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

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1894.

REPORT

OF

Medical Officer of Health

TO THE

Downham Rural District Council.

Downham Market,
Feb. 14th, 1894.

To the Chairman and Members of the Downham Rural District Council.

GENTLEMEN.—

I have pleasure in presenting you with my annual report for 1894.

As has hitherto been my custom I shall preface this report with a short account of the physical geography of the district.

Area of District.

The Downham Rural District comprises an area of 82,834 acres, situated in the South-West of Norfolk.

The District is divided into two almost equal parts by the river Ouse, and an imaginary line drawn on the map about one mile to the east of, and parallel to this river, will be found to divide the District into two parts differing widely from each other in many ways.

Geology of District.

To the west of this line we have the edge of the great Fen District, extending from Welney and Hilgay Fen northwards towards the Wash, then towards the east comes a gentle rising slope leading up to the line of low chalk hills which runs from Hunstanton and Burnham Westgate southwards by Swaffham to Thetford. West of the above mentioned line, in the Fen District, we find the Jurassic formation underlying the comparatively recent deposit of clay, silt and peat. East of this line, which, though I have called it imaginary, is in reality not so, for it is represented by traces of an old sea beach, we come to the rocks comprising the solid geology of the county; these have an eastward dip, so that the oldest rocks crop out in this portion of the District. On the eastern edge of the line we have a narrow strip of Kimmeridge clay; this runs southwards from Watlington to near Downham Market, and is the only portion of the Oolitic formation To the east of this we have the Necomian formation; here, the wealden strata being absent, the lower greensand reposes directly on the Kimmeridge clay; it is locally called *carstone*. The Lower Greensand consists of alternating beds of red and white sand and sandstone about 70 feet in thickness; it forms the lower portion of Hunstanton cliff at the extreme north-west of Norfolk, where it is of a yellow tint above with a dark brown below, loose and sandy, full of small pebbles: from this point the sandstone can be traced southward by Snettisham, Castle Rising and Downham to Denver. The hard beds are used for building purposes and many of the houses in the district are built of this stone, giving the villages a very picturesque appearance. To the east of the lower sandstone we find a stiff blue clay, the well known Gault. Further eastward still, we find at Marham, West Dereham and Stoke Ferry the Cretaceous formation presenting itself.

Water Supply.

As may be gathered from the foregoing sketch of the geology, the natural water varies considerably in the two portions into which I have divided the district.

Water from the shallow wells in the fens contains a large quantity of solids, free and albuminoid ammonia. It is turbid, brackish and wholly unfit for use for domestic purposes. The inhabitants of the fens are therefore wholly dependent upon collected rain water and river water. Where the former can be collected in a clean state and stored in proper cisterns it constitutes a fairly pure source of water supply. The water from the rivers is used by many, but it is unsafe, owing to the fact that the towns and villages on the banks discharge their sewage into it.

The village of Wiggenhall St. German's is an exception as, though it is situated in the fens, the village is provided with an excellent public supply of water from the main conveying water from Marham to the Wisbech Waterworks. It has been proposed many times during the past few years that this supply should be extended to Wiggenhall St Mary Magdalene, and to the hamlet of Stow Bridge. This, I am informed, could be done without any very serious outlay, and would undoubtedly be a great benefit to these villages.

In the eastern portion of the district water is derived from shallow wells. I have analyzed many samples of these waters, and find them to differ exceedingly, as they are taken from the different strata I have found water from the wells sunk in the lower greensand to contain a very large quantity of chlorides, very little free and albuminoid ammonia, and in some places a deposit of peroxide of iron. When the latter deposit has been removed by filtration the water is found to be very pure. Wells sunk in the gault and cretaceous formation yield a bright and palatable, but extremely hard water.

As shallow wells are extremely liable to pollution with animal and vegetable matter, special attention has been paid to this matter by both the Sanitary Inspector and myself, when making our systematic inspection of the district

In the more thickly populated villages it is next to impossible to insure that water from shallow wells shall be pure, while the present midden system is in vogue. As I have pointed out in my previous reports, these are often of the most primitive description, being merely holes dug in the ground lined with loose and uncemented brickwork covered with a shed. In many cases these were found built within from four to five yards of the well, and in some instances, almost directly above ; and many cases of the most disgusting and dangerous contamination of water have been brought to light. It has also been customary in times past to place privies in lean-to sheds at the ends or sides of the houses, and in one case I found one in the house itself, and such serious pollution of the subsoil of the houses is thus caused that scarcely any wonder can be felt at the frequent occurrence of sporadic cases of diptheria. During the past few years great progress has been made in remedying these evils, and at the present time nearly, if not quite, all the most glaring cases of the kind have been dealt with.

