[Report 1894] / Medical Officer of Health, Maldon R.D.C.

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

MALDON

RURAL SANITARY AUTHORITY

FOR THE YEAR 1894.

Maldon:
RICHARD POOLE, "OTTO" PRINTING WORKS, HIGH STREET.

MDCCCXCV.

MALDON

RURAL SANITARY DISTRICT.

Annual Report

OF THE

MEDICAL OFFICER OF HEALTH

FOR

1894,

BY

JOHN C. THRESH, D.Sc., M.B., D.P.H.

INDEX.

MALDON RURAL SANITARY DISTRICT.

Sub-Registration Districts.			*Area in Acres.*		*Population 1891 Census.*
TOLLESBURY	(11 Parishes)	...	35,166	...	7,464
BRADWELL	(5 „	...	12,441	...	2,516
SOUTHMINSTER	(6 „	...	21,915	...	4,766
MALDON	(11 „	...	26,284	...	3,353
			95,806		18,099

To the Chairman and Members of the Rural District Council.

GENTLEMEN,

As the District Council now discharges all the duties of the old Sanitary Authority, it is my duty to present to you my Report for the past year, according to the requirement of the orders of the Local Government Board.

In previous reports I have fully described the general sanitary condition, water supply, &c., of each of the 33 parishes in the District, and I only purpose recording here a few facts with reference to such matters as are most likely to be of value to the members of the District Council who were not members of the late Sanitary Authority.

Three parishes only are supplied with public sewers. These are Tollesbury, Tillingham, and Burnham. In Tollesbury and Burnham practically all the houses in the villages are connected

therewith. In each case, near the sewer outfall, a settling tank is provided to prevent the grosser impurities entering the tidal waters. At Burnham there is also a filtering arrangement, but I have recently had to report that for some time the filter has not been utilized, and that the crude sewage has run direct into the River Crouch. At Tillingham a considerable proportion of the houses are connected with the sewers, and the sewage is discharged upon a small plot of ground and disposed of for irrigation purposes. Although the ground at one end is constantly water-logged, no complaint of any nuisance arising therefrom has arisen. At Southminster, Latchingdon, Steeple, Goldhanger, and Heybridge, sewers have been laid for the use of groups of houses, but there is no general system. The old road drains have in many instances been converted into sewers, although they were not constructed originally for any such purpose. I have had recently to report that at Southminster and Goldhanger nuisances arise from want of sewers or defects in the present ones, or from the outfalls being too near the villages. These will be referred to later.

The sewerage arrangements at Tolleshunt D'Arcy require more full consideration, as the subject had been for a long period before the late Sanitary Authority, and the works commenced by them will have to be completed by the New Council.

About 1881 the Rural Sanitary Authority proposed to lay down a system of sewers for the village, but in deference to the wishes of the Parochial Committee a system of half-pipe (open) sewers was adopted to carry away the slops from certain portions of the village. The pipes, being open, had to be laid near the surface of the ground, and only a portion of the houses could be connected therewith. The fall obtainable was not sufficient to keep the sewer clean, and a scavenger had to be employed to brush them out periodically. Complaints of nuisance became more and more frequent, and were attributed by some to the negligence of the scavenger, and by others to the inherent defects of the system. These half-pipe sewers terminated in land ditches, which being near

the village also created a nuisance. The whole of the fluid filth percolated into the small bed of gravel on which the village stands, and helped to pollute the ground water supplying the numerous wells upon which the village still depends for its supply of water. To remedy these defects the Surveyor reported that a proper system of sewers was imperatively necessary, and it was also desirable to furnish the village with pure water for domestic purposes, and to secure the efficient flushing of the sewers. The Surveyor also reported that the sewerage works, works of water supply, and the purchase of a suitable plot of ground for irrigation purposes, could be carried out for the sum of £1400. The parochial committee or committee of ratepayers were consulted, but could not come to any decision either for or against the scheme, and finally the Sanitary Authority, in 1891, decided to undertake the work, which they had every reason to believe would place the village in a most satisfactory sanitary condition at a very reasonable expense. A Local Government Board enquiry was held, and the scheme received their sanction. Since the work was decided upon there has been nothing but disappointments and misfortunes. The first hitch occurred in connection with the irrigation plot. There were difficulties in the way of obtaining a proper legal conveyance of the ground, which led ultimately to another plot being suggested. The Authority were assured that the levels were such that the sewage would reach the proposed site by gravitation, and also that it was suitable for the purpose. Although further away and necessitating a slightly increased expenditure, it was finally decided to purchase this plot. When the sewers came to be laid out and the work commenced, it was discovered that the sewage could only be got upon it by lowering the level of the ground two feet. This, as I pointed out, meant removing the whole of the available purifying soil, since at a greater depth the soil was a stiff clay. To remedy this defect has involved a very considerable additional expenditure.

Only a portion of the sewers had been laid when it was also discovered that much of the ground to be traversed was water-logged, and the Surveyor having meanwhile died another engineer

was called in who proposed certain modifications of the original plans to avoid passing through the water-logged portions. The modified scheme was considered and decided upon, again augmenting the expense.

In order to see that the work was thoroughly well done, a clerk of the works was appointed at a salary of £2 a week, but when the works were nearing completion it was found that a large quantity of water was gaining access to the sewers. When the cause of this was investigated it was discovered that the joints of some of the pipes had been made with clay instead of cement. A new Surveyor to the Authority having been appointed he took over the works, and is now having a considerable portion of the sewers relaid, a man-hole rebuilt, &c. This latter is of course being done at the contractor's expense. The thing has now been dragging on for three years, and the sewerage scheme alone is not yet completed, and is likely to cost as much as it was estimated would have provided the water supply also.

