past year this influence does not appear to have shown itself to any great extent, and in no instance had the schools to be closed. As regards other than infectious diseases, it is found in this District that Rheumatism

and Heart Disease prevail largely amongst labourers, and Arthritic Rheumatism amongst their wives, whilst their children suffer extensively from Acute Rheumatism. The causes being, amongst the men, the exposure to which they are necessarily subjected, together with the heavy character of their work, the cause amongst the women and children being the miserably cold, damp, and draughty cottages in which they live. This latter being also a cause of the somewhat high infant mortality of the district.

(VI.)—Sanitary Requirements of the District.

First amongst these should be placed better houses for the working classes, and whilst I would not for a moment wish to undervalue the great importance of proper drainage and a wholesome water supply, it is simply idle to look for any material improvement in the health of the district, whilst so many of the working classes have to live in houses, which as regards warmth, dryness, and air-space, their more fortunate brethren would not consider to be fit for the lower animals. It is customary in the present day to hear much of popular lectures upon "Elementary Hygiene," "The Laws of Health," and other kindred subjects, but until the working classes have better houses to live in, than is the case at present, it is impossible that such lectures can be productive of much good. In the matter of drainage, there are several parts of the district still in need of public sewerage. Such a sewer is required for the new houses on the Station Road, and the Kendal Lodge Building Estate, in the parish of Theydon Garnon. At the same time, the new houses below the railway station, as well as part of the Ivy Chimneys, should be provided for. At the present time, the drainage from the whole of these houses is discharged into the watercourses and brooks, which find their way into the Roding.

It is important that the new sewers, which it has been decided are to be laid for Woburn Avenue and Theydon Green, in the parish of Theydon Bois, should be proceeded with, as early as possible.

New Sewerage Works are also required for the parish of Chigwell. The present works being wholly inadequate, and providing as they do for only a part of the parish, a considerable number of houses are left to discharge their sewage direct into the river Roding. This matter has already been referred to in this Report, and was specially brought under the notice of the Rural Sanitary Authority in the month of October.

A public sewer is also required for Potter Street, in the Harlow District. The drainage of the houses here is very defective, and cannot be satisfactorily improved until a new sewer is provided. It does not appear that there need be much difficulty in connecting Potter Street with the present sewerage system for the town of Harlow.

An improved method of sewage disposal is required for Sheering Street. In the month of June I reported fully to the Rural Sanitary Authority with reference to this. After pointing out the numerous and serious defects which then existed I made the following suggestions :—

- 1st. That dry earth closets should be substituted for the present objectionable cesspits.
- 2nd. That scavenging should be contracted for.
- 3rd. That a sewer should be laid to carry the drainage into adjoining fields.

It was pointed out that anything short of these measures could only produce temporary benefit with a perpetual recurrence of the nuisances, as had in fact been the case for several years past.

In addition to these it should be seen that all houses within the required distance of public sewers should be connected with them. I have recently gone carefully through the houses on the line of the main sewer in Epping for the purpose of finding out how many there are still unconnected, with the result that of 509 houses, there are at the present time 64 which are not connected with the sewer. These houses either drain into cesspools, the overflow from which runs into ditches, or the drainage goes directly into the ditches of the fields surrounding the town. I think I need scarcely stop here to point out how desirable it is that this should be altered.

In the matter of Water supply I would mention that I have had year after year to call attention to the large number of houses in the town of Epping which still obtain their supply from surface wells. From a return recently obtained for me by Mr. BELL, Sanitary Inspector, I find that of 545 houses in Epping, 382 are supplied by the Herts and Essex Water Company, and

163 by surface wells. Of these surface wells I do not mean to assert that there are none which are not polluted with sewage, but when it has been shewn so repeatedly, as has been the case in Epping, that so many of them are thus polluted, a very grave suspicion attaches to the whole water-bearing stratum into which the wells are sunk. In the numerous instances in which it has been shewn that the water-supply is undoubtedly polluted, and which it has been my duty to bring under the notice of the Rural Sanitary Authority time after time, it is to be hoped that the 62nd section of the Public Health Act will now be speedily put into operation by the new Rural District Council, otherwise it appears to me it will become the duty of the Epping and Theydon Garnon Parish Councils to make Representations to the County Council under section 16 of the Local Government Act, upon the subject. Before concluding I must refer to the complaints of deficiency of supply by the Herts and Essex Company during last summer, and which I had to bring before the Rural Sanitary Authority in the month of July. This led to a correspondence between Mr. F. H. ANSON, Secretary of the Company and myself, and the following extracts from one of Mr. ANSON's letters will I think be considered satisfactory. Referring to the hot period preceeding the complaints, he says "The consumption at that moment was most unusually large, we were at the time getting another well and a set of pumps ready to work, and there has been an abundant supply since." Later on Mr. ANSON also says of the Company "We are anxious to do all we can to serve the district."