Removal of Refuse.

The question of removal of refuse is, I consider, above all others the one most requiring attention at your hands at the present time. Liquid sewage is disposed

of in various ways, some houses are provided with cesspools. This method is free from objection if the cesspool be made watertight and properly covered and ventilated, regularly emptied at suitable intervals, and situated at a sufficient distance from any house, road or water supply. Sometimes the sewage is led into a pit, or "dumb-well" in porous soil, the solids being removed at intervals, and the liquids escaping into the ground. This practice is dangerous if the pit be near any dwelling or water supply, and is not free from the risk of polluting water in any case. In some of the villages the sewage is conveyed from the houses to the roadside drains, thus virtually making these drains sewers. I might mention Fincham, Denver and Hilgay as instances of villages to a certain extent drained in this manner.

In many instances where cottages are provided with gardens there are no drains at all, and the occupiers of the houses throw the liquid refuse on the ground. Unfortunately, though this method would be entirely unobjectionable if the sewage were thrown over growing plants some distance from the house and in different spots daily, serious nuisances is often caused by the inhabitants neglecting this precaution and merely thowing it out of the back door where it collects in pools and stagnates. The method of disposal of sewage I am in the habit of recommending, in cases where houses are provided with a sufficient amount of garden, is subsoil irrigation, or, simple irrigation. Subsoil irrigation works well where the conditions as to fall and soil are suitable. By this method the drainage is conveyed into a branching system of loosely laid agricultural pipes, which allow it to escape into the subsoil. The pipes are laid about a foot or more beneath the surface. It is often neccessary to relay them at intervals, owing to a deposit of grease and other obstructive matter, but this can to some extent be prevented by the use of flush tanks and grease traps at the house end of the drain. The chief point is to expose the sewage to the influence of growing vegetation, not so much for the sake of utilizing it as of rendering it innocuous. Sewage applied to the surface (simple irrigation) is partly absorbed by vegetation, partly oxidized (nitrified), in the layers of the earth. The sewage passed into leaking cesspools, or dumb-wells, escapes both forms of purification, and simply pollutes the soil and subsoil water.

Dry refuse is deposited in ashpits, and these ashpits are so constructed as to be a fertile source of disease. Secs. 35 and 36 of "The Public Health Act," state that houses are to be supplied with ashpits supplied with proper doors and coverings. I am afraid that very few ashpits of this description are to be found in the district. The necessity for the provision of proper coverings to ashpits, to prevent access of rain to the contents, seem to me to be too obvious to need stating. The ashpits are made the receptacles of all solid household refuse, such as ashes, waste vegetables, etc. If the ashes are kept in a dry state they tend to destroy all organic or vegetable matter added to them, but if they are allowed to become wet the result is the reverse, and a foul heap of decaying animal and vegetable matter pollutes the air around.

I have already stated that up to the present time the method in general use in this district for the disposal of excreta has been the midden system. During the past few years much of the time of the Sanitary Inspector has been occupied

in searching out all cases where drinking water might by any possibility be polluted through the too close proximity of these privies to wells, and in all cases where there might be any suspicion of water contamination, the existing privies have been converted into pail closets. I regret to say that there appears to be a rooted objection among the inhabitants of the district to pail closets. They assert, as a reason for their objection, that the pails require emptying so frequently. Now I cannot too strongly point out that this necessity of frequent scavenging is the very reason why this system is better than any other for country districts. If privies were constructed on a proper principle such as that suggested in the Model Bye-Laws of the Local Government Board, these would require emptying quite as frequently. Another objection urged against pail closets is that in the case of a house with no garden attached there is nowhere to empty the pails and they cannot dispose of their contents. This is certainly a reasonable objection if the householders are made responsible for the scavenging, but it is also an objection which might apply to all other approved sanitary methods for the disposal of human refuse, for all these methods aim at very frequent removal of all excrement from the premises. As an instance of a village in which this objection applies to nearly every house I might mention Hilgay. I reported the insanitary state of this village to you some time since and as a result a special committee has been elected and instructed to report on it, and as a result of its deliberations I might say I trust in a very short time this village, which has for some time been a standing reproach to the district, will become the best drained and scavenged village in the district.

Sanitary Work of the year.

Examination of the Journal of the Sanitary Inspector for the year shows :—

6 New earth closets erected.
21 Privies repaired and erected.
38 Privies cleansed by order of the District Council.
13 Filthy houses cleansed.
12 Cases of overcrowding dealt with
4 Houses have been reported unfit for habitation ; of which two have been pulled down, one repaired, and one is in course of repair.
10 Drains repaired or newly constructed.
10 Certificates to new houses with proper water supply have been granted.
149 Nuisances of various kinds have been abated. In one case of a dirty house proceedings were taken against the occupier and a conviction obtained.