The proposed water works have been abandoned, and probably an attempt will be made to obtain the water necessary for sewer flushing purposes from conveniently situated wells. There is at present no public pump in the parish, and I have suggested that a well should be sunk in Dr. Salter's meadow, and a pump fixed near the Maypole. This would at least place a good water within reach of a considerable portion of the village, but its utility would be small compared with the public supply previously decided upon, but now abandoned.

Two villages only have a public water supply, Burnham and Southminster. At Burnham the supply is derived from the subsoil, and is pumped into an elevated tank, from which it flows to the town. The demand for water has increased so rapidly that there is no longer sufficient to maintain a constant supply, and the main is turned off at eight o'clock every night. The water level in the gravel has also fallen considerably, apparently from the excessive pumping, and there is no doubt more water will be required ere long, and the matter should receive the attention of the District Council.

The Southminster Waterworks have only been completed during the past year. The supply is derived from a spring at Asheldham, yielding some 30,000 gallons per day, which is more than the parish is ever likely to require.

At Heybridge there are a number of stand-pipes supplied with water from a deep well on Messrs. Bentall & Co.'s works. These are intended for the use of the tenants of the houses belonging to the firm, but are also used by the villagers generally.

There are public pumps and wells in nearly every parish, but many parts of the district, on the London clay, are badly supplied with water. The district around Purleigh is worst off, inasmuch as the few deep wells only yield limited supplies, and in summer time when water is most needed, the farmers, upon whose premises the wells chiefly are, cannot spare any for the cottagers. Two years ago it was decided to take water from the mains in the Chelmsford district for the supply of Hazeleigh, Purleigh, Cold Norton, and Stow Maries, and the sanction of the Local Government Board was obtained for a loan. This scheme also has since been abandoned, but another is now being elaborated.

For specific purposes Urban powers have been acquired for certain portions of the district, and for the whole district with reference to the making of Building Bye-laws. These Bye-laws were adopted in January, 1891, and since that date the character of the buildings erected has greatly improved. The impression that they would put an end to the erection of cottages has proved unfounded, for many have been built during the past year.

Improvements effected during the Year.

The most important work completed has been the provision of the water supply to Southminster, commenced in the previous year. I think the village is already beginning to appreciate the benefit of a constant supply of pure water brought to the very door or laid on to the houses, and it is probable that ere long the mains will be extended, so as to supply certain outlying farms and cottages.

The D'Arcy draining scheme, also previously referred to, now approaches completion, and during the year we may reasonably hope to have it in working order.

At Heybridge Basin the sewers laid some eight or ten years ago were found to be defective, and a considerable length has been relaid and larger flushing tanks provided.

At Goldhanger the public well, which was found defective, has been partly rebuilt, in order to prevent surface water gaining access.

The death of Mr. Alan Stewart, Surveyor and Inspector, for a time interrupted the attention given to minor matters, but Mr. Keywood, his successor, who entered upon his duties in June last, promptly took them in hand, and many nuisances have since been abated under his supervision. *Vide* Inspector's Report.

Results of Systematic Inspection.

Each month certain groups of parishes are visited and carefully inspected, from house to house when necessary. The number of nuisances discovered are so numerous that the Authority has only found time to deal with the more important.

A committee was appointed to inspect Goldhanger, where a large number of nuisances exists, due to want of drainage. This committee recommended the Rural Sanitary Authority to extend the outfall of one sewer and connect a number of cottages therewith, and also to extend another sewer with the same object. Unfortunately the Surveyor has had his hands so full that these suggestions have not yet been acted upon.

Two houses only have been condemned as unfit for human habitation, and one of them has since been closed, but many have been reported under Section 91 of the Public Health Act, and in most cases these have since been put in proper repair.

Many samples of water have been examined, and some of the public wells which were found to yield impure water have been improved. The analytical results obtained from a few typical samples of water are given below.

SOURCE, &c.	Appearance.	Grains per Gallon.				Parts per million			REMARKS.
		Nitric Nitrogen.	Chlorine.	Hardness.	Nitrites.	Free Ammonia.	Organic Ammonia.	Oxygen Absorbes.	
Water from Public Pump at Goldhanger. — Deep bored well	Often turbid.	.60	44.	7.	0.	.80	.18	—	Contaminated with Surface Water, worms found in it.
Open Public Well at Beckingham, contained an abundance of snails ...		.30	5.4	9.	0.	.16	.36	—	Impure.
Shallow Well at Burnham, Water in great repute ...	Very bright.	3.8	8.9	27.	0.	.04	.06	—	Loaded with Oxidized Sewage.
New Well at Tiptree ...	Clear.	1.2	1.8	9.	0.	.06	.09	—	Good.
Private Well at Heybridge	Yellow tint.	3.5	7 5	—	—	.80	.60	—	Sewage.
Public Supply, S'thminster. From a Stand-pipe ...	Bright.	.96	2.1	6.8	0.	.03	.06	—	Good.
Public Supply, Burnham. From Stand-pipe ...	Bright.	1.0	4.1	11.8	0.	.00	.05	—	Good.
Well supplying a Group of Cottages at Tollesbury ..	Often turbid.	—	8.4	30.	—	.8	2.0	—	Filthy.
TOLLESHUNT D'ARCY.									
From Well at Outskirts of Village	Bright.	.55	2.9	13.	0.	.02	.08	.86	Good.
From Well at opposite side of Village	„	3.2	14.8	29.	0.	1.	.24	1.9	Bad.
From Well in Village ...	Yellowish	1.8	11.3	18.	0.	.32	.12	1.7	Bad.