Amongst the requirements of the District, I have endeavoured at different times to impress upon the Rural Sanitary Authority the importance of providing a Disinfecting Apparatus. I trust the Rural District Council will now give this matter their serious consideration.

The question of forming the Epping Special Drainage District into an Urban District was brought forward in connection with the coming into operation of the Local Government Act, 1894. The movement caused much excitement, being strongly opposed by the owners and ratepayers of Theydon Garnon and Theydon Bois, portions of these parishes being included in the Special Drainage District. That certain Urban powers are required for the District appears to have been the opinion of the Local Government Board, as well as of many of the Inhabitants of the District for a considerable time past, but whether the time has yet arrived to recommend the formation of an Urban District, or whether the boundaries of

such a district should be identical with those of the present Special Drainage District, are questions concerning which I have some doubt. Had it been definitely decided by the County Council to postpone the formation of the Urban District when the application was made to them, I should now unhesitatingly advise the Epping Rural District Council to apply for certain Urban powers for so much of the Special Drainage District as is comprised in the town of Epping. That the sanitary condition of Epping, both as regards drainage and water-supply, urgently calls for alteration, must be apparent to all who have studied my yearly Reports, but whilst this is so we must not shut our eyes to the fact that it is not so much the want of power to effect an alteration as the want of a will to put the existing powers into operation that has caused matters to be as they are. There is no doubt that had full advantage been taken of the Public Health Act, and of the Public Health (Water) Act of 1878, every inhabitant in the District might long ago have enjoyed the full benefit of efficient drainage and a wholesome water supply.

(VII.)—Special Reports made during the Year.

1.—*May*.—Upon Patients in the District Infectious Hospital and upon the Nursing and General Management of the Hospital.

2.—*June*.—Drainage and Water supply of Sheering Street, &c.

3.—*July*.—Complaints of deficiency of water supply of the Herts and Essex Water Company.

4.—*August*.—An outbreak of Diphtheria at Potter Street, Harlow, and Scarlet Fever at Theydon Garnon.

5.—*September*.—Upon a Road-side Pond, and a Ragged School Home, both at Loughton.

6.—*October*.—Upon the Sewerage Works and Drainage of Chigwell.

Besides the above, Representations have been made by me under Section 30 of the Housing of the Working Classes Act, in respect of 47 houses unfit for human habitation. Closing Orders were obtained in three instances. Proceedings were taken under the Act before Magistrates in four instances. Fifteen houses were made habitable after notice; eight were made habitable under Closing Orders, nine were closed by owners after notice, seven were demolished, and several are at the present time still under notice. Of the 47 houses condemned 13 belonged to Chingford, and six to Buckhurst Hill.

The following Acts of Parliament have been adopted in the District, viz :—

- (1.) Infectious Diseases (Notification) Act, 1889.
- (2.) „ „ (Prevention) Act, 1890.
- (3.) Public Health Acts Amended Act, 1890.
- (4.) Prevention of Cruelty to, and Protection of Children Act, 1889.

Vital Statistics.

The area of the District is 48,099 acres, with a population, at the 1891 census, of 26,137. By the usual method of calculation the estimated population to the middle of the year 1894, is found to have been 27,559, and the following calculations are based upon this estimate.

BIRTHS.

The births registered during the year were 690, the general birth-rate being equal to 25·0 per 1,000, as compared with a mean annual rate of 29·1 for the twenty years 1875-1894. There has been a marked diminution in the birth-rate in the district for the past four years; the mean annual rate per 1,000 for these years being as low as 25·6.