Zymotic Disease.

The total number of cases of infectious disease occurring in the district during 1894, was 118.

Scarlatina.

Twenty-five cases of Scarlatina have been reported. These were all sporadic cases and they could in each instance be traced to contagion from previous cases in the adjoining districts.

Diphtheria.

A severe and fatal epidemic of Diphtheria prevailed during the greater part of the year in the village of Hilgay. The first case was notified to me on the 17th

February. The patient was a young married woman residing on the Ten-mile Bank. The case proved fatal. The next cases were reported on March 9th and the sufferers were two sisters and a brother of the first patient. The house in which these latter cases occurred was situated in Hilgay village, three miles from the house in which the first case commenced, and the infection was probably conveyed in the clothing of the mother who had visited and nursed her sick daughter. No fresh cases were notified until April 12th when 12 cases were reported in one day, and from that time until the end of the year the disease became extremely prevalent. When the first case was reported I took the precaution to exclude all the other members of the family from school. The National School was closed for holidays from March 23rd to April 2nd, and from August 9th to September 24th; and it is instructive to observe that the epidemic spread more rapidly during and immediately after these periods, and this was doubtlessly caused by some of the parents of the sick children not being sufficiently careful to prevent healthy children from visiting the patients. Several such instances of needless exposure of patients suffering from the disease came to my knowledge and I reported one such case to the Sanitary Authority where a child was fatally affected with Diptheria after being admitted to the bedside of a little school-fellow suffering from this disease. Although the most culpable negligence was displayed in this case nothing could be done by way of punishment, as Sec. 126 of the Public Health Act only provides against exposure of infected persons "in any street, public place, shop, inn, or public conveyance.

Membranous Croup. One case of Membranous Croup occured in Hilgay during the epidemic of Diphtheria.

Enteric Fever. Five cases of Enteric Fever were notified. All these occurred in houses deriving their water supply from the River Ouse.

Puerperal Fever. Four cases of Puerperal Fever were notified. Two of these were evidently due to the medical attendant being infected by a case of Plegmonous Erysipelas.

Erysipelas. Seventeen cases of Erysipelas were reported, all being sporadic.

During the year the district was visited and inspected by Dr. Wheaton, one of the Medical Inspectors of the Local Government Board, and he very strongly urged the necessity that exists in the district for an isolation hospital for infectious cases. I cannot too emphatically support this recommendation. As I have frequently stated in my previous reports, it is practically impossible to isolate cases of infectious disease in cottages occupied by the labouring classes, and in the absence of some such institution it is wholly impossible to prevent wide-spread epidemics of contagious diseases such as that which has proved so fatal at Hilgay this year. I would earnestly suggest that this subject should receive your attention during the ensuing year, and hope some active steps may be taken by you in the matter at some early date.

Vital Statistics The total number of deaths occurring in the district during the year was 253.

To these 253 deaths must be added the deaths of 10 persons belonging to the Rural District but dying in the Union Workhouse, which is situated in the Downham Urban District. The number of deaths to be taken into consideration in calculating the death-rate for the year is therefore 263, yielding a death-rate from all causes of 16·6 per 1,000.

In giving the Zymotic death-rate of a community, it is customary to apply the term, not to the mortality of all diseases classed as zymotic, but to the death-rate from the seven principal zymotic diseases, namely:—Small pox, Measles, Scarlatina, Diphtheria, Whooping-cough, Fever (typhus, simple, continued and enteric), and Diarrhœa. Using the word zymotic in this sense, the total number of deaths from these diseases was 26, and the zymotic death-rate was therefore 1 64 per 1,000.

The deaths from the individual Zymotic diseases were as follows:—

	No. of Deaths.	Death rate per 1,000 living.
Scarlatina	1	0·06
Diphtheria	10	0·63
Whooping Cough	12	0·76
Diarrhœa	2	0·12
Enteric Fever	1	0·06
	Total 26	1·63

The death-rate from Phthisis was 0·82 per 1,000

The death-rate from Bronchitis, Pneumonia, and Pleurisy was 2·33 per 1,000, and was not much above the average, in spite of the prevalence of the epidemic of Influenza, which caused a great increase in the number of cases of Bronchitis and Pneumonia.

Birth-rate.

The birth-rate was 25·06 per 1,000. The total number of births registered during the year was 397, and the number of deaths occurring in children below one year of age being 83, the infantile mortality per 1,000 births was 5·24.

I have the honour to be,

Gentlemen,

Your obedient Servant,

F. W. KIRKHAM,

Medical Officer of Health.