The above are all shallow wells with the exception of the one at Goldhanger. Notwithstanding the very impure character of most of the waters of D'Arcy and Tollesbury the parishes have for many years been quite free from Typhoid Fever, but how long this immunity will continue it is impossible to say. One may sit for years upon an open barrel of gunpowder, but at any moment a spark may explode it; and the inhabitants of the above villages may continue to drink polluted water, but sooner or later specific pollution will occur, and there will be an epidemic of Typhoid Fever or possibly of Cholera. The Beckingham well will be closed in and a pump fixed. The Goldhanger well has been reconstructed. At Burnham the tenants who had used water from the above well have been recommended to use that from the public mains, which is supplied from a stand-pipe near. The well at Heybridge was found to be close to a dumb-well, into which sewage had been passing for many years. The dumb-well has been abolished, and the water is no longer used for domestic purposes. The well at Tollesbury was close to a ditch receiving sewage, and an attempt is being made to keep the ditch water out. The D'Arcy wells are still used, since if one well were closed at least three-fourths of those in the village would also have to be abandoned, as these are fair samples of the majority in the parish.

The Dairy Farms have not been systematically inspected, and there is every reason to believe that the register is far from complete. No doubt this will receive attention during the coming year.

Under the new regime there are already indications that more attention will be devoted to sanitary matters, and I hope to see some considerable improvements effected in the near future.

Sanitary Requirements of the District.

I have already referred to the fact that the Sanitary Inspection has not, in previous years, been as satisfactory as could be wished. With the appointment of Mr. Keywood as Inspector and Surveyor more systematic work has been commenced, and doubtless will continue. The condition of a large number of cottages leaves much to be desired. Only under exceptional circumstances are

they condemned, since this almost invariably means closure, and inflicts great hardship upon the tenants who are turned out. Privy and bumby nuisances are far too common, and usually arise from defective construction of cesspits or absence of any proper receptacle for excreta and house refuse.

The water supply generally is unsatisfactory. In many parishes the supply is very limited, and in others very impure. The new Rural District Council has however commenced well, and is already considering schemes for supplying Hazeleigh and Cock Clarks, Purleigh, Mundon, Latchingdon, Cold Norton, and Stow Maries. These are the districts in which the want of water is most felt, since they are upon the London clay. The other villages will doubtless receive attention in time.

The provision of some form of Hospital accommodation for cases of Infectious Disease should also receive consideration. During the recent outbreak of Small-pox the Urban, Port, and Rural Authorities appointed a Committee, and the members practically decided upon a scheme to recommend to their respective Authorities, but as yet nothing has been done. Such a combination would be economical and in many respects advantageous, but there are many difficulties on account of the Rural District being so completely divided by the wide Blackwater river or estuary, and from the remoteness of the most populous villages from any centre. It is very probable that two hospitals will have to be provided, one for Burnham, Southminster, and other parishes south of the Blackwater, and another for Tolleshunt D'Arcy, Tollesbury, and the parishes north of that river.

The sewerage of several villages is not satisfactory, and the misfortunes which have occurred at D'Arcy are likely to prevent any other comprehensive schemes of a similar character being entertained for some time to come. Without going to the expense of a general system of sewerage however, many improvements could be effected at a comparatively small outlay, and I hope that the suggestions of the Committee which recently met at Goldhanger will be carried out fully without unnecessary delay.

Prevalence of Zymotic Diseases.

During the year the number of Infectious Diseases which have been notified has been unusually low. Thus Table VI. shows that only about half as many cases were reported last year as in 1893 and 1892. The decline of Diphtheria has been most marked, and will be again referred to. The returns would have been still more favourable had it not been for the unfortunate outbreak of Small-Pox which occurred at Langford in June.

Small Pox.

An account of the Langford outbreak, above referred to, was given in the following special report presented to the Rural Sanitary Authority at a meeting held on July 31st, 1894.

REPORT.

On the morning of Friday, June 29th, I was summoned by a telegram to see a suspected case of small-pox at Langford Grove, the country seat of the Right Hon. Lord Byron. The patient, Alice Hedge, was a young maidservant who had been taken ill on the 25th, and had developed a papular rash on the 28th. The nature of the case admitted of no doubt, and the investigation of its origin revealed the following facts.

Joseph Moss, a crippled agricultural labourer, aged 68, residing in the village of Langford, was taken ill on June 13th. He complained chiefly of lassitude and pain in his foot, the pain being attributed to an inflamed bunion. On the 15th he felt much worse and had to be carried to bed. The foot assumed a blue colour from the extravasation of blood, and a medical man was sent for. There was some elevation of temperature, and the medical attendant advised that no one should be allowed to see him until the nature of the disease was more manifest. The discoloration extending to the leg, "blood poisoning" was diagnosed, and as the man got worse his friends and relatives were allowed to visit him. Purpuric spots appeared on the dependent parts, spread rapidly,

and the patient died on the morning of the 19th. Two women laid out the body, and the same night an undertaker and assistant placed it in a coffin, but the lid was not fastened down until the day before the funeral, the 22nd.