The birth-rate for each Sub-District during the past year was as follows, viz. :—

Chigwell	-	25·5	per 1,000.
Epping	-	27·1	„
Harlow	-	24·0	„

DEATHS.

The deaths registered during the year have been 360, giving the low death-rate of 13·0 per 1,000 of the population, and absolutely the lowest death-rate during the whole period of twenty years (1875-1894 inclusive). The mean annual death-rate for the decade, 1881-1891, was 16·5. To those acquainted with all the varied intricacies of vital statistics, no great value will be attached to a mere statement of death-rates, however low they may be, nevertheless, the fact remains that they are the basis upon which, as a rule, the general Public forms its opinion of the healthiness of a district. And it is, therefore, with no little satisfaction that I am able to close this the final chapter in the history of the Epping Union Rural Sanitary District with so good a record. How much lower still the death-rates might have been had all one's hopes and endeavours been fully realized, it is impossible to say.

The death-rates for the Sub-Districts during the year were as follows, viz. :—

Chigwell	-	-	-	11·2	per 1,000
Epping (including Workhouse)	-	-	-	14·9	„
Harlow	-	-	-	14·8	„

INFANT MORTALITY.

The rate of Infant Mortality measured by the proportion of deaths under one year to births registered, was equal to 124·6 per 1,000, which was 10 in excess of the mean annual rate for the decade 1881-91.

The death-rate of Infants in the Sub-Districts during the year was as follows, viz. :—

Chigwell	-	123·6	per 1,000
Epping	-	119·7	„
Harlow	-	132·4	„

The excess was to some extent accounted for by the prevalence of Whooping Cough, but both in Chigwell and Harlow Districts a large proportion of the deaths of Infants was due to general diseases which are not classified, such as Atrophy and Convulsions, for which improper feeding is too often responsible.

ZYMOTIC DISEASES.

The deaths caused by the principal Zymotic diseases were 50, viz. :—Scarlet Fever, 2 ; Diphtheria, 9 ; Typhoid Fever, 3 ; Whooping Cough, 25 ; Diarrhoea, 11. The death-rate from these diseases was equal to 1·8 per 1,000. For the decade 1881-91 the mean annual rate was 2·0. These diseases have been separately dealt with in a previous part of this Report, it is unnecessary, therefore, to say more about them here. The Zymotic death-rate for each Sub-District for the year is as follows, viz. :—

Chigwell	-	-	-	2·0 per 1,000
Epping (including Workhouse but excluding Isolation Hospital)	-	-	-	1·8 „
Harlow	-	-	-	0·9 „

The statistical information regarding Births, Deaths, and new cases of Infectious Sickness during the year, as required by the Local Government Board, in the Tables A and B, will be found here following.

(XI).—TABLE (B) OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF Health, during the year 1894, in the Rural Sanitary District of Epping; classified according to DISEASES, AGES, AND LOCALITIES.

NAMES OF LOCALITIES adopted for the pur- pose of these Statistics	POPULATION AT ALL AGES.			Aged under 5 or over 5. (e).	NEW CASES OF SICKNESS IN EACH LOCALITY. COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALI- TIES FOR TREATMENT IN ISOLATION HOSPITAL.												
	(b.) Census 1891.	(c.) Estimated to middle of 1894.	(d.) Registered Births		FEVERS.													FEVERS.												
					Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.				
CHIGWELL ...	14,020	15,148	372	{ Under 5. 5upwds.	1	7	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	...	
EPPING (H) ..	5,999	6,140	167	{ Under 5. 5upwds.	...	31	12	3	...	7	1	...	...	...	13	...	...	2	6	2	...	...	...	...	...	...	...	...	...
HARLOW ...	6,118	6,271	151	{ Under 5. 5upwds.	1	15	16	2	...	3	...	...	...	...	9	...	...	1	10	1	...	...	...	...	...	...	...	...	...
EPPING WORKHOUSE...	...	...	...	{ Under 5. 5upwds.	...	4	6	1	...	1	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS ...	26,137	27,559	690	{ Under 5. 5upwds.	1	10	9	2	...	11	1	...	...	...	32	...	...	1	16	6	...	...	...	...	...	...	...	...	...

(H) Locality in which Infectious Hospital is situated.

