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ANNUAL REPORTS
OF THE
MEDICAL OFFICER OF HEALTH
FOR 1893.

DONCASTER BOROUGH
AND THE
COMBINED SANITARY DISTRICTS.

DONCASTER RURAL.

GOOLE RURAL.

SELBY RURAL.

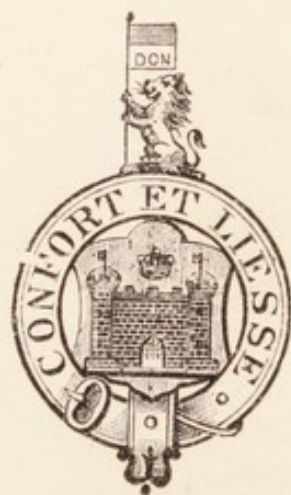
TADCASTER RURAL.

GOOLE URBAN.

SELBY URBAN.

TICKHILL URBAN.

BOROUGH of



DONCASTER.



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DONCASTER URBAN SANITARY AUTHORITY.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR ENDING 31st DECEMBER, 1893.

POPULATION IN 1891	...	...	...	...	...	25,954
ESTIMATED POPULATION IN 1893	...	...	...	...	...	27,482
TOTAL AREA OF BOROUGH, IN ACRES	...	...	...	...	...	1,609

TO THE SANITARY COMMITTEE OF THE BOROUGH
OF DONCASTER.

GENTLEMEN,

I have now to present to you my report for the year 1893, which has been prepared in accordance with the instructions of the Local Government Board.

In estimating the population of the borough up to the middle Population. of last year, note has been taken of the large number of new houses, both in the West and East Wards. My estimate of the population as 27,482—an increase of 878—may err slightly as being rather above the actual number. As accuracy of the statistics for these and many

other reports and inquiries depend upon a fair numbering of the population being obtained, I hope before the re-arrangement of the Wards comes into operation some endeavour will be made, such as by a local census-taking, to ascertain the actual numbers inhabiting each of the new wards.

Birth Rate. During 1893 there were 916 births registered—males 451, females 465; the number was larger than in the previous year. The birth-rate, 33·3 per 1,000, was rather over the average rate of the previous ten years, and considerably above the birth-rate for the whole of England and Wales in 1893, which was 30·8 per 1,000. The birth-rate in the West Ward was 36, and both in the East and North Wards it was 30 per 1,000.

Death Rate. There were 600 deaths registered in the borough last year—327 males and 273 females; 24 of these were persons who died at the Workhouse or the Infirmary, who were strangers to the town. These were deducted, but three deaths at Carr House, which is outside the borough boundaries, must be added. The corrected number of deaths during the year was therefore 579, and the death-rate for the year was 21 per 1,000. For the whole of England and Wales the death-rate last year was 19·2 per 1,000. The average rate of the previous ten years in this town was 18·7 per 1,000. The deaths of Doncaster people at the Workhouse and the Infirmary are divided among the population of the three wards—the death-rate in the West Ward was 21, in the North 21·7, and the East 19·6 per 1,000. Some of the causes for the increased death-rate will be referred to under the following groups.

There were 83 deaths from diseases in the zymotic group; 43 of these were caused by diarrhoea, as compared with 10 from that cause in 1892. 34 were among young children under five years of age.

9 deaths were caused by scarlet fever.

9	“	“	enteric do.
8	“	“	whooping cough.
4	“	“	diphtheria.
3	“	“	measles.
3	“	“	small-pox.
2	“	“	membranous croup.

The death-rate was equal to 3 per 1,000 as compared with an

average of 2. The death-rate from these was over that average in each ward, but in the West Ward it was 3.5.

From phthisis or consumption, there were 38 deaths, and the death-rate of 1.3 is about the usual average. The number of deaths from other diseases of the lungs was 93, the death rate was 3.3. The death-rate from all forms of diseases of the lungs was 4.7 and is less than the average rate of the previous ten years. There were only four deaths registered from influenza last year. With the exception of the year 1891, when that disease caused so many deaths from diseases of the lungs as one of its unfortunate accompaniments, there has been a steady reduction during recent years of deaths from such diseases. Last year the death-rate from these in the West Ward was 4.6, in the North 6.2, and in the East 3.4. For several years I have specially noted all the deaths in the common yards and courts, and especially those caused by diseases of the lungs. Many of these courts are in the North Ward, and last year the proportion of deaths from these diseases was considerably above the average. Among the persons living in the yards, when compared with the proportion of cases in the rest of the town, we find that 20 per cent. of all the deaths caused by lung diseases occurred in these courts, and haply there is very far from that proportion of the population in the town who live in houses with so little ventilation as these houses in the courts can have.

Deaths from
Diseases of the
Lungs.

During 1893 the deaths among very young children exceeded the average. The proportion was 188 deaths under one year among 1,000 registered births; in England and Wales last year it was 159; and that number is also the ten years' average rate in Doncaster. In the West Ward the proportion was 187, in the North 213, and in the East 164.

41 per cent. of the year's mortality was among children under five years of age, and 24 per cent. was among persons aged 60 years and over that age. There were 10 deaths registered on the Coroner's certificate.—

On the 17th March last the notification of cases of infectious disease came into operation. Previous to that date such cases as were known of—with the exception of cases of small-pox—were heard of through the weekly returns of deaths. During the remainder of the year every case of any of the diseases named on the list was notified by the medical attendant or the householder, although

Cases of Infec-
tious Diseases
Notified.

the Act holds both responsible for the information being sent. The following was the list of cases received :—

Month.	Small Pox.	Scarlet Fever.	Diphtheria	Membrinous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Total for Month
January .....	...	...	...	...	...	...	...	...	...	...
February .....	...	...	...	...	...	...	...	...	...	...
March	2	10	1	...	...	...	...	...	1	14
April	3	17	3	2	...	...	...	...	3	28
May	6	15	2	...	3	...	3	...	2	31
June	4	26	3	...	...	1	...	...	4	38
July	5	68	2	...	6	...	...	...	1	82
August .....	...	63	...	...	8	...	...	...	6	77
September ..	...	50	3	1	22	...	...	1	...	77
October .....	...	66	15	...	11	1	...	...	5	98
November ..	1	43	5	...	7	...	1	...	2	59
December ..	3	32	4	...	2	...	...	...	7	48
Total of cases.	24	390	28	3	59	2	4	1	31	552

The total of 552 cases notified shows how excessively prevalent cases of infectious disease were last year, and our experience was also that of many other towns, viz., in having not one infectious disease alone, but several prevailing together.

Cases of Scarlet Fever.

The cases of scarlet fever were 390, and among these were cases of every degree of severity, but a very large proportion were very mild attacks. The deaths from scarlet fever were nine; therefore, the death rate among the 390 cases was only 2·3 per cent., whereas the ordinary rate from this disease is rather over 6 per cent. It is important, however, to note that the deaths among children under five years of age were equal to 7·7 per cent. of the 65 cases attacked. The lesson to be drawn is that if very young children can only be kept away from the infection of scarlet fever they have a better chance of recovery, even if they should be attacked later in life. In March the disease must have been prevailing for

some time, for during the first week cases were notified in each ward of the town.

Our work consisted in visiting each house to make inquiries as to how the case began, by what means the infection was conveyed, and how the case was being nursed as regards its separation from those in the family who were in good health, and also if any special means existed whereby the infection would be readily conveyed to others outside the particular family. In addition, the sanitary arrangements in and around the house were noted as matters of considerable importance affecting the patient and others. An opportunity was taken to advise on a reasonable use of the disinfectants supplied, so as to deal thoroughly and directly with infected matters in and about the patient's room, instead of a general waste of disinfectants all over the house, useless for any good purpose, and objectionable to others who were quite well in the house. The history of the rapid increase of cases of scarlet fever would make it appear as if our efforts had not been very successful, but the cases frequently occurred under conditions where the most desirable means of isolating the patient did not exist, and often where the patient was in constant contact with others, and in the great majority of the cases the nurse had by necessity many other duties which brought her very frequently with her own clothing ready to carry infection among others in the house. With the cases all treated at their own houses under the hardships just noted, it is satisfactory to note that in 175 houses only one case of fever occurred; a larger proportion than could have been looked for if some advice had not been offered, and the precautions largely observed.