The girl Alice Hedge was a granddaughter of the man Moss, and had visited him during his illness. That he had died of small-pox I had no doubt, and I immediately made a list of all the persons who had seen him during his illness and after his death, and visited all within reach forthwith. At the house itself I found an unmarried daughter, Emma Moss, aged 31, feverish, and complaining of pains in the back and head. A short distance away at a married daughter's I found Edward Hedge, aged 35, laid on the bed, complaining of the same symptoms. His wife also said that she felt ill, and a lodger came in saying that he had not strength to do his work. At Woodham Walter, another married daughter, Susannah Wordley, aged 37, was also laid on the bed too ill to rise. The other people visited were at that time (June 29th) apparently in good health. We had, therefore, one well marked case, and five others exhibiting premonitory symptoms of the disease. I ascertained that there was in Langford Park an unoccupied farmhouse belonging to Lord Byron, and permission was obtained to use this as a temporary hospital. By noon of the following day it was furnished, and during the afternoon I obtained two nurses, an assistant nurse, and a man with an extemporised ambulance. By six p.m. five of the patients had been moved into the hospital. All of them now were found to be unmistakably suffering from small-pox. The sixth case was moved on the following (Sunday) morning. Next day, Mary Ann Little, aged 58, a woman residing in Ulting, who had helped to lay out the body of the deceased man, was attacked, and was at once removed. On the same day Joshua Freeman, aged 35, a man who had assisted to place the body in the coffin, was found to have a few well marked spots upon the face, and then acknowledged that he had been feeling ill for two or three days, a fact which he had previously suppressed. As my farmhouse was full I had him removed to a temporary wooden hospital which the Maldon Urban

Authority had constructed to accommodate some patients suffering from the same disease. On July 2nd, Austin Hedge, aged 35, a resident of Heybridge, was complaining of illness, but until the eruption appeared on the 4th he would not believe that he had small-pox or submit to removal. He also was taken to the Maldon shed. This man had visited Moss during his last illness to pray with him. On the same day I also removed the undertaker, William Last, aged forty, an inhabitant of Heybridge. He had been ailing two or three days, but would not give up work. There were signs of papulation on the face, but no distinct papules. The rash never passed beyond this stage, and the man died on the 6th of variola nigra. On August 6th Emma Moss, a daughter-in-law of Joseph Moss, was taken ill with all the premonitory symptoms of small-pox. She had been revaccinated on the 1st, and the vaccination appeared to be most successful. By the 8th inst. she was so much better, and, no papules appearing, I decided not to remove her. Her husband had refused to be revaccinated, and on the 8th he was taken ill, and on the 10th removed to the Maldon sheds.

A daughter of the first sufferer, residing at Canning Town, was communicated with. I learnt that she had been successfully revaccinated about seven years ago, and had not been attacked. A son residing at Hampton Wick was also written to; but on July 4th a letter was received from his wife saying that he had been removed to the hospital suffering from small-pox. He had been revaccinated at the same time as his sister Alice, seven years ago, but in his case the revaccination was unsuccessful. All the before-mentioned persons had visited Joseph Moss during his last illness or seen his body after death.

The only other person who had been near the original case was a woman who laid out the body; she had been successfully revaccinated many years ago, and she escaped infection.

The last case was removed on July 10th, and as the only case which has occurred since is that of a nurse in the temporary

hospital, we may fairly conclude that the steps taken to stamp out the disease were completely successful.

Doubtless the most important step taken to arrest the spread of the disease was the prompt furnishing of the old farmhouse and the removal of the patients the instant the diagnosis of small-pox was certain. The next in importance was the revaccination of all members of the families, any member of which had been exposed to infection. Not only was the public vaccinator set to work, but the other medical men called upon the families whom they usually attended, and pursuaded as many as possible to be revaccinated. In this way in a few days nearly every person in the least degree likely to have been infected was revaccinated. The only exception was John Moss, of Mundon. His wife was revaccinated on July 1st, and had a doubtful attack; but he refused to submit to the operation, and afterwards suffered from a severe form of the disease. Some of the pustules became hæmorrhagic, and a few purpuric spots appeared on the hands and feet. For some days his life was in danger, but he is now rapidly recovering.

When the patients were removed, their clothing, bed, and bedding were also taken to the temporary hospital, and some burnt and others disinfected. A man and woman from the hospital then went to the house, disinfected, lime-washed, and cleaned down generally. The patients who died were at once wrapped in sheets soaked in carbolic acid, placed in a coffin with a quantity of carbolized lime, and buried within twenty hours. The three nurses and man were revaccinated as soon as they came to the hospital. The washerwoman having been revaccinated, and having had small pox, was not again vaccinated. As only one of the four vaccinations was successful, on July 4th it was repeated. This time two others were successful, but one nurse appeared to be immune. On July 15th she complained of feeling ill, and a day or two later about six papules appeared—one on the tip of the nose, three on the upper lip, and two on the chest. I kept her in bed a couple of days, but as she then felt quite well I allowed her to resume her duties.

In October two children residing in the same house at Burnham were attacked with Small-pox. The medical attendant promptly notified, and by careful isolation and the revaccination of all those who had been near the patients, further extention of the disease was prevented. One case was very mild and might easily have escaped recognition, but the other was a well-marked case, about which there could not be the slightest doubt. The prevalence of Chicken-pox in a distant part of the same parish might have caused an error in diagnosis had not the patients been carefully watched by a skilled practitioner, and it is much to be regretted that certain persons, who ought to know better, have publicly stated that an unnecessary scare was created and that the patients only suffered from Chicken pox. In consequence of this statement, I feel it my duty to state that there was not the smallest doubt as to the real nature of the disease, and that it was very fortunate for Burnham that it was so promptly recognised. How the children contracted the disease we were only able to surmise.

