AN OUTBREAK OF ENTERIC FEVER IN GALGATE 1882

FROM THE ARCHIVES

Until 1974, when Medical Officers of Health were transferred from local authority employment to the NHS, they enjoyed two valuable privileges. Firstly, they had absolute security of tenure, so they could not be sacked for telling their employers what needed attention, however unacceptable the information. Secondly, they could approach the relevant government department direct if their employing authority did not act on their advice, and the health of the public was being adversely affected.

This latter action, never taken lightly, was taken by the Medical Officer of Health for Lancaster Rural Sanitary District in 1882.

The following are extracts from the subsequent "Report by Dr FW Barry to the Local Government Board on the sanitary conditions of Galgate and on the prevalence of Enteric Fever in the village." (Spelling, punctuation and grammar are reproduced as in the original report.)

"Galgate is a village in the Rural Sanitary District of Lancaster situated about four miles to the south of Lancaster. The greater part of the village lies on the sloping ground to the east of the River Condor, and surrounded on all sides by low hills except on the west, where there is a huge railway embankment. The population as ascertained by a house to house visitation at the time of my inspection, was 743, living in 166 houses, there being also 14 unoccupied houses in the village. The inhabitants are chiefly engaged either in silk manufacture or agriculture.

Water Supply – The water supply throughout the village is obtained from surface wells which it is stated vary in depth, according to their site, from 6 to 18 feet. There are 17 wells at present in use, four having been closed by the inhabitants themselves on account of their palpable foulness, but even regarding many of the others, there can be little doubt that from their surroundings they are equally subject to pollution.

In dangerous and often in close proximity to many of these wells are placed, besides heaps of general refuse, manure, and undrained pigsties, large cesspit privies, the wet contents of which soak into the surrounding soil, these sources of nuisance being also situated at a higher level than the wells; even where these nuisances are not in close proximity to the wells, the latter are often sunk in the ground on the surface of which the inhabitants habitually throw slops and liquid refuse.

The following amongst many similar instances came before my notice.

Well C – This well, from which 144 persons habitually take their supply, is situated in a back-yard, with a slop stone waste pipe discharging on to a rubble pavement within two feet of the top of the well, and two cesspit privies for the use of four houses, each having a capacity of 60 cubic feet, at a distance of 25 feet from the well.

Well I – This well, which is stated to supply 116 persons, was found to be situated within 19 feet of a heap of pig manure, and slaughter-house offal, 20 feet of an undrained and filthy pigstye, and 24 feet of a cesspit privy having a capacity of 60 cubic feet.

Well M – This well, which is the one from which all the persons recently affected with enteric fever obtained their water, was found to have a slop sink situated within four feet of the top of the well, whilst the rubble pavement over the well and around the sink was covered with slops and liquid refuse. There was further a cesspit privy, with a capacity of 108 cubic feet, situate at a distance of 22 feet, and a range of four filthy pigsties at a distance of 28 feet from the well.

Means of Excrement and Refuse Disposal – Throughout Galgate common privy middens are the prevalent type. In some instances these are covered over, but in a large number the pits are sunk below the level of the ground, and are simply walled with rubble, and thus from the porous nature of subsoil, the pollution of the soil and of any wells in the neighbourhood is ensured. In the case of one row of houses, the cesspits project under the public roadway. The capacity of these receptacles is such as to enable the inhabitants to store up excrement and filth for from four to six months, and they are so constructed as to render the proper mingling of ashes and dry refuse with the excreta impossible. The privy accommodation is also in some cases deficient, e.g., in Makinson's yard there are nine houses with 36 inhabitants, having only one privy. There is no system of scavenging in the village, hence the inhabitants have to get rid of their midden contents as they best can.



Makinson's Row

The privy arrangements of two blocks of houses, known respectively as John and George street, call for special notice. These houses are arranged in two blocks of six and seven

respectively, parallel to one another, with a space of 20 feet between them at the back. Down the centre of this space runs a walled passage four feet wide, having a flagged pavement, and into this passage the contents of 13 privies are discharged, in addition to all the solid and vegetable refuse from the houses in question. This passage being open to the sky, its condition after a shower of rain is stated to be simply indescribable. Outside, and at the end of this passage, a large heap of ashes, vegetable, and other solid refuse was accumulated. When the contents of the passage were ordered to be removed, this was done by placing them in a heap in front of the houses in John Street, at a distance from them of about 40 feet, and there caused such a nuisance that the heap had to be covered with a thick layer of earth and lime.

Dwelling Accommodation – This is as a rule fairly good. In some instances the yards common to groups of houses are roughly paved with cobble stones, in the interstices of which dirt accumulates and foul water lodges, especially around gullies. Against a house near the chapel, a large manure heap was noticed, the liquid from which was evidently soaking into the foundations, and so under the house. Pigs are in many cases kept too near houses, the sties sometimes adjoining them. The ventilation of bedrooms is, as a rule, defective.