In other houses two, three, four, five, six, and even seven cases occurred, but in 31 houses notifications were not received until more than one case, and in an extreme instance six children were certified as being ill on the same date. Probably many of these had not been recognised as cases of infectious disease by the mothers, but the experience of the disease spreading in the household might reasonably have caused some suspicion, and the same absence of precautions in the house endangered other children near to and at school, for some children not ill from these houses had been regularly attending school, no harm being suspected.

As a special precaution for schools, a circular letter is always sent to the school attended by every family when a case of scarlet fever exists, intimating that all the children are prevented attending

School Circular
as to Absentees.

school for a time, and on the final disinfection of the house, &c., a second letter is sent to say that the children are ready to return, being free from infection. I hope that this information has relieved the teachers of both trouble in looking after absentees and anxiety as regards infection from children. At the end of a reasonable time from the illness commencing, when the patient is not only better in the ordinary sense, but when he is free from the power of giving infection to other persons, then the bedding and articles of clothing, carpets, &c., in the room are removed and disinfected by steam, the only known means whereby the work can be effectually done.

Although scarlet fever is invariably spread through infection carried either directly from the presence of the patient, or through the clothing or articles which have been carried from the infected room, yet every sanitary matter found seriously defective about the premises was noted, and an improvement required to be carried out at the first suitable opportunity.

Diphtheria. There were 38 cases of diphtheria, and three of membranous croup—a disease closely allied to the former—notified. Among these there were four deaths, equal to 10 per cent. of the cases, a rate less than half the ordinary mortality. Cases of supposed ordinary sore throat from cold have been followed by three or four cases of diphtheria in the same family, but the great majority of the cases were solitary ones in their houses. The same precautions were advised at least for a time, and the disinfecting of clothes and the rooms carried out as for cases of scarlet fever. Special inquiries were made as to the state of the drains, closets, &c., at these houses, but with no clear association of them having caused the illness. Of the 15 cases reported in October, six were in two houses, and the occurrence of other cases in neighbouring houses confirmed our statements as to the infectiousness of the disease.

Small-pox. 47 cases of small-pox were reported in the town last year, 2 of these died, one from pneumonia, accompanying a slight attack of modified small-pox; the other from a malignant form of that disease. There were seven cases in January, and new cases occurred until July. Then for three months there were no cases reported. In November and December there were four cases.

All the cases were isolated at Carr House. In addition, the Sanitary Authority consented to the removal of persons from some of the houses where the cases occurred to the temporary building in

the hospital grounds. Among these 24 persons placed in quarantine, 4 developed small-pox within the fortnight, and then were removed to the hospital.

One-third of all the cases treated for small-pox were strangers in the town, who were removed from common lodging-houses. The history those people gave of their movements showed that the infection had been brought with them, and not contracted in the town. Three cases were found which had not been attended by any doctor; from one of these three additional cases followed. One great lesson of the slight epidemic was the protective power of re-vaccination; no one who had been re-vaccinated before coming into contact with the cases took the disease, although afterwards they were much exposed to the infection. Mainly through the early removal of the cases and the willingness of their relations to be vaccinated, in 22 houses, only one case occurred. On the other hand when the protection was refused additional cases followed; in one house there were three cases, in another four.

In every case a very thorough and complete disinfection of the house and bedding was carried out, and neither of the men engaged in that work took the disease, having previously been re-vaccinated.

It is many years since there were so many cases of enteric or typhoid fever in the town. There were 60 cases and 9 deaths in 1893, and the death-rate was 15 per cent. among those attacked; that is near to the general average mortality. All the deaths were registered among the 47 cases that occurred in the West Ward. In the autumn of last year there seemed to be in many towns and rural districts a very unusual prevalence of cases of enteric fever. Previous to July that disease only occurred in the town as odd cases at long intervals; during that month six cases were notified. The inquiries made at the houses brought out no special cause sufficient to account for the illness. Note was taken of serious sanitary defects of drains or closets at three of the houses. Three of the patients were school children; three others were adults, and none had been away. Two of them were attacked immediately on recovering from another illness. During August eight more cases were reported, and 22 in September; then the numbers rapidly declined, only two occurring in December. The short outbreak was chiefly limited to a circle with a radius of 250 yards from the top of Nelson-street, Twenty-nine of the cases occurred among

Enteric Fever

22 houses within that circle ; in six of these more than one case occurred, and the evidence that this disease is infectious was further confirmed by cases occurring on either side of the one earliest attacked. Cases of enteric fever when under treatment in a hospital, with the benefits of skilled nursing, may be looked upon as having a very limited power of infection, but in an ordinary house, amid a large family, the mother being nurse day and night and also housekeeper, my experience compels me to warn the friends that there is a considerable risk of others being attacked if the illness is dealt with otherwise than as a case of a dangerous infectious disease. Some of the cases were found ill under very unfavourable conditions. The Sanitary Committee kindly consented to provide a nurse, who every night assisted at one or the other of these houses, and thus, I believe, contributed to the recovery of those who otherwise seemed to have a poor prospect.

It was felt that the numerous cases that occurred in that part of the town were due to defects natural to the want of adequate fall in the drainage system with which the houses were connected, a condition which is to be forthwith altered. But during the continuance of the cases everything was done to lessen the risks of infection spreading. The disinfecting and flushing of the house drains and disinfecting of the closets were systematically carried out by the workmen of the Sanitary Committee ; and, in addition, the whole of the sewers in the streets were regularly and well flushed and disinfected by men from the Surveyor's department. In the middle of October the Sanitary Committee agreed to admit cases of enteric fever into Carr House, and within the next month five cases were treated there. The cases of this fever were not confined to one part of the borough, but, with a few exceptions other than those already noted, they were single cases in the street. Among these were persons attacked within three weeks after returning home from a visit to other districts ; in two the infection was clearly brought back with them ; others were cases in houses where illness of an uncertain kind had preceded their attack.

A complete record of the sources of the milk supplied showed that there never was any suspicion of milk as a cause. There was not more than the ordinary percentage of nuisances found at or near the houses. At three-fourths of these houses there was the ordinary privy and ashpit. Only three of these latter were found uncovered ; a few were complained of either as being too near the house or being

exceptionally deep and offensive. At 12 houses water-closets were in use.

A little anxiety was caused by the death of a stranger in the town, in September, from what Dr. Klein, of London, declared to be undistinguishable from Asiatic cholera. Before that opinion was received every means had been taken to destroy all articles which would have retained infection. Subsequently two deaths were registered from choleraic diarrhœa. Both of these had allowed their illness to go on for several days unchecked, and were unable to rally when medical aid was called in. There was no suspicion of these being worse than severe cases of diarrhœa. Case of Cholera.

This report upon the cases of infectious disease which prevailed last year would be very incomplete without a special reference to the immense help which the isolation wards at Carr House proved. By the early information obtained of the cases and their almost immediate removal to the Hospital the cases of small-pox never at any time caused any great anxiety. The additional protection given by removing for a short time those persons among whom the infected person had lived was proved by several of these having been afterwards attacked, and their temporary removal permitted a thorough disinfection and cleansing of their houses when absent. When it was possible to admit cases of enteric fever to the wards they were nursed there with every care and attention. Carr House Hospital.

The inquiries made as to the cases of infectious disease showed the need for having many defective sanitary matters remedied, and the large amount of time necessarily given to these inquiries helped in an inspection being thus made over a considerable part of the town, and resulted in needful alterations being carried out. Sanitary Work.

Doncaster was fortunate in having a full supply of water throughout last year, while the supply in other districts was reduced, at a time when sanitary precautions called for an extra supply for household uses, and also for drain and sewer flushing. Last year the privilege of having an unlimited supply of water from the river was especially valuable, and permitted the thorough and systematic flushing of the sewers which the Borough Surveyor had carried out. Very much depends upon the condition of the town sewers in relation to the efficiency of the private drains connected with them, and also their own power of giving off offensive gases when they are insufficiently flushed or ventilated. To prevent complaints from either cause the Sanitary Committee have during 1893 Water Supply.

replaced in several of the streets defective sewers by new sewers, and every year the ventilation of all are improved by an increasing number of upright ventilating shafts. I have already noticed the proposed new sewer for the streets on the south side of Carr House-road.