Scarlet Fever.

A number of isolated cases occurred during the year; only in two parishes can there be said to have been an outbreak of the disease.

Three young people who had been staying in the same house at Croydon returned to their homes on March 23rd. Two resided at St. Lawrence and the third in the adjacent parish of Steeple. The latter had a sore throat when she reached home but did not develop a rash, but within a fortnight five other members of the household were attacked with Scarlet Fever, and a few days later a sixth member was infected. At the house in St. Lawrence neither of the lads who had returned home was affected, but a sister was attacked on March 30th. Only one other house became infected, and that a week later (April 7th). It is tolerably certain that the infection was brought from Croydon by one or more of those who had visited there.

On September 1st a case was notified from Heybridge, and during the month several other cases occurred there. I found that three weeks previously a lad residing in the village had been ailing, and was said to have had German Measles. As he afterwards peeled freely it is more probable that he had Scarlet Fever, and that the other children who afterwards were attacked had been infected by this lad at school.

The age and sex distribution of the notified cases during the year was as under.

	Under 5	5—10	10—15	15—25	25—35	Over 35	Total.
Males	2	7	0	2	0	0	11
Females	6	5	5	3	2	0	21
Total	8	12	5	5	2	0	32

Diphtheria and Croup.

There has been a very marked diminution in the cases of Diphtheria notified (*vide* Table VI.). In previous years the great majority of those who suffered from Diphtheria resided in Heybridge. In 1892, 26 out of 57 cases were reported from that parish, and in 1891, 90 out of 128. Yet out of these 116 cases there was only one death. Whether these were cases of true Diphtheria or not, their occurrence led to many improvements being made in the sanitary surroundings of the dwellings, and it is satisfactory to record that only a single case was notified from Heybridge during the past year.

The 17 cases which came to my knowledge were scattered over nine parishes, and only in Burnham did more than two cases occur. At the end of 1893 there had been a limited epidemic of Diphtheria in Burnham, and in 1894, two cases were notified in January and two in February. In August a child who came to

visit friends at Burnham contracted Diphtheria. The house in which he was staying was one in which Diphtheria had occurred during the previous year. In November two other cases occurred, one being in a previously infected house.

The February cases are interesting, inasmuch as there was a grave suspicion of the infection having been conveyed by a cat. A. P. and M. B., two children aged ten and nine respectively, residing next door to each other and attending different schools, were playing together on February 1st (2?), when a cat crawled into the yard. It was evidently very ill, and the children took it up and petted it. A man who saw them took the cat away, killed and buried it. During the night of February 4th both children were taken ill, and on the 6th the medical attendant certified that they were suffering from Diphtheria. The only information I could obtain with reference to the cat was that it did not appear to be suffering from starvation, but that it was in a dying condition. As at the time my enquiries were being made it had been buried ten days, and I could not find the man who destroyed the animal, it did not seem probable that more definite results would reward any further trouble.

A case which occurred in February at Tolleshunt D'Arcy may be cited as typical of several which have come under my notice. A family with five young children resided in an isolated house at the very border of the parish. One of the children, aged four, appeared to have a cold, and suddenly (at end of a week from first symptoms of illness) began to experience a difficulty in breathing. This difficulty increasing a medical man was sent for, who found "the child very bad indeed with Diphtheria, throat and larynx affected, dyspnæa intense, glands greatly swollen, etc." The child died the following day. Although the child had not been in any way isolated, no other member of the family was attacked. A most careful investigation failed to discover how the patient became infected. There was however a serious nuisance near the back door, arising from a defective privy cesspit and accumulated house refuse. Had this child merely a cold and sore throat in the first

instance? and did this condition of throat render it particularly liable to be attacked by the Diphtheria Bacillus or other organism capable of producing an affection of the throat and larynx resulting in the closing of the air passage and consequent death from suffocation? If so, was the organism derived from the filth so near the house? So many cases of Diphtheria occur in which it is impossible to trace any connection with a pre-existing case, that one often feels driven to the conclusion that such cases as the above, which might have been the starting point of an epidemic under less favourable circumstances, really arise *de novo*, and are in some way connected with the emanations from putrid filth.

Age and sex distribution of cases notified during the year.

	Under 5	5-10	10-15	15-25	25-35	Over 35	Total.
Males	3	1	3	0	1	0	8
Females	0	2	1	3	1	2	9
Total	3	3	4	3	2	2	17

Typhoid Fever.

Of the nine cases of Typhoid Fever notified during the year no no less than seven occurred in Burnham. Three of these were notified in August, one in September, two in October, and one in December.

Name.	Sex.	Age.	Date of Notification.	
T. A.	Male.	15	Aug. 24th.	Had been living at South-end. Come home ill on Aug. 15th. Died.
W. C.	Male.	49	Aug. 24th.	An oyster dredgerman employed off Shoeburyness. Taken ill Aug. 11th, died on 26th.
G. M.	Male.	22	Aug. 30th.	Worked at Shoeburyness as a night-soil driver. Came home ill to be nursed by his mother.
K. F.	Female.	17	Sept. 30th.	Servant in a house with defective drain in cellar. Cellar had been flooded with sewage some time before she was attacked.
W. N.	Female.	36	Oct. 10th.	Ambulatory form. Cause doubtful. Water derived from shallow well. Polluted.
M. C.	Male.	28	Oct. 29th.	A night watchman on oyster beds below sewer outfall. Blocked drain near back door.
J. B.	Male.	26	Dec. 7th.	Oyster dredgerman. Felt ill Nov. 18th and took to bed on 23rd. Typhoid Fever diagnosed Dec. 1st. Cause doubtful.