From the above details it is evident that, owing to the defective sanitary conditions leading to the excremental poisoning of the air breathed and water drunk, ample means exist in Galgate for the spread of enteric fever when once introduced.

Prevalence of Enteric Fever – Enteric fever had been prevalent in Galgate for some time prior to my inspection, 19 cases having occurred in seven households since July 25th, and of these, two had proved fatal. Previously, however, to this outbreak, it is stated that occasional cases had occurred in the village since the end of 1881, when the disease was apparently introduced from Ulverston, where it was at that time epidemic.

In the following table will be found a complete list of cases with their localities, and dates of attack as far as could be ascertained.

week ending	locality	date of attack	number of cases
July 25	Chapel Row	July 25	1
August 8	Makinson's Row	August 4	1
	" "	" "	1
	John St	" "	2
	Makinson's Row	August 7	2
August 15	" "	August 12	1
	" "	" "	1
August 22	" "	August 16	2
	George St	August 18	1
	John St	August 19	1
	Chapel Row	August 21	2
	Makinson's Row	" "	1
August 29	" "	August 23	1
	" "	August 26	1
September 12	Railway Bridge	September 8	1

The disease could not be traced to the milk supply, as the seven effected households obtained their milk from four independent sources, from three of which the greater part of the village is supplied. Upon examination of the dairies, I found them to be scrupulously clean, and there was no history of any disease in the families of the dairy keepers. Upon inquiry as to the water supply, however, it was found that all the patients, with the exception of one, habitually obtained their supply from the well known as "Makinson's Well." In the one case referred to as an exception, the patient lived at the other end of the village, and had ordinarily another water supply, but for some time previous to her attack she had been living at the house of and attending on one of the other cases, and during that time had of course been drinking the same water. The well in question was found to supply 12 houses, which at the time of the outbreak contained 51 inhabitants.

The incidence of the fever on the population of all these houses at different ages is given:-

age	number of persons living	number of persons attacked	attacked per cent of total
0-5 years	7	–	–
5-15	9	6	66.6
15-25	17	7	41.1
25-40	11	4	36.3
40 upwards	7	2	28.6

From this table will be seen the intensity of the incidence of the fever on a particular group of persons having a common water supply, and also the varying intensity of its incidence in accordance with age. The percentage of persons attacked agrees in a remarkable manner with that which has been found to obtain in previous outbreaks, the exciting cause of which has been the water supply.

"These facts appear to point conclusively to the well in Makinson's Yard as being the source of the epidemic"

These facts appear to point conclusively to the well in Makinson's Yard as being the source of the epidemic. As to the excremental pollution of this well there can be no question, but the exact manner in which it became specifically contaminated could not be ascertained. The view that this well was the cause of the outbreak has been corroborated by the fact that since its disuse by the inhabitants no further case has occurred.

Sanitary Administration – Dr Harker is the Medical Officer of Health for the whole of the Rural Sanitary District, and receives a salary of 50L per annum for his services. When cases of infectious disease occur in the practise of other medical men in his district, information is sent to him, and when this happens he visits the houses with the Inspector of Nuisances, and gives directions for the carrying out of such precautionary measures as are possible. Since, however, no means have been provided by the Authority for the isolation of infectious cases, nor for the efficient disinfection of infected articles, little can be done beyond the distribution of certain "disinfectants," which are mostly used in the midden privies and drain inlets.

The Inspector of Nuisances (Mr Jowett), who also holds the office of Surveyor, gives his entire services at a salary of 190L per annum. He appears to be a painstaking officer, and is well acquainted with his district. A considerable portion of his time must necessarily be taken up by his duties as surveyor and these at present prevent him from giving sufficient time to his duties as Inspector of Nuisances. In this district there can be no doubt that, owing to the faulty means

for the disposal of excrement and refuse, there is enough work to take up the whole time of any one official, simply in inspecting midden privies, giving notices as to the removal of their contents, and in seeing that the notices are complied with.

With regard to the action of the Sanitary Authority during the recent outbreaks of enteric fever in Galgate, it would appear that immediately upon the primary outbreak in December being reported, prompt measures were taken by the Medical officer of Health, to the best of his ability, for preventing the spread of the disease, such as "disinfection" of excreta, destruction of bedding, &c. This was done in all cases of which he had cognizance; but in some instances the medical attendant failed to report to Dr Harker, and, of course, with regard to these, nothing could be done.



Former silk mill

Of the outbreak into which I was specially called upon to investigate, no intimation appears to have been received by the Sanitary Authority or its officers until August 19th, when a letter was sent to the Board by Mr John Todd, a medical practitioner residing in Lancaster, who stated that he had at the time, six cases of enteric fever in Galgate under his charge. The Medical Officer of Health and Inspector of Nuisances were at once directed to visit Galgate, and to take all precautions for preventing the spread of the disease. The Medical Officer of Health, who, through some misunderstanding, failed to secure the co-operation of Mr Todd, was refused admission into the houses in which the disease was reported to exist, and hence he was unable to take any special action in the matter. The Inspector of Nuisances supplied the inmates with "disinfectants", himself disinfected the drains and privies in the neighbourhood, and also directed the removal of a number of nuisances. As the surroundings of the well were such as to render its recurring pollution probable, the Inspector of Nuisances warned the people not to use the water. It is to be regretted that the entente cordiale did not apparently exist between Mr Todd and Dr Harker, and that that hearty co-operation so necessary in these cases was not secured.