Back Yards.

These new works are essential as the borough extends, and the care of the public health is rightly estimated, but during 1893 a work of even more direct effect upon the health of those living in the older parts of the town was the re-sewering and paving of a large number of the common yards. These narrow yards are the source of the air supplied to the houses, the playgrounds of the children, and the vast improvement carried out now provides a comparatively dry, clean, asphalted surface as compared with the damp and sodden ground or partial paving, and the change must react upon the cleanliness and healthiness of the dwellings.

Condemned area under Housing of the Working Classes Acts.

Arrangements have now been completed whereby the whole area including 28 cottage houses condemned in French-gate have become the property of the Corporation. The next step will be to consider the scheme prepared by the Borough Surveyor of laying out new streets and back passages in order that houses with healthy surroundings may be substituted. Before that is finally adopted I venture to press that arrangements should be made to supply the needs of some of the many strangers who now find shelter in our common lodging-houses. There is a great want of a good sized model common lodging-house, built with a view of meeting the requirements of that class which many of the existing houses meet very inadequately. These were originally ordinary dwelling houses, and are often, in very cramped up and confined situations. During the prevalence of cases of small-pox, not only were repeated cases removed from these houses, but your committee found it necessary to send special warning against the overcrowding which was then especially prevalent among them.

Model Lodging House.

Scavenging of Closets and Ashpits.

The Sanitary Inspector's report shows an increase of 25 per cent. on the number of closets and ashpits scavenged in 1893 as compared with 1892, when that work was considerably increased, and in addition there is an increasing number of houses every year who have the household refuse not stored but removed from movable boxes every week.

Apparatus for Disinfecting Clothing, &c.

The disinfecting apparatus rendered good service during the prevalence of the several infectious diseases. The law has directed that the bedding, clothing, &c., from all houses where such cases

occur shall be handed over to the Sanitary Authority to be properly disinfected, last year 6,500 articles were dealt with, and no serious complaints have been made as to any resulting injury.

It was necessary to condemn the carcasses of eight sheep and two beasts last year. It was surely great negligence that one of these latter, which was found extensively diseased, should have been milked and the milk sold up to a very short time before it was slaughtered.

Unwholesome
Food Con-
demned.

The premises of the 37 cow-keepers and purveyors of milk were inspected, as regards their cleanliness, with only occasional cause to complain, but the health of the animals will in future also be noted, and on any appearance of disease a veterinary surgeon will be called in to advise.

Dairies and
Cow Sheds.

Under the Adulteration of Food and Drugs Act fourteen samples were sent to the public analyst. Eight of these were samples of milk, four samples of vinegar, and two samples of lard. Four of these, viz., two of milk, one of vinegar, and one of lard, were reported as being adulterated, and the sellers fined by the magistrates.

Adulteration
Acts.

The analyst's reports upon the eight samples of milk can scarcely be said to be satisfactory to the public:—One sample was genuine, two were of fair quality, three were of inferior quality, and two were adulterated. The very exceptionally hot weather during last year was said to have impoverished the quality of the milk, but of samples taken in the early and later months of the year the proportion of those of inferior quality was the same as among those taken during the summer.

The only other case summoned before the magistrates was one of serious overcrowding of a house; the person was fined and the nuisance abated. Several similar cases have been remedied after a notice was served. These cases and also those of houses being allowed to become filthy, are not so often due to poverty as to wilful neglect, and indifference to the health of their children on the part of the parents. Every consideration is paid to cases where poverty is the main cause, and means for cleansing houses can always be had at the Inspector's office, free, where a real need exists.

Overcrowded
and Dirty
Houses.

Workshops. During the inspection of workshops it has been necessary to warn several as to overcrowding of the work-places, also to require removal of insanitary matters in connection with them. These complaints have always been readily attended to. I have found the bakehouses nearly always in a clean and satisfactory state; in fact, in the great majority of all kinds of workshops I think there is a desire to keep them—from a health point of view—in a clean and satisfactory condition.

I remain, yours obediently,

J. MITCHELL WILSON, M.D.,

Dipl. Public Health, Cambs.,

Medical Officer of Health.

Doncaster, 13th February, 1894.

NUISANCES ABATED, ETC., DURING 1893.

Inspections made	...	...	...	...	...	...	677
Written and Verbal Notices given	...	...	...	...	...	...	229
Ashpits covered and ventilated	...	...	...	...	...	...	29
Ashpits, Privies, and Water Closets repaired	...	...	...	...	...	...	64
Privies converted into water closets	...	...	...	...	...	...	23
House and yard drains repaired and trapped	...	...	...	...	...	...	66
Sinks disconnected and trapped	...	...	...	...	...	...	12
Houses disinfected after illness from infectious diseases	...	...	...	...	...	...	300
Ashpits, &c., scavenged	...	...	...	...	...	...	8645
Other nuisances under The Public Health Act	...	...	...	...	...	...	88
Canal Boats on the Register...	...	...	...	...	...	...	249
Common Lodging-houses do.	...	...	...	...	...	...	10
Bakehouses do.	...	...	...	...	...	...	18
Dairies and Milkshops do.	...	...	...	...	...	...	37
In addition to the Public Slaughterhouse, private ones on the Register	...	...	...	...	...	...	4
Cattle Trucks at landing stage of Railway Companies frequently inspected.							

Two carcases of meat and 8 sheep were destroyed by order of the Justices, having been found unfit for human food.

SAMPLES OF FOOD SUBMITTED FOR ANALYSIS, ETC.

1. Milk (1 genuine, 2 fair quality, 3 inferior quality, and 2 adulterated)	...	...	...	...	...	...	8
2. Lard (1 genuine and 1 adulterated)	...	...	...	...	...	...	2
3. Vinegar (2 genuine, 1 fair quality, and 1 adulterated)	...	...	...	...	...	...	4

The sellers of the 4 adulterated samples were summoned ; 3 were fined 20/- and costs, and one 10/- and costs,

BEDDING, &c., DISINFECTED BY STEAM AT THE PUBLIC
DISINFECTING APPARATUS.

Beds ...	...	...	...	...	...	...	...	...	401
Mattresses ...	...	...	...	...	...	...	...	...	655
Pillows and Bolsters	...	...	...	...	...	...	...	...	1147
Pairs Blankets	...	...	...	...	...	...	...	...	510
Pairs Sheets ...	...	...	...	...	...	...	...	..	216
Counterpanes	...	...	...	...	...	...	...	...	526
Articles of Clothing ...	...	...	...	...	...	...	...	...	1685
Sundry Articles	...	...	..	...	...	...	...	...	1363
Total									6503

JOHN THOMPSON,

INSPECTOR.

TABLE 1.

SUMMARY OF BIRTH AND DEATH RATES IN THE BOROUGH, AND IN EACH WARD, DURING 1893, COMPARED WITH THE RETURNS FOR THE WHOLE OF ENGLAND & WALES.

	Popula- tion in 1893.	Rate per 1,000 of the Population.					Deaths in Children under one year per 1,000 Births.
		Births.	Deaths.	From Zymotic Diseases.	From Phthisis.	From other Respiratory Diseases.	
THE BOROUGH	27,482	33.3	21.0	3.0	1.3	3.3	188
WEST WARD	15,047	35.8	21.1	3.5	1.3	3.1	187
NORTH WARD.....	6,586	30.5	21.7	2.3	1.5	4.7	213
EAST WARD	5,849	30.0	19.6	2.3	1.1	2.3	164
ENGLAND & WALES ..	...	30.8	19.2	2.4	...	...	159

TABLE II.

DEATHS FROM THE PRINCIPAL ZYMOTIC DISEASES,
DURING 1893, AND THE FIVE PREVIOUS YEARS.

	1893	1892	1891	1890	1889	1888
Small-Pox	3	0	0	0	0	2
Measles	3	25	14	3	0	21
Scarlet Fever.....	9	10	5	10	5	2
Enteric and Continued Fevers ...	9	6	5	3	5	2
Diarrhœa & Dysentery	43	10	22	21	39	4
Whooping Cough..	8	18	5	22	11	33
Diphtheria	4	5	6	1	0	2
Membranous Croup	2	1	2	0	0	0
Cholera	2	0	0	0	0	0
Total for each year	83	75	59	60	60	66

TABLE III.