*GENERAL SUMMARY of Sanitary Improvements
effected during 20 years, 1874-94.*

At the beginning of the year 1875 the only SEWERAGE SYSTEMS in the district were those of Buckhurst Hill, and Epping, the drainage of the rest of the district being of the most primitive description ; such as loose brick-cesspits, bumbys, open ditches, &c. The Epping Sewerage Works had been constructed in the year 1869, but for several years afterwards very few houses were connected with them. The reason being that owing to the failure of the Engineer to obtain a sufficient supply of water, and thus to complete the Works, the Rural Sanitary Authority had resisted the action of the Local Government Board requiring them to take them over. A sum of £1,300 had been expended upon the Works, which were at last taken over by the Epping Rural Sanitary Authority in the year 1878, for a sum of £5,000, being the valuation made by the late Sir J. BAZELGETTE, on behalf of the Local Government Board. Although the action of the Epping Authority, throughout, did not meet the approval of sanitary experts of the day, I think an everlasting debt of gratitude is due to them by the Ratepayers of the district, for having made such a determined stand, and thus securing so large a reduction in the cost of the Works to the district. In the year 1879, the Herts and Essex Water Company, who had obtained water by boring into the chalk at Sawbridgeworth, purchased from the Epping Rural Sanitary Authority, upon the Report of Major MARINDIN, the water-tower, and mains as they were laid in the Epping Special Drainage District, for the sum of £2,000, since then the sewerage system has been in working order, and houses have been steadily connecting, until at the present time only a comparatively small number within reach of the sewers remain unconnected with them. All the old drains and cesspools in the district, which were very numerous, have been removed, or filled up, so far as they could be discovered. That the work has not proceeded as fast as it should have done, has been constantly pointed out in my Annual Reports, but as the Rural Sanitary Authority is now defunct, we may say "*De mortuis nil nisi sed bonum.*"

CHINGFORD, which has grown rapidly during the last 20 years, the estimated population having increased from 1,298 in 1874, to 2,905 in 1894, being a rate of 23·1 per thousand per annum, was provided with a Sewerage System in the year 1888, and every house within the reach of the Sewers has been connected. The old drains and cesspools have all at the same time been removed or filled up.

LOUGHTON, which has grown even more rapidly, the increase of population being estimated at from 2,552 in 1874, to 4,008 in 1894, or an annual rate of increase of 28·2 per thousand, was provided with a Sewerage System in the year 1880. The old drains or cesspools being either removed or filled up.

BUCKHURST HILL, which is included in the parish of Chigwell, and for which no separate census has been taken, was as has already been stated provided with a separate Sewerage System previous to the year 1874. The Sewers in connexion with this system were further extended in the year 1885, and at the same time the streets were channelled; a loan for the purpose being sanctioned by the Local Government Board. In the year 1883 an arrangement was made with the Woodford Authority to take the sewage from the Chingford side of Buckhurst Hill.

The rural portion of the parish of Chigwell has been provided with two systems of Sewers, but as has been shown elsewhere in this Report, these are now found to be insufficient, rendering a new scheme necessary.

HARLOW.—A complete system of sewers was provided for the town in 1879, and speaking generally, it may now be said that the whole of the houses are connected with it. The old drains and cesspools being at the same time done away with.

Besides the foregoing there have been several other extensive alterations and additions to the various sewerage systems, such as providing flushing tanks at Buckhurst Hill and Epping, the sewerage of Baldwyns Hill, Loughton, and of Low Street, and King's Head Hill, Chingford, with the erection of a pumping station there to send the sewage to the works at Chingford Hatch Estate.

The drainage of the villages and hamlets throughout the district has now, in most cases, been provided for, and although there are still some, such as parts of Theydon Garmon, Theydon Bois, Potter Street, and Sheering Street, where sewerage is still required, it must be admitted that a vast amount of useful work has been carried out by the Rural Sanitary Authority during the past twenty years in this direction.