With regard to the insanitary conditions already noted in previous paragraphs of this report I find that, so far back as January 1873, the polluted water-supply of the village and the defective and insufficient privy arrangements in George and John Street, Chapel Row, Makinson's Yard, &c., were made the subject of a report to the Sanitary Committee, but no action was apparently taken.

On October 5th I had an interview with the Rural Sanitary Authority, when I recommended the following measures as being of urgent necessity:-

The provision of wholesome water-supply to those of the inhabitants of Galgate as are at present drinking from polluted sources.

The immediate removal by the Authority of the present accumulations of ashes, manure, vegetable and other refuse, due precautions being taken for their efficient disinfection, before removal, under the advice of the Medical Officer of Health.

The provision of temporary means for the isolation of fever patients who cannot be isolated in their own homes, in anticipation of any extension of the present outbreak.

October 1882 Fred W Barry MD

RECOMMENDATIONS

Measures should be taken under section 70 of the Public Health Act of 1875 to secure the closing of such wells as are polluted within the meaning of that section.

An ample and wholesome water supply should be provided throughout the village. As it is quite evident that no such supply can be procured from existing sources, the Sanitary Authority should without delay obtain skilled advice as to the best means whereby this recommendation can be carried out.

"The condition of the privies should receive the early attention of the Sanitary Authority and arrangements should be made so that the nuisance resulting from the present system of excrement disposal may be prevented"

The condition of the privies should receive the early attention of the Sanitary Authority and arrangements should be made so that the nuisance resulting from the present system of excrement disposal may be prevented. If any form of privy be retained, it should be so constructed and managed that nothing can escape from the privy pit into the neighbouring soil, that dryness of contents, thorough mingling of ashes with excreta, and frequent removal of contents should be ensured; conditions which will be most easily obtained by placing some moveable receptacle, such as a galvanised iron pail on wheels, beneath the privy seat. Whatever system is adopted, the closets should be under the constant control and supervision of the Sanitary Authority, who should themselves make arrangements for the regular removal of the contents. All privies that cause nuisance should be efficiently dealt with as such. Every new house built should be required to have a sufficient privy or watercloset, and byelaws should be made to ensure their proper construction.

Wherever yards are, from defective paving or otherwise, in such a state as to be a nuisance, their condition should be at once remedied.

Pigs and other animals should not be permitted to be kept in situations where they produce nuisance or injury to health. The Authority would find it advantageous to adopt byelaws respecting the keeping of animals.

With a view to securing a more efficient inspection and removal of nuisances than is at present possible, the Inspector of Nuisances should perform the duties specified in the Board's Order of March 10th 1880, and no duties other than

those which properly appertain to an Inspector of Nuisances should be laid upon him.

With a view to arresting the spread of dangerous infectious disease, whenever such disease may appear in the district, it is of the first importance that the Sanitary Authority should provide (a) some permanent means for the immediate isolation of persons suffering from infectious diseases, and who cannot be properly lodged and accommodated in their own houses, (b) some apparatus for the efficient disinfection of clothing, bedding, and other infected articles."

The association of pathogenic bacteria with certain diseases had only been recognised in the early 1880s, so both Dr Harker and Dr Barry were still working under the miasma theory, ie that bad smells could cause illness. Thus the closure of the well was a case of knowing the answer but not the question. Repeated sub-clinical infections probably produced immunity in the older age group.

Although this all took place in the century before last, in 1957 there were people still in the area who could recall conditions similar to those described in Galgate.

Whilst the sewering of villages in the Lancaster District was slow, most had sewers by the outbreak of World War II, although few effluents were treated, most discharging into local brooks or dykes. The final village to have treated sewage was Bolton-le-Sands in 1973.

Regarding village schools, the remaining unsewered school – Glasson Dock – was joined to the main sewer in 1962.

Water supplies were a continuing problem to the Medical Officers of Health and it was in 1937 that the whole rural area was finally piped, the last villages being Silverdale and the Yealands.

Subsequent to this enquiry and other similar investigations, Medical Officers of Health were granted powers of entry into domestic premises, and the notification of certain infectious diseases was made mandatory.

Morecambe Bay Medical Journal Prize

The Morecambe Bay Medical Journal prize for 2001 has been awarded to Mr A Kochhar for his article 'Open access neck lump clinic' in the January 2001 issue, and to Dr H Tan for his article 'Percutaneous wallstent insertion in malignant biliary obstrcution after a failed therapeutic ERCP' also in the January 2001 issue.

Both authors will receive a commemorative platter and a cheque for £100 in the near future.