SUMMARY OF THE BIRTH AND DEATH RATES IN DONCASTER
DURING THE TEN YEARS—1883 TO 1892.

Year.	Rates per Thousand of the Population.					Deaths among Children under one year per 1,000 Births regis- tered.
	Births.	Deaths.	From Zymotic Diseases.	From Phthisis.	From other Respira- tory Diseases.	
1883	34·8	19·4	2·4	1·5	3·6	124
1884	34·7	18·7	2·5	1·7	3·1	180
1885	33·6	18·3	1·1	2·4	3·9	122
1886	34·0	19·5	2·1	1·7	3·9	180
1887	35·4	19·6	1·5	1·6	3·7	154
1888	32·4	18·0	2·3	1·0	3·5	167
1889	31·4	17·0	2·3	1·4	2·4	179
1890	29·5	19·9	2·3	1·3	3·5	183
1891	32·0	19·0	2·2	1·0	4·5	168
1892	32·0	17·6	2·7	1·2	3·1	150

TABLE IV.

DEATHS FROM SEVERAL GROUPS OF DISEASES IN THE BOROUGH,
AND FOR COMPARISON IN THE COURTS AND COMMON
YARDS IN THE TOWN IN 1893.

	Total.	Deaths per 1,000 of the Popula- tion.	Proportion of Deaths in every 1,000 from all causes.	
			In the Borough.	In the Courts.
From				
1.—Zymotic Diseases	83	3·0	143	90
2.—Pulmonary Diseases (other than Phthisis) ..	93	3·3	160	216
3.—Tubercular Diseases ...	48	1·7	82	113
4.—Wasting Diseases of Infants	51	1·8	88	90
5.—Convulsive Diseases of Infants	30	1·0	50	34

1.—Includes Measles, Scarlet Fever, Whooping Cough, Enteric or Typhoid Fever, Diphtheria, and Diarrhœa.

2.—Includes Bronchitis, Pneumonia, Pleurisy, and Asthma.

3.—Includes Phthisis, Scrofula, Tabes Mesenterica.

4.—Includes Marasmus, Atrophy, Debility, and Premature Birth.

5.—Includes Hydrocephalus, Meningitis, Convulsions, and Teething.

TABLE A.

Table of Deaths during the Year 1893, in the Urban Sanitary District of Doncaster, classified according to Diseases, Ages, and Localities.

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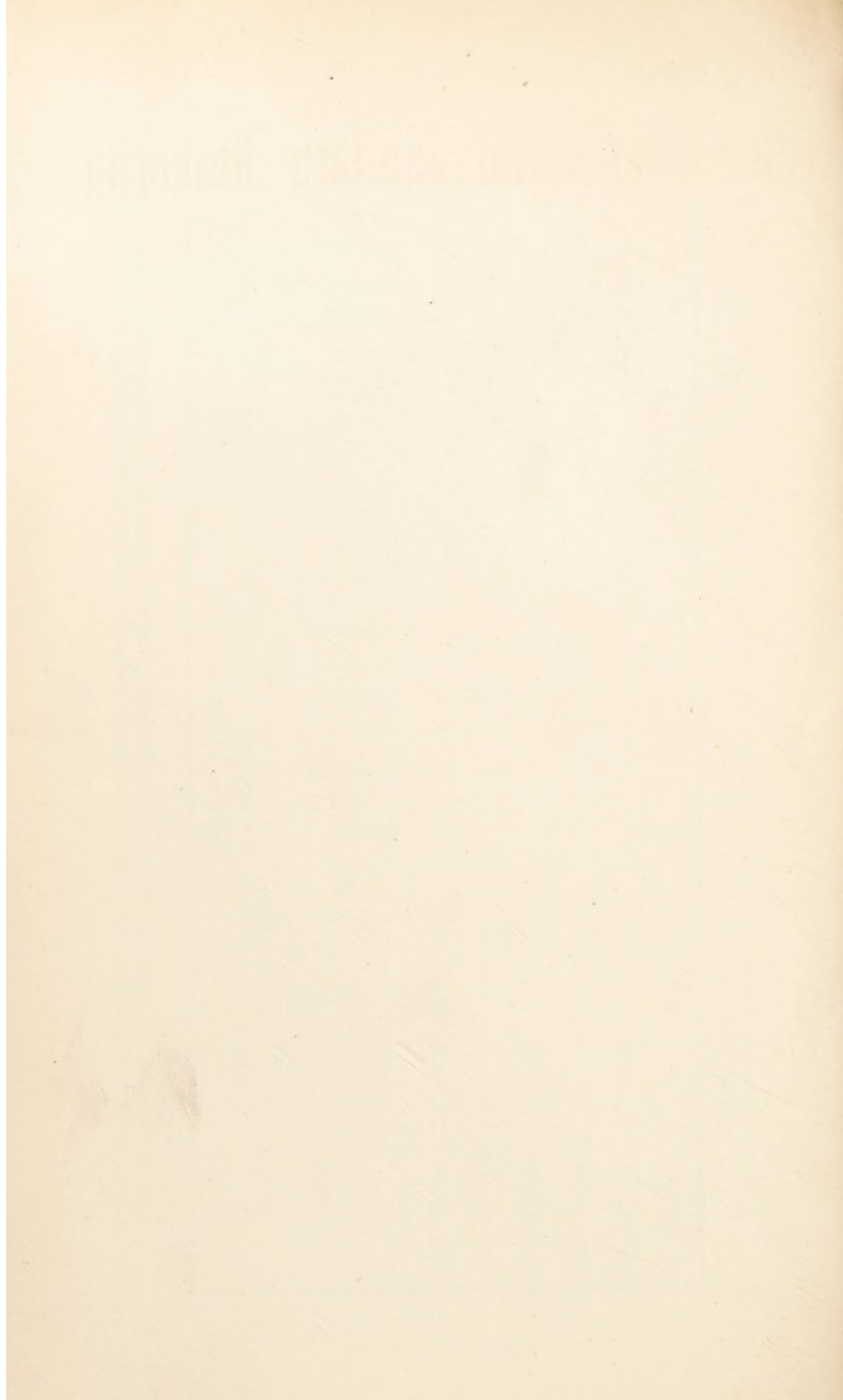
TABLE B.

Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health, during the Year 1893, in the Urban Sanitary District of Doncaster; classified according to Diseases, Ages and Localities.

Names of Parishes.	Estimated Population.	Registered Births.	Aged under 5 or over 5.	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 Localities for Treatment in Isolation Hospitals.												
				Small-Pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Small-Pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.
WEST WARD	15047	539	Under 5 ... 5 upwards	3 24	42 172	2 19	...	...	47	2	...	1	...	21	3 24	...	...	...	3	...	...	...	...	...
THE INFIRMARY .....	.....	...	Under 5 ... 5 upwards	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
NORTH WARD	6381	201	Under 5 .. 5 upwards	1 15	10 60	1 7	1	...	8	...	...	...	...	7	1 15	...	...	...	1	...	...	...	...	...
EAST WARD	5849	176	Under 5 ... 5 upwards	...	13 89	1 8	1	...	4	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...
WORKHOUSE	205	...	Under 5 .. 5 upwards	...	...	...	...	...	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS.....	27482	916	Under 5 ... 5 upwards	4 43	65 325	4 34	1 2	...	60	2	...	4	1 31	...	4 43	...	...	...	5	...	...	...	...	...

" Notification of Infectious Diseases " is compulsory in this District since 17th March, 1893.

H. Workhouse Isolation Wards, also Hospital for cases of Small-Pox, at Carr House, in the Rural Sanitary District.



Doncaster Rural Sanitary Authority.

Doncaster Rural Sanitary Authority.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR 1893.

J. MITCHELL WILSON, M.D.

TO THE
Doncaster Rural Sanitary Authority.

REPORT OF THE MEDICAL OFFICER
OF HEALTH FOR 1893.

Population of the District in 1891	28,364
Population estimated in 1893	29,732
Area in Acres.....	106,326

Population in Registration Sub-districts 1893 :—

		Area in Acres.
Barnburgh	4418	21,660
Bawtry	6,642	36,078
Campsall	5,253	26,323
Tickhill	13,419	22,265

GENTLEMEN,

I herewith present my annual report for 1893, prepared in accordance with the instructions of the Local Government Board.