In a recent Report to your Council I have pointed out that the sewer outfall is near the oyster beds, and that the sewage is discharged into the river without filtration or treatment of any kind. I am convinced that there is a certain amount of danger in discharging crude, typhoid infected sewage near the beds on which oysters are fattening, and I have no doubt something will be done to reduce the risk of infecting the river to a minimum. I have suggested the addition of Alumino-ferric to the raw sewage as a precipitating agent, and the filtration of the sewage after sedimentation has taken place in the tanks. The present tanks were constructed for the purpose of permitting the sewage to be filtered upwards through a bed of gravel and sand, and for containing the filtered sewage when the tide is too high to permit of its being discharged into the river. For some considerable time apparently the filter beds have not been used, and the sewage has run directly into the river, the very coarse solids only being intercepted by an iron grating. The outfall sewer, from the tank to the river, is nearly half full of sludge and is defective in construction. There is no plan of these sewers in the possession of the Surveyor. Such a plan should be prepared, and at the same time the condition of the sewers and the character of the house connections should be ascertained. I am afraid that such an examination will reveal many defects, but it is to the advantage of the town, which is becoming the resort of yachtsmen, to have all such defects discovered and remedied forthwith. In this way I hope that we may prevent Typhoid Fever establishing itself in the parish. We cannot prevent cases being introduced from without, but we may reasonably hope to prevent extensions of the disease by paying attention to the drains and sewers, and maintaining them in a satisfactory condition.

Other Infectious Diseases.

Whooping Cough has been prevalent in one or two parishes, notably in Southminster, but there have been no outbreaks of other diseases worthy of mention. Influenza still lingers in our midst, and during the year 13 deaths have been attributed to this cause.

Mortality Statistics.

Birth-Rate and Infantile Mortality.—During the year 522 births were registered, corresponding to a birth-rate of 28.9 per 1,000 persons. This is higher than the rates for 1892-3, and about the average for the last five years. The number of deaths of infants under one year of age was 46, or 90 per 1,000 births. This is below the average for the last five years, which was 101.

Death-Rate from All Causes.—The total number of deaths registered in the district was 266, corresponding to a death-rate of 14.2. This, however, is not the true death-rate, inasmuch as it does not include the deaths of paupers belonging to the district which occurred in the Union Workhouse. Twenty-six such persons died during the year, and the total number of deaths which should be assigned to the district is therefore 292, which gives a death-rate of 16.1 per 1,000 persons. The mean rate for the last five years is 16.2, but this is higher than the previous five years, which was only 16.1.

By far the highest mortality occurred in the Maldon Sub-registration District (Table II.), in which the death-rate was 19.7. On reference to Table III. it will be found that the mortality generally was excessive in the first quarter of the year, and particularly in the Maldon district, where the deaths were at the rate of 31.0 per 1,000 persons per annum.

In the groups of parishes (Table VII.) the rates varied from 9.3 in the first group to 24.2 in the fifth, which includes Tillingham only. Tollesbury, as usual, notwithstanding its impure water supply has a very low death-rate, and the group of parishes in which the want of water is most keenly felt, has, as usual, a very high death-rate. I venture to anticipate that this high-rate of mortality will not be maintained if the proposed scheme for supplying this district with water is carried out.

I must, however, point out once again that too much reliance must not be placed on death-rates as an indication of sanitary conditions over areas with such small populations.

DEATHS FROM ZYMOTIC DISEASES.—It is satisfactory to be able to record that the deaths from the seven principal Zymotic diseases have been much fewer than usual. There have been—

3	deaths from	Small Pox
6	,,	Diphtheria and Croup
3	,,	Typhoid Fever
1	,,	Puerperal Fever
1	,,	Erysipelas
4	,,	Whooping Cough
0	,,	Measles, Scarlet Fever, and Diarrhœa.

The Zymotic death-rate is .94 per 1,000 persons, the average for the past five years being 1.6.

DEATHS FROM OTHER CAUSES.—Influenza, as previously remarked, is still in this district seriously affecting the mortality, no less than 13 deaths during the year having been caused by it. When we reflect that in very many cases in which it does not cause death, it leaves the patients debilitated, there is little doubt that many more deaths are indirectly attributable to it.

PHTHISIS (Consumption) has caused 21 deaths. This is about the average. One death was registered as being due to Malaria (Ague). This is the only death recorded from this cause for many years past, yet in past centuries Malaria was the most frequent cause of death in our marshy districts.

An unusually large number of deaths was attributable to injuries, 13 being registered. In the previous year there were only five.

DEATHS NOT CERTIFIED BY MEDICAL PRACTITIONERS.—At present I have no means of ascertaining how many such deaths occur in the district, and I should like the registrars to adopt different forms for their returns, or in some way to distinguish those not certified by a medical man. We have a considerable number of "Peculiar People" in certain parishes, who probably never call in a medical practitioner, and but few of the deaths amongst these people are investigated by the Coroner. It is to be hoped that Parliament shortly will find time to give effect to some of the recommendations of the Select Committee which recently reported upon the defects in our present system of Death Certification and Registration.

I am, Gentlemen,

Yours obediently,

JOHN C. THRESH, *M.O.H.*

MALDON RURAL SANITARY DISTRICT.