WATER SUPPLY.—The general character of the water supply of the district in the beginning of the year 1875 was most unsatisfactory. Excepting Buckhurst Hill and part of the adjoining parish of Loughton, where the mains of the East London Water Company had been laid, the whole of the District obtained its supply from surface-wells, springs, ponds, streams, or even ditches. So long ago as the year 1868, the late Mr. G. W. STEVENSON, F.G.S., &c., in reporting upon the water supply of a portion of the District, stated that from the character of its source “the water must of necessity be more or less contaminated, and in that degree rendered unfit for domestic use.” By the extension of the mains of the East London Company, the whole of Chingford, Loughton, and the Chigwell Districts are now provided with a perfectly safe and wholesome water supply; whilst the towns of Epping and Harlow are similarly supplied by the Herts and Essex Company. The mains of this Company have also been carried through Theydon Bois, Theydon Garnon, Nettleswell, North Weald, and Matching, as well as many other parts of the District. In such places as Epping Upland, Roydon, and Sheering Street, where there appeared to be no prospect of the mains of this Company being carried, public wells have been sunk, and these have all been kept under careful supervision. Upon the whole, and notwithstanding the remarks which I have felt bound to make in this and in previous Reports, respecting the inaction of the Rural Sanitary Authority in regard to the water supply of certain portions of the District, it may now be said that the water supply of the District generally is excellent, and compared with what it was twenty years ago, it does much credit to the Rural Sanitary Authority, to whose exertions, and to whose ready acquiescence, in so many cases, to the recommendations which have been made to them, the improvement is largely due.

OTHER IMPROVEMENTS.—In the year 1882, the Rural Sanitary Authority provided an Isolation Hospital at Rood Street, Epping, for the reception of infectious cases occurring in the District. This Hospital, although it was not constructed upon the prescribed plans of the Local Government Board, and therefore had to be provided without the aid of a loan from the Government; and although it is not by any means a perfect building, has proved of inestimable value to the District.

The following table gives full particulars of the cases treated in it since the Hospital was first opened, together with the total cost of maintenance.

Upon the passing of the Infectious Diseases Notification Act, 1889, the Rural Sanitary Authority put its provisions into force in this District, and this again has proved of great service in securing the speedy isolation of all cases of dangerous infectious diseases, thus in many instances preventing their spread.

Statistical Information respecting the District Infectious Hospital.

YEAR.	Total No. of Cases.	Sex.		Smallpox.	Diphtheria	Typhoid Fever	Typhus Fever.	Scarlet Fever.	Result.		Total Cost of Maintenance *
		Male	Fem.						Rec.	Died	
1883	6	2	4	3	2	—	1	—	3	3	£ s. d. 61 5 10
1884	2	2	—	2	—	—	—	—	1	1	69 15 9
1885	11	5	6	10	1	—	—	—	11	—	65 13 6
1886	1	1	—	—	—	—	—	1	1	—	45 14 6
1887	3	1	2	—	—	1	—	2	3	—	86 16 2
1888	6	4	2	—	—	—	—	6	6	—	101 7 1
1889	3	1	2	—	—	—	—	3	3	—	97 12 2
1890	6	3	3	—	1	—	—	5	6	—	90 17 11½
1891	2	1	1	—	—	2	—	—	2	—	120 5 6
1892	10	7	3	—	—	—	—	10	10	—	249 8 1
1893	31	8	23	—	—	—	—	31	29	2	388 18 5
1894	28	11	17	1	7	—	—	20	24	4	389 18 9
TOTALS.	199	46	63	16	11	3	1	78	99	10	1767 13 8½

* Including Medical Attendance, Nursing, Repairs of Structure, &c.

The sanitary history of the District during the past 20 years, is not altogether devoid of the sensational element. In the year 1878 we had the revelations of the "Violet powder poisoning cases" at Loughton. As many as thirteen deaths of young children having occurred in that parish by the application to them of a cheap "Violet Powder" which had been adulterated with Arsenious Acid in mistake for Gypsum. Then, again, in the year 1880, we had the conversion of the National Schools at Loughton into a temporary Infectious Hospital, to enable us to cope with an epidemic of Malignant Scarlet Fever which had occurred there. The Schools were in use as a Hospital for eight weeks, and the cost to the District was £300. This was a piece of somewhat bitter experience for the Rural Sanitary Authority, but that it was not lost upon them, is shown by the steps which were taken almost immediately afterwards to provide the District with a permanent Isolation Hospital.