POPULATION.

The number of houses built during the past year, and the large number of plans of new houses passed, show that the population in parts of the district is increasing at a much quicker rate than that found between the two last census periods. I have estimated the population to the middle of last year as 29,732.

BIRTHS AND DEATHS RATES.

The births registered last year were 999—males 513, females 486. The birth rate was 33·6 per 1,000, which is rather more than 2 per 1,000 above the average rate of the previous 10 years.

In the Barnburgh sub-districts the birth-rate was 29·6, and in Bolton-on-Dearne parish, in that district, the rate was only 27. In Thurnscoe, one of the new colliery districts, it was over 50 per 1,000. In the Bawtry sub-districts the birth rate was only 26; in Wheatley parish 34·6. In the Campsall sub-districts this rate was 26·6; in Bentley-with-Arksey it was 32. Naturally, in the Tickhill sub-districts and the several populous townships included, we find the birth-rate at its highest; in the whole of the sub-district the rate was 41·3; in Balby-with-Hexthorpe it was 35·3, Denaby 34·4, Wadworth 35·6, and in Conisborough 54 per 1,000.

There were 575 deaths registered last year—males 309, females 266. In addition there must be added 15 deaths of persons belonging to the rural districts who died at the Workhouse or the Infirmary. The corrected number, 590, is equal to a death rate of 20 per 1,000; that rate is considerably above the average of previous years. Some explanation will be found in stating that in the sub-districts of Barnburgh and Campsall the death rate was under 16 per 1,000; in Bawtry sub-district it was 17, and in the Tickhill sub-district it was 23·3. The highest death rate was in Loversal parish, 40 per 1,000, due to deaths from diphtheria; in Wadworth 37·4, caused by deaths from whooping-cough, diphtheria, and an exceptionally heavy death rate among infants and also old people. In Conisborough it was 29·4; that township during 1893 suffered severely from small-pox and enteric fever, and the death rate from diseases of the lungs was greatly in excess. In Barnby Dun the death rate of 23 was also due to deaths from chest diseases among aged people; in Bawtry also the death rate was 27·4, where one-half of the deaths were among persons aged 60 years and over.

In Wheatley the death rate was nearly 17, in Denaby 18, Balby and Hexthorpe 17, and in Bolton-on-Dearne only 9 per 1,000.

As in 1893, more than twice the number of cases of infectious disease were notified than in the previous year, the death rate from these was increased. From the chief zymotic diseases the death rate was 2·4 per 1,000; in the Tickhill sub-districts it was 3·7; that proportion was exceeded in the several parishes I have already named (as will be seen in table III. for further details).

The severe weather of the first two months of 1893 helped to swell the death rate from diseases of the lungs in every part of the district ; the death rate from these was 5·2 per 1,000, which exceeded the usual average.

Among very young children the death rate was high, the proportion being 178 deaths under one year to every 1,000 births registered. In Bawtry, Balby-with-Hexthorpe, Barnby-Dun, Conisborough, Denaby, and Wadworth the deaths all exceeded 200 per 1,000 registered births.

Among persons aged 60 years and over the deaths equalled 27 per cent. of the total number ; in Askern, Barnby-Dun, Cantley, Misson, and Norton more than half the deaths registered were among aged people.

CASES OF INFECTIOUS DISEASES NOTIFIED.

The particulars given in my short monthly reports have shown that during the past year there has been an excessive prevalence of cases of infectious disease. The certificates received notified 499 cases. Of these—

255	were	cases	of	scarlet	fever.
76	„	„		enteric	fever.
81	„	„		small-pox.	
46	„	„		diphtheria.	
35	„	„		erysipelas.	
2	„	„		continued	fever.
2	„	„		puerperal	fever ; and
2	„	„		cholera.	

The inquiries made regarding the origin of these cases, the sanitary condition of the premises on which the illness occurred, and the necessary disinfection carried out, all represent a very active year's work.

SCARLET FEVER.

The 255 cases of scarlet fever notified were increased to 273 by other cases found ; these occurred in 33 separate parishes of the Union.

The outbreak of scarlet fever has been especially severe in the populous townships around Doncaster. Nearly one-half of all the

cases occurred in Balby, Hexthorpe, Bentley-with-Arksey, and Wheatley. There is but little doubt that the infection of scarlet fever was kept up, both in the rural districts and in the town of Doncaster, by the free intercourse arising out of the schools attended, work engaged in, and by other means which is daily going on between these populations.

Similarly, in the districts of Conisborough and Denaby, a considerable number of cases occurred, as in these townships many of the children among whom the cases broke out attended the same school.

Beyond these there were 80 cases scattered throughout 23 parishes. The spread of the infection was repeatedly traced from one village to another, often through the first re-appearance of children at school, as at Brodsworth and Pigburn, Bilham, and Hooton. The facts of many separate cases appeared to be an introduction of the disease from houses where illness of an infectious nature was not suspected, and allowed to spread without notice, until in one house six children and in another eight were all notified on the same date. Measles was given as the suspected nature of the illness in other cases so as to excuse considerable carelessness in looking after the child attacked. The danger of this theory resulted in three children being carried off from one house from scarlet fever; the illness was only at first suspected to be measles. Happily the cases were usually of a mild type, as the death rate was only 4 per cent. of the persons attacked. By visits to every house an endeavour was made to impress upon the parents the need for using every means in their power to protect others in their own houses and among their neighbours from coming into contact with the patient while in a condition of giving off infection. To separate the sick one long enough is always a difficulty in houses where there are sufficient rooms, but almost impossible in the ordinary small cottage. A case of fever occurred on several occasions at houses from which milk was supplied; then it was necessary to require a complete removal of those persons and things connected with the trade from the infected house.

In all cases disinfectants were given, in which bedding and clothing were soaked, and the infected rooms afterwards were

disinfected by stoving and lime-washing. It is still difficult to convince householders that anything is required to be done because their child or children have safely got over a slight attack. With no hospital in which cases can be treated or means for thoroughly disinfecting bedding, &c., our present efforts are the best obtainable, and yet the very least that can be required even in the very slightest case of this terribly infectious disease.

Barely one-fourth of the cases occurred during the first half of the year, whereas nearly one-half occurred in October, November, and December.

CASES OF ENTERIC FEVER.

76 cases of enteric or typhoid fever were notified. 81 cases in all occurred, among whom there were 11 deaths. It is several years since there has been such a general prevalence of this fever.

The 81 cases occurred in 11 parishes, but 70 per cent. of them were in the parishes of Bentley, Conisborough, and Denaby.

In January last there were eight cases in Bentley; the suspicion that the use of water from the brook had been the cause was not confirmed when all the facts were obtained. Two were second cases in the same house. A foul open drain at the rear of some houses was blamed for two families having cases of fever, but in others no clear history of infectious or likely cause could be had.

Cases at Austerfield, Wilsic, and Askern were persons who returned there ill of the disease; other cases were at houses widely different in their sanitary condition, for 2 were at houses occupied for the first time, with no apparent defect, while at several houses the condition of the water supply, the very defective state of the drains, and the nearness to the houses of foul collections of house refuse, excreta, and pig styes, were all conditions likely to conduce to a serious illness among those living there.

The cases I have named referred to about one-third of all those that occurred, for in the month of September quite a sudden outbreak of cases of enteric fever was reported in the new portion of the parish of Conisbrough. For some time before, the scavenging of the ashpits had been very much complained of, and the closets were in many instances in an almost unusable condition. Complaints were also made of the

discoloured state of the tap water, but that could not be considered as the cause of the outbreak, as the cases were not distributed in a similar way to the water. At the same time as the first cases were notified, the miners' strike had begun, and the cases were all in miners' families. A very urgent case for the removal of the patients was made out, and the Sanitary Committee consented to the re-opening of the building which had been so successful in isolating cases of small-pox. From the 17th September to December 31st, 29 cases of enteric fever have been treated in the hospital, with no suspicion of anyone being infected with small-pox. The history of many of these cases clearly indicated an origin due to infection in the house itself—for several cases were removed from the same house—or from the use of the same closet or one emptying into a common ashpit. During the last three months of 1893, single cases of this same fever occurred in several other parishes, and latterly in the village of Conisboro' itself rather than from the colliery houses first attacked. A considerable proportion of the cases were mild, and recovered quickly, but the occurrence of four cases in each of two houses shows how greatly mistaken the common idea is that this disease is not infectious. Even when no sanitary defect exists to originate this disease and the house is supplied with good water, carelessness in nursing or mere inattention to the need for disinfection of the motions, soiled linen, &c., is far too often followed by fresh cases of fever.