TABLE I.

Birth and Death-Rates and Infantile Mortality during 1894, compared with previous years.

PERIOD.	Per 1000 Population.			Infantile Mortality. Deaths of Infants under 1 year, per 1000 Births.
	Birth-rate.	Death-rate. All Causes.	Death-rate. Seven Zymotic Diseases	
1894	28.9	16.1	.94	90
1893	27.7	14.75	1.7	90
1892	26.8	16.9	2.3	118
1891	29.7	16.3	.83	95
1890	29.8	16.9	1.99	111
1881-90	30.6	15.1	1.53	90

TABLE II.

SUB-REGISTRATION DISTRICTS.

DISTRICT.	1894.			1881-93.		
	Death Rate.	Zymotic Death Rate.	Infantile Mortality.	Death Rate.	Zymotic Death Rate.	Infantile Mortality.
Southminster	14.7	2.1	87	15.8	1.9	97
Bradwell	17.1	—	115	13.9	1.1	77
Maldon	19.7	1.2	115	16.3	1.1	94
Tollesbury	15.0	.27	67	14.6	1.5	90

TABLE III.

Quarterly Returns of Mortality in Sub-Registration Districts.

Deaths per 1000 Persons living per annum.

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	1894
Southminster	20.1	7.2	13.4	17.7	14.7
Bradwell	15.9	22.2	7.9	22.2	17.1
Maldon	31.0	17.8	10.8	19.2	19.7
Tollesbury	20.7	15.6	9.1	14.0	15.0
Maldon R.S.D. 1894	22.2	14.6	10.4	17.0	16.1
Maldon R.S.D. 1893	15.8	15.3	16.0	13.3	14.75

TABLE IV.

TABLE OF DEATHS during the year 1894, in the Rural Sanitary District of Maldon, classified according to Diseases, Ages, and Localities.

Sub-registration District	Mortality from all causes, at subjoined Ages								Mortality from subjoined causes, distinguishing Deaths of Children under 5 Years of Age													
									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
												Fevers.												
	At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards.		Smallpox	Diphtheria	Membranous Croup	Enteric or Typhoid	Continued	Puerperal	Erysipelas	Whooping Cough	Diarrhœa and Dysentery	Ague	Phthisis	Bronchitis, Pneumonia & Pleurisy	Heart Disease	Injuries	All other Diseases	Total
SOUTHMINSTER..	63	13	3	1	3	16	27	Under 5	—	3	1	—	—	—	—	2	—	—	—	1	—	—	9	16
								5 upwards	—	—	—	4	—	—	—	—	—	—	3	3	2	3	32	47
BRADWELL	39	9	1	0	1	10	18	Under 5	—	—	—	—	—	—	—	—	—	—	—	3	—	—	7	10
								5 upwards	—	—	—	—	—	—	1	—	—	—	5	4	1	3	15	29
TOLLESBURY	105	14	9	9	4	27	42	Under 5	—	1	1	—	—	—	—	—	—	—	—	5	—	1	15	23
								5 upwards	—	—	—	—	—	—	—	—	—	1	8	11	12	3	47	82
MALDON	59	10	6	2	3	22	16	Under 5	—	—	—	—	—	—	—	2	—	—	—	3	—	—	11	16
								5 upwards	2	—	—	—	—	—	—	—	—	—	3	4	4	2	28	43
Total.....	266	46	19	12	11	75	103	Under 5	—	4	2	—	—	—	—	4	—	—	—	12	—	1	42	65
								5 upwards	2	—	—	4	—	—	1	—	—	1	19	22	19	11	122	201
The subjoined numbers have also to be taken into account in judging of the above records of mortality																								
Deaths occurring outside the district among persons belonging thereto, in Union Workhouse.	26	—	—	—	2	4	20	Under 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
								5 upwards	1	—	—	—	—	—	—	—	—	—	2	1	1	1	20	26
Deaths occ'ring within the district among persons not belonging thereto.	—	—	—	—	—	—	—	Under 5																
								5 upwards																

TABLE V.

TABLE 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 Maldon.

Sub-Registration District.	Population, 1891.	Registered Births.	Age.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.												
				Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Fevers.					Cholera.	Erysipelas.	Totals.
								Typhus.	Enteric or Typhoid.	Continued	Relapsing.	Puerperal.			
SOUTHMINSTER	4766	149	Under 5	—	2	1	—	—	—	—	—	—	—	—	3
			5 upwards	2	4	10	—	—	9	—	—	—	—	4	29
BRADWELL ...	2516	78	Under 5	—	—	—	—	—	—	—	—	—	—	—	—
			5 upwards	—	1	—	—	—	—	—	—	1 ?	—	3	5
MALDON	3353	87	Under 5	—	3	—	—	—	—	—	—	—	—	—	3
			5 upwards	10	10	4	—	—	—	—	—	—	—	1	25
TOLLESBURY ...	7464	208	Under 5	—	3	1	1	—	—	—	—	—	—	—	5
			5 upwards	3	9	—	—	—	—	—	—	—	—	6	18
Totals ...	18099	522	Under 5	—	8	2	1	—	—	—	—	—	—	—	11
			5 upwards	15	24	14	—	—	9	—	—	1	—	14	77

N.B.—Notification of Infectious Disease has been compulsory since January 1st, 1890.
There is no Hospital for Infectious Diseases in the District.

TABLE VI.

Maldon Rural Sanitary District.