In the year 1882, the Rural Sanitary Authority made a serious attempt to compel the connecting of houses with the New Sewerage System in Epping. The owner of certain cottages having failed to comply with notices, the Authority, under Sec. 23 of the Public Health Act, laid a drain and connected the cottages themselves, subsequently summoning the owner, to recover the sum of £15 cost of work. The Epping Bench of Magistrates gave their decision in the owner's favour, but upon an appeal heard at Chelmsford in June 1882, this decision was reversed for one in favour of the Authority, each side having to pay its own costs, which amounted in the case of the Rural Sanitary Authority to nearly £200. I am afraid it is this case which is responsible for the delay in securing to the District the full benefits of the Sewerage Works so often referred to.

I am, Mr. Chairman and Gentlemen,

Your obedient Servant,

TREVOR FOWLER,

L.R.C.P.I., D.P.H. Camb., &c.,

Medical Officer of Health.

TO THE EPPING RURAL

DISTRICT COUNCIL.

Epping, February 14th, 1895.

TABLE, shewing the BIRTHS AND BIRTH-RATES, DEATHS AND DEATH-RATES, INFANT MORTALITY under 1 year, and also the Deaths from the principal Zymotic Diseases in the EPPING UNION Rural Sanitary District for 20 years, 1874—1894.

Years.	Births.	Birth Rate per 1000.	Deaths.	Death Rate per 1000.	Infants under 1 year. Deaths.	Rate per 1000 per Births.	Zymotic Deaths.	Rate per 1000.	Small-pox.	Scarlet Fever.	Measles.	Diphtheria.	Typhus Fever.	Typhoid Fever.	Whooping Cough.	Dia-rthoea.
1875*	647	31.9	349	17.2	78	120.5	39	1.9	..	11	1	..	..	6	6	15
1876*	672	30.3	329	14.8	74	110.	38	1.7	..	4	2	..	1	1	5	20
1877*	644	29.1	351	15.8	82	120.1	32	1.4	2	3	3	..	..	2	11	11
1878*	618	27.	353	15.4	68	110.	49	2.1	3	8	..	..	..	7	11	14
1879*	632	27.7	349	15.	62	98.1	39	1.6	..	..	1	3	..	10	17	8
1880*	649	27.5	382	16.2	90	138.	65	2.7	..	11	13	3	..	8	7	23
1881*	684	31.4	316	14.	56	81.	29	1.3	1	..	..	2	..	5	6	15
1882*	608	27.9	376	17.2	77	126.6	58	2.6	..	2	1	20	..	8	17	10
1883*	688	31.6	362	16.6	68	98.	58	2.2	3	3	8	12	1	6	12	7
1884	663	29.8	372	16.7	84	125.9	57	2.5	1	2	14	11	..	3	13	13
1885	670	29.9	382	17.	64	95.2	50	2.2	..	2	13	12	..	4	13	6
1886	713	31.6	366	16.2	85	119.2	39	1.7	..	5	2	6	..	..	9	17
1887	710	31.6	343	15.	68	95.7	27	1.1	..	1	1	1	..	6	4	14
1888	688	30.	354	15.5	87	126.4	43	1.8	..	4	2	3	..	1	20	13
1889	713	30.7	371	16.1	78	105.1	48	2.	..	2	23	7	..	3	..	13
1890	710	33.	428	18.4	90	126.9	62	2.6	..	1	19	7	..	4	16	15
1891	671	25.6	454	16.8	80	119.2	56	2.1	..	1	9	7	..	4	18	16
1892	680	25.4	380	14.2	57	83.8	17	0.6	..	..	5	4	1	1	2	5
1893	716	26.7	361	13.3	72	100.5	32	1.1	..	7	1	5	..	4	2	13
1894	690	25.	360	13.	86	124.6	50	1.8	..	2	..	9	..	3	25	11
TOTALS..	13476	..	7338	..	1506	..	882	..	10	69	118	123	3	86	214	259
Mean Annual Rate.	..	29.1	..	15.7	..	111.18	..	1.85	..	..	..	..	..	..	..	..

* The various Rates for these years are uncorrected, i.e., no allowance has been made for increase of population. The excess of Births over Deaths during the 20 years was 6,138, which represents the natural increase in the population. This leaves only an additional 68 to be accounted for, to bring the actual increase up to 6,206, at which it has been estimated to the middle of the year 1894.

Epping,
February 14th, 1895.

T. FOWLER, M.O.H.