Our visits to all the cases were followed by reports to the Sanitary Committee of any conditions found likely to be injurious to health.

CASES OF SMALL-POX.

At the monthly meeting in July, I gave a summary of the 76 cases of small-pox that had occurred during the previous six months.—(*See appendix.*)

Since then 5 additional cases were reported, 2 were treated in the hospital at Denaby, and 3 others from Bentley were admitted into Carr House Hospital of the Doncaster Corporation. No clue could be obtained as to the origin of the infection of the first of these three. Re-vaccination of the persons who had been waiting on that patient was too long delayed, and 2 other cases followed. One of them died after a week's illness.

DIPHtheria.

Another infectious disease which has been very prevalent is diphtheria. 46 cases were notified from 15 parishes; 23 of these were in Wadworth and Loversal, and the cause and history of these outbreaks has been referred to in a special report recently read before the Sanitary Committee :—(*See appendix.*) In Wheatley there were eight cases in seven houses, not due to any special cause, but infection was clearly traceable in half of them. In nine parishes there was only a single case. In several of these houses cases of scarlet fever were then ill or had occurred very recently. Every case notified was investigated, and any likely cause of that disease or matter injurious to health was reported, and the need for noting serious defects as to the state of the drains in or near to the house, and closets so built as to soak the foundations with offensive matter were repeatedly found.

ERYSIPELAS.

No less than 33 cases of erysipelas were notified. These were all in separate houses—one half in Conisbro' parish. So far I have not been able to trace any effect arising from sanitary conditions upon these chiefly non-acute cases of this disease.

CHOLERA AND CHOLERAIC DIARRHŒA.

In September I reported upon a death from choleraic diarrhœa. The patient had come home ailing from the seaside; he was within two days seized with violent purging, sickness, and cramps; he rallied for 24 hours, but died from exhaustion. The case was considered so serious as to require the destruction of everything likely to have been infected. In October, 2 children were similarly attacked in another part of the district; one died after two days' illness. When the second began it was thought advisable to send a portion of the rice-water-like stools to Dr. Klein for examination. His report was "that culturally the material is not distinguishable from true cholera." A subsequent examination of the well from which the drinking water was obtained showed that it had drains containing large deposits of nearly solid filth on three sides and running very near to it. The sides of the well in the upper half showed abundant signs of liquid filth having run down into the water. The water had been previously analysed and condemned as being quite unfit to use, before the well was opened, and the use discontinued. In this case also everything likely to retain infection was destroyed.

SANITARY WORK.

During the year many works concerned with the health of the district have been considered.

IMPROVED WATER SUPPLIES, BARNBURGH.

In May the scheme for supplying Barnburgh and Harlington with water was completed. The water is obtained from springs, and is collected in a reservoir, which holds 43,000 gallons. The population of the district supplied is 500. The water is hard but pure. It is distributed by 3in. and 4in. mains throughout the village, and is obtainable from several stand pipes; 57 houses, however, have already had the water laid on, and others will doubtless soon avail themselves of this great convenience.

SKELLOW.

At Skellow, water has been brought from Carcroft deep well; it is received into a tank holding 2,000 gallons—population 130. It is afterwards distributed by 1½in. mains and laid on to the houses.

NEW DENABY, CONISBOROUGH.

At Denaby new pit the Colliery Company are making arrangements for obtaining a new supply of water for their houses. From analyses made when the shaft was being sunk it is known that water of an excellent quality can be obtained in almost any quantity. I would again express my strong opinion that the population of the village of Conisborough ought, in some way, to secure this water from the sandstone of the coal measures rather than to continue to depend upon the variable supply which the springs in Wellgate now yield. Last autumn, and on several occasions in recent years, that local supply has very much failed and the water has now to be carried a long way to many houses.

WADSWORTH.

The water supply for Wadsworth has engaged a good deal of time; the proposal to bring the water from Gospel Well was abandoned.

A recent house to house inspection made there showed that the population now obtain their supplies from six private wells. The owners of houses without any supply are to be called upon to sink new wells, and several disused wells are to be examined, and, if found possible, put in order to give a wholesome supply.

LOVERSAL.

At Loversal also the supply from the open ditch which conveys the overflow from St. Catherine's spring is, at times, rendered unsuitable for drinking, from surface and sub-soil drainage water mixing with the pure water. It would be desirable to lay pipes some distance, 200 or 300 yards from the village towards the spring, so as to cut off the worst of these sources of pollution.

BOLTON-ON-DEARNE, THURNSCOE.

It has been felt for some years that the water supply of Bolton-on-Dearne is not satisfactory nor adequate to the wants of the village. As the new colliery opened at Hickleton has already drawn a large additional population to the district, including Goldthorpe, in the parish of Bolton, and particularly at Thurnscoe, the question of providing a wholesome supply to the several parishes affected is an urgent one. Difficulties in the way of the Sanitary Authority carrying out the work are raised by the powers granted to a private company in the near neighbourhood, but it is to be hoped that the colliery company will assist in the matter which is so needful for the health of their workpeople.

In other parishes the water supplies have been looked after as matters of special importance. 8 new wells have been sunk and 2 cleansed and re-puddled. Of 20 samples analysed, 3—deep well waters—were certified as being good in quality, 4 were usable, 6 contained impurities to the extent of requiring the wells to be examined, and 7 were condemned as being unfit to use.

WORKS OF SEWAGE DISPOSAL.

CONISBORO' AND DENABY.

In September last an inquiry was held by an inspector of the Local Government Board to consider a scheme for the drainage of the townships of Conisbro' and Denaby, prepared for the Authority by Mr. White, of Mexborough. The scheme provides for draining the whole of these populous districts, the sewage to be collected and first dealt with with chemicals in tanks and the effluent afterwards further purified by filtration.

BOLTON AND THURNSCOE.

The Sanitary Authority have asked the same engineer to prepare

a scheme for the drainage of Bolton, Thurnscoe, and the new part of Hickleton. Additional sewers to the extent of 1,774 yards have been laid last year in nine parishes; 1,254 yards of new private drains have been connected with these sewers, and 106 houses have thus had efficient means of drainage provided.

The open drains and water-courses, which are periodically cleaned, are about 5 miles in length. In country districts many houses are far from any available sewer, and therefore a cesspool is necessary. 12 new cesspools have been made, and four old useless ones filled up.

FLUSHING AND VENTILATION OF OLD SEWERS.

So as to maintain the existing sewers in an efficient state, flushing at short intervals is regularly carried out of those at Balby, Hexthorpe and Wheatley. In other parishes, this work, although equally necessary, is not easily done. During last autumn, as part of the extra work engaged in during the prevalence of cholera in this country, an endeavour was made to cleanse and to flush all the sewers in the district.

SCAVENGING OF ASHPITS—WHEATLEY, HEXTHORPE, CONISBORO'.

The scavenging of all the ashpits in the townships of Wheatley and Hexthorpe was last year carried out very satisfactorily. The method there adopted of systematically removing the contents from every ashpit on the street list is the only one to ensure the absence of complaints. The additional convenience of a bell-cart every month prevents much unusable household refuse being thrown into the pits. The inhabitants of Balby still prefer the plan of the householder having his work done when and by whom he can. The experience of Hexthorpe, with which it is so intimately mixed up in all parish affairs, ought, I think, to induce the people of Balby to adopt a more efficient removal of all refuse matter. Throughout Conisborough parish this work of scavenging was let to a contractor in May. The pits had been previously emptied more frequently than once in three months. From miners' houses a larger quantity of ashes is thrown into the pits long before the end of three months these receptacles were full, and many complaints made. It was then agreed that such cleansing should be carried out once every six weeks. Since then there have been no complaints. At present nearly one-third of the population of the

whole Rural Sanitary district has the refuse removed through a contractor, paid by each district so benefited. That work assists in having many unsuitable places altered, or new ones substituted, and enables a more effective cleansing and disinfecting to be carried out after cases of enteric fever.

PLANS CONSIDERED. URBAN POWERS GRANTED FOR THE WHOLE UNION.

The work of the Sanitary Committee in considering plans of new buildings for the several townships in which urban powers had been granted is very responsible in its effects upon the healthy surroundings of the houses of the future. The Committee felt that the same protection was necessary for all new houses, especially as with new collieries opening out and railways being made, the conditions of several rural villages were being rapidly changed. A representation of these facts was made to the Local Government Board, who agreed to confer similar urban powers upon all the parishes in the Union to those now in force in the most populous townships.

Last year 60 sets of plans were considered, relating to 514 dwelling-houses, and 31 other buildings, and in nine cases the plans submitted were refused, the proposed arrangements not being satisfactory ; 120 houses have been completed during last year.

I must refer to Mr. Barrass's table of the work completed, for further details of a very busy year's work ; ordinary infectious diseases were everywhere prevalent but the fear of an outbreak of cholera called for further care and inspection of every sanitary matter in each part of the district.

I remain, Gentlemen,

Your obedient servant,

J. MITCHELL WILSON, M.D.

January 20th, 1894.

STATEMENT SHOWING SANITARY WORK COMPLETED
AND NUISANCES ABATED DURING THE YEAR 1893.

Number of Inspections made	...	...	...	2660
Number of Notices served by order of the Rural Sanitary Authority relating to defects of drainage, ventilation of Sewers and W.C.'s, cleansing of ashpits, &c.	...	...	...	39
Verbal Notices	...	...	...	609
New Sewers laid in several Parishes	...	...	...	1775 yards
New Drains	...	...	...	1254 „
Houses connected with New Sewers	...	...	...	106
Number of Cesspools abandoned by connecting House Drains to Sewers	...	...	...	4
Number of New Cesspools	...	...	...	12
Drains and Water-courses cleaned and repaired :	about 5 miles			
Number of Sinks disconnected over trapped Gullies	...	...	...	140
Number of W.C. Soil pipes ventilated	...	...	...	2
New Trapped Gullies for Surface Water	...	...	...	9
Houses stoved and disinfected	...	...	...	300
House closed (1), Houses cleansed (66), and overcrowding in Houses abated (12)	...	...	...	79
Wells cleansed and puddled	...	...	...	2
New Wells sunk	...	...	...	8
Pumps and Hydrants repaired	...	...	...	16
Number of Houses connected with the Doncaster Watermains in Balby, Hexthorpe, and Wheatley	...	...	...	1100
Ditto ditto in Barnburgh and Harlington,	supply 57			
W.C.'s provided for New Houses	...	...	...	2
Privies and Ash-pits, ditto	...	...	...	118
Additional ditto ditto, for Old Houses	...	...	...	10
Pigs and Manure Nuisances abated	...	...	...	8
Plans considered, Dwelling-houses	...	...	...	514
Ditto ditto Other Buildings and Alterations	...	...	...	31
New Man-holes provided to Sewers	...	...	...	2
„ repaired and altered	...	...	...	9
Pumps and Hydrants repaired	...	...	...	12
Additional Flushing Chambers provided	...	...	...	1
New Ventilating Shafts for Sewers	...	...	...	6

Cow-sheds on the Register	...	...	...	132
Slaughter-houses inspected	...	...	...	16
In Conisbro' and Clifton, New Sewers	...	...	...	700 yards
In Thurnscoe	do.	...	...	270 „
In Bolton-on-Dearne	do.	...	...	260 „
In Hexthorpe	do.	...	...	220 „
In Barnby Dun	do.	...	...	140 „
In Campsall	do.	...	...	65 „
In Braithwell	do.	...	...	48 „
In Cantley and Branton	do.	...	...	40 „
In Barnburgh	do.	...	...	31 „

CHARLES C. BARRASS,
Inspector and Surveyor.

TABLE A.

Table of Deaths during the year 1893, in the Rural Sanitary District of Donecaster, classified according to Diseases, Ages, and Localities.

[illegible]

TABLE B.

Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Rural Sanitary District of Doncaster; classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities.	Population at all Ages.	Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.										Cases Removed &c. to Isolation Hospitals.	
				Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Fevers.						Small-pox.	Enteric Fever.
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	
Barnburgh Sub-Dist.	4418	131	Under 5 5 upwds.	...	3	...	...	...	...	...	...	...	...	...	...
Bawtry	6642	173	Under 5 5 upwds.	...	35	4	...	...	...	...	...	...	...	5	...
Campsall	5253	140	Under 5 5 upwds.	...	6	10	...	...	6	...	...	1	...	...	...
Tickhill	13419	555	Under 5 5 upwds.	...	9	...	...	...	1	...	...	...	...	...	...
				3	46	1	...	...	17	...	...	...	...	3	2
				1	26	3	...	...	7	...	...	...	...	1	3
				72	96	28	...	...	50	1	...	1	2	72	24
Totals	29732	999	Under 5 5 upwds.	1	44	3	...	...	8	2	...	2	...	1	3
				80	229	43	...	...	73	2	...	2	2	80	26

“Notification of Infectious Disease” is compulsory in the District since 1st March, 1890.

Hospital for Infectious Cases provided in Denaby; 4 cases were treated in the Hospital of the Doncaster Corporation.

TABLE I.

STATISTICS FOR THE RURAL SANITARY DISTRICT AND
REGISTRATION SUB-DISTRICTS DURING 1893.

	Rates per 1000 of the Population.				Deaths under one year to every 1000 Births.	Percentage of Deaths among persons 60 years of age and upwards.
	Births.	Deaths.	Deaths from Zymotic Diseases.	Deaths from Respira- tory Diseases.		
The Rural Sani- tary District ..	33·6	19·3	2·4	5·0	178	27
Barnburgh	29·6	15·6	0·9	4·0	99	40
Bawtry	26·0	17·3	1·2	5·2	161	45
Campsall	26·6	14·8	2·0	3·0	100	42
Tickhill	41·3	23·3	3·7	5·2	221	14

TABLE II.

BIRTH AND DEATH RATES IN THE LARGEST PARISHES
DURING THE YEAR 1893.

Parishes.	Popula- tion 1893.	Rates per 1000.				Deaths under one year to every 1000 Births.	Percent- age of Deaths among persons 60 years of age & upwards
		Births.	Deaths.	Deaths from Zymotic Diseases.	Deaths from Respira- tory Diseases.		
Askern	593	16·8	16·8	..	5·0	100	60
Balby-with-Hex- thorpe	4499	35·3	17·3	3·7	3·5	201	12
Barnby Dun	516	25·1	23·2	..	11·6	230	41
Bawtry	947	30·6	27·4	..	5·2	206	50
Bentley-with-Ark- sey	1948	32·3	18·4	5·1	3·0	111	36
Bolton-on-Dearne..	1728	27·7	9·2	0·5	3·1	83	31
Cantley	547	23·5	10·9	1·8	3·6	153	50
Conisboro'	5119	54·3	29·4	3·7	7·2	223	11
Denaby	1798	34·4	18·3	0·5	7·7	225	3
Misson	574	19·1	20·9	1·7	1·7	181	66
Norton	503	30·0	18·0	..	2·0	66	55
Wadworth	561	35·6	37·4	10·6	3·5	450	33
Wheatley	1906	34·6	16·7	1·5	5·2	136	28

TABLE III.
DENABY ISOLATION HOSPITAL.
NO. OF CASES TREATED DURING 1893.

Disease from which Patients Suffered.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Died.	Re- covered
Small-pox. ...	11	15	15	22	11	2	0	1	.....	.....	.....	.....	8	69
Enteric Fever.	.....	.....	.....	.....	.....	.....	.....	.....	13	5	5	6	2	27
Total	11	15	15	22	11	2	0	1	13	5	5	6	10	96

APPENDIX.

REPORT UPON THE OUTBREAK OF SMALL-POX. JULY, 1893.

The following is a summary of all the cases of small-pox treated at the Denaby Hospital from January to July, 1893. The total number of cases notified was 76, and they were all treated in the hospital. Of these 44 were males and 32 females. The ages of the persons attacked were—

Under 15 years of age	...	...	...	...	...	19
15 to 30	,,	...	...	...	...	37
30 to 45	,,	...	...	...	...	11
45 to 60	,,	...	...	...	...	9

Among the 76 cases there were 29 persons who had never been vaccinated. Of these 8 died, which is equal to a death rate of $27\frac{1}{2}$ per cent. amongst these unvaccinated persons attacked. 47 patients had been previously vaccinated to a greater or less degree—everyone of these recovered. As to the cost of treatment of vaccinated and unvaccinated cases there are the following facts :—The average number of days each vaccinated case was detained in the hospital was 17, whereas the average number of days necessary for the treatment of the unvaccinated cases who recovered was 41 days. Therefore, the cost of treatment of each unvaccinated case was more than double that of one who had been vaccinated. As to the power of re-vaccination to protect other members of the family from catching the disease I give the following facts :—I might here give this explanation, that in every case an urgent endeavour was made to have re-vaccination carried out in every other member of the household where a case of smallpox was notified. Partly as showing the successful results from that action, I am glad to report that in 42 families the disease was confined to a single case in each house. On the other hand, repeatedly, re-vaccination was declined, and I believe the following unfavourable figures are the result :—In one house there were 5 cases, in two houses 4 in each, in three houses 3 in each, and in six houses 2 cases in each. Four of the fatal cases were of persons who refused vaccination after a previous case had been removed from their houses. The infection was kept up through many strangers coming to seek work in the district. Of the 76 cases no less than 21 were new-comers, and several of these were removed into the hospital within a week. These must have been infected several days before they reached this district.

REPORT UPON CASES OF DIPHTHERIA AT LOVERSAL NOVEMBER, 1893.

Since the beginning of 1892 cases of diphtheria, resulting in many deaths, have been prevalent in Wadworth and Loversal villages near to each other.

In my monthly reports I have repeatedly noted the existence of these cases, but the results, as indicated by the death-rate, have been so excessively severe that I wish to draw the special attention of the Sanitary Committee to a short statement of the facts.

With a small population of only 180, as exists in Loversal, an increase in the number of deaths gives some startling results when stated as so many per 1,000. The average death-rate in Loversal for the 10 years 1881-90 was only 10 per 1,000, whereas in 1892 the death-rate was 60 per 1,000, and from zymotic diseases in that year the rate was 23 per 1,000. During the 10 months of the present year the death-rate from all causes was 44 per 1,000, and from zymotic diseases 33 per 1,000.

I ought to state that, coinciding with the outbreak of diphtheria in 1892, there was an unusually large number of deaths amongst old people, equal, in fact, to 60 per cent. of the total number. In 1893—25 per cent. were of old people.

Confining the present report to Loversal: this hamlet stands on a slight elevation of the magnesian limestone formation, which comes very near to the surface, but, through the want of any proper drainage, the surface and shallow sub-soil must be always more or less damp. The first cases of diphtheria occurred in August, 1892. This outbreak was associated, in the two first families attacked, with illness due to measles. That first illness probably pre-disposed the children to the attacks of diphtheria which followed. Two of them had attended at the school at Wadworth, and in that village there had been cases of diphtheria throughout the early part of 1892. I cannot help thinking that the infection of the Loversal children was contracted at Wadworth. From these two families other cases spread. One was a boy working on the farm, who lived in Balby; he died from diphtheria. An examination of the sanitary condition of the premises showed the drainage arrangements to be very defective, so far as carrying off slop-water was concerned. The water supply will be referred to more in detail afterwards. Two deaths occurred from diphtheria and two from measles up to the end of 1892; and as no fresh cases occurred during November and December, the disease seemed to be stamped out in Loversal, but during this time fresh cases kept occurring in Wadworth. In the beginning of the present year a fresh outbreak occurred in Loversal. The history again

pointed to the infection from Wadworth, and from February up to the present time there have been nine cases of diphtheria, with five deaths in five families. Three of these, unfortunately, were children in one household. In visiting each of these houses there was little or no attempt made at separating the sick from the healthy; frequently the patient was being nursed in the ordinary living room amongst the rest of the family. This fact is, to my mind, the chief explanation of the infection spreading in the family. Each house was regularly supplied with disinfectants, and the need for dealing with each case as one of a dangerous infectious disease explained to the parents. The water supply is obtained by all in the village from a watercourse which brings down the overflow from St. Catherine's Spring. That water is very hard, and at its origin is a pure supply. It is added to and altered in character by water from the land in its course from St. Catherine's to Loversal. Very few people go direct to this small stream for their supply. The whole of the remainder obtain the same water after it has been pumped out of the stream by an engine on Mrs. Fisher's farm, or by a wheel on Mr. Simpson's. The cases of diphtheria occurred in families who used the water from both these places. The water, though originally pure, must be considerably polluted in its course, from surface water and land drainage. When Mr. Barrass and I were making our inspection of the village the water was anything but satisfactory in appearance.

But the most radical defect about Loversal is the want of any drainage. Out of 23 houses examined there were only two which could be said to be anyway satisfactory; the others are virtually without any means of drainage. This is a matter so serious that I would strongly urge the Committee to take some means of remedying this serious defect. There are pieces of old drainage existing and several untrapped openings from the road into these drains. What is urgently needed is a sewer carried through the village, with suitable junctions from the several blocks of houses. Mr. Barrass has prepared a rough plan and estimate of how the work could be done and what it would cost.

On reporting the above facts, the Rural Sanitary Authority requested the Surveyor to prepare a plan and estimate for carrying out the required means of drainage and to ask for estimates to be presented at the next meeting.

GOOLE
RURAL SANITARY
AUTHORITY.

Goole Rural Sanitary Authority.

POPULATION, CENSUS 1891	...	...	...	8,967
ESTIMATED POPULATION IN 1893	...	...	...	8,967
AREA IN ACRES	...	...	...	44,111

3 SUB-REGISTRATION DISTRICTS ARE :—

		POPULATION.		AREA IN ACRES.
GOOLE RURAL	...	1,410	...	9,214
SNAITH	...	3,940	...	15,660
SWINEFLEET	...	3,617	...	19,237

TO THE GOOLE RURAL SANITARY AUTHORITY.

GENTLEMEN,

I have now to present my annual report for 1893, prepared in accordance with the instructions of the Local Government Board.

The population of the Rural districts has not been altered to any appreciable extent since the last census.

In 1893 there were 263 births registered—males 121, females 142. The birth rate was 29·3 per 1000, nearly 2 per 1000 under 10 years average rate. In the sub-registration districts the year's birth rate was as under.

Goole Rural portion	...	...	...	27
Swinefleet	...	...	...	28·7
Snaith	...	...	...	30·7

In the parishes of Airmyn, Cowick, Luddington, Pollington, and Swinefleet, the birth rate last year exceeded 35 per 1000.

146 deaths were registered in the Rural districts—males 69, females 77; in addition 9 deaths took place at the Workhouse or the Hospital, in Goole, of persons belonging to the Rural districts, the corrected number is therefore 155, and the death rate 17·6 per 1000 for the year, which was also the average rate of the previous 10 years.

In the Goole Rural sub-districts the year's death rate was 13 per 1000; in Swinefleet districts it was 17 per 1000, and in Snaith districts it was 19 per 1000.

In the parish of Snaith the death rate was exceptionally high, 32 per 1000, chiefly due to an increased number of deaths.

among very young children. In the parish of Whitgift also the death rate was very high, viz., 35 per 1000 caused by many deaths of middle aged people from disease of the lungs. In both these parishes the deaths exceeded the births for the year.

There were 14 deaths registered from zymotic disease; 6 from diarrhoea; 3 from small pox; 2 each from measles and from whooping cough, and 1 from puerperal fever. The death rate was 1.5 per 1000, and in no sub-district nor parish was there any great difference from that low average.

There were 10 deaths registered from phthisis or consumption; 32 from other forms of diseases of the lungs, and 2 from influenza. The death rate was 5 per 1000, the same rate prevailed in each of the sub-districts. In the parishes of Swinefleet, Whitgift, Hook, Snaith, and Rawcliffe, there was an increased number of deaths from diseases of the lungs, and especially among young children in the last 3 parishes just referred to.

Among children under one year the proportion of deaths was equal to 150 per 1000 births. 36 per cent. of all the deaths were among children under 5 years of age, and the same per centage occurred among persons aged