Table of Meteorological Data, Deaths, Infectious Diseases, &c., for Year ending Dec. 31st, 1894.

1894	Meteorological Data.					Deaths, all Causes.			Deaths from Zymotic Diseases								Infectious Diseases Notified.					
Month.	Mean Temperature	Mean daily range of Temperature	Relative Humidity.	No. of Rainy Days.	Rainfall.	Total Deaths.	Under 1 Year.	Over 65 Years.	Smallpox	M. Croup and Diphtheria.	Fevers.	Diarrhœa.	Erysipelas.	Whooping Cough.	Measles.	Total.	Small Pox.	Scarlet Fever	Croup and Diphtheria.	Fevers.	Erysipelas.	Total.
January	36.35	11.3	93.	25	2.51	*38	4	18	—	3	—	—	—	—	—	3	—	4	4	0	3	11
February	40.5	12.6	88.	15	1.24	26	4	10	—	1	—	—	—	—	—	1	—	0	4	1	1	6
March	43.6	19.1	84.	11	.77	36	9	14	—	—	—	—	—	—	—	0	—	7	1	0	3	11
April	50.35	19.7	78.	13	1.69	24	3	10	—	—	—	—	1	—	—	1	—	8	1	0	2	11
May	50.2	18.6	72.	15	1.46	24	3	9	—	1	—	—	—	—	—	1	—	0	1	0	0	1
June	56.1	23.2	75.5	11	1.87	19	0	13	1	—	—	—	—	—	—	1	9	1	0	0	1	11
July	62.5	19.4	79.	19	2.82	13	2	3	2	—	—	—	—	1	—	3	4	1	1	0	1	7
August	60.15	16.3	78.	18	1.97	18	4	5	—	—	2	—	—	1	—	3	—	1	1	4	1	7
September	53.7	15.0	83.	16	2.12	17	6	3	—	—	1	—	—	1	—	2	—	6	2	1	2	11
October	49.65	11.3	88.	21	3.11	25	1	15	—	—	—	—	—	—	—	0	2	2	0	2	0	6
November	45.4	11.4	92.	17	3.08	23	3	8	—	1	1	—	—	—	—	2	—	2	2	0	0	4
December	40.2	10.8	94.	16	1.70	29	7	15	—	—	—	—	—	1	—	1	—	0	0	2	0	2
Means and Totals 1894	49.1	15.7	83.7	197	24.34	292	46	123	3	6	4	—	1	4	—	18	15	32	17	10	14	88
Means and Totals 1893	49.8	18.5	81.3	150	20.21	266	45	109	—	7	5	9	2	1	8	32	1	75	57	17	14	164
Means and Totals 1892	47.2	16.55	84.3	162	24.32	306	56	117	—	7	1	6	1	19	12	46	0	11	128	13	12	164
Means and Totals 1891	47.7	16.0	83.3	187	22.74	295	51	132	—	5	3	1	—	3	3	15	1	22	59	29	11	122

* Four in December, 1893.

TABLE VII.

DEATH-RATES IN THE PARISHES, 1894.

PARISHES.	1894. All Causes.	DEATH RATE.—Mean for 13 years, 1881—93. All Causes.	Population.
1 Asheldham, Dengie, and St. Lawrence	9.3	10.2	648
2 Tollesbury	11.8	12.8	1608
3 Langford and the Tothams	14.5	14.9	1238
4 Heybridge	19.1	14.6	1621
5 Tillingham	24.2	16.1	951
6 Woodham Walter and Mortimer	19.0	16.3	789
7 Cold Norton, Stow, Purleigh, and Hazeleigh	22.2	17.4	1309
8 Bradwell-on-Sea	15.5	16.0	905
9 Cricksea, Althorne, and Mayland	14.0	16.3	643
10 Goldhanger and Tolleshunt D'Arcy	12.7	15.3	1336
11 Southminster	16.1	16.8	1303
12 Ulting, Wickham Bishops, Great and Little Braxted ...	15.1	15.6	1124
13 Burnham	14.1	15.0	2336
14 Tolleshunts Major and Knights	20.3	14.0	885
15 Steeple, Latchingdon, Mundon, and North Fambridge ...	16.4	16.3	1338

TABLE VIII.

MALDON RURAL SANITARY DISTRICT.

TABLE shewing the Total Number of BIRTHS and DEATHS, also the Number of Deaths at various ages and from various diseases, each year, from 1890 to 1894.

YEAR.	BIRTHS	Total Deaths.	Under 1 yr.	1 to 5	5 to 15	15 to 25	25 to 65	Over 65	Smallpox.	Diphtheria.	M. Croup.	Typhoid Fever.	Continued Fever	Puerperal Fever.	Erysipelas.	Measles.	WhoopingCough	Diarrhœa.	Total Zymotic Diseases.	Phthisis.
1890	540	307	60	29	19	12	68	119	—	4	3	7	—	—	2	1	19	—	36	30
1891	536	294	51	19	10	17	65	132	—	4	1	1	1	1	—	3	3	1	15	23
1892	463	307	56	38	14	12	69	118	—	6	1	—	1	—	1	12	19	6	46	21
1893	500	266	45	23	15	14	60	109	—	5	2	3	—	2	2	8	1	9	32	18
1894	522	292	46	19	12	13	79	123	3	4	2	4	—	—	1	—	4	—	18	21
Mean for 5 years.	512	293	52	26	14	14	68	120	.60	4.6	1.8	3.	.4	.6	1.2	4.8	9.	3.2	25	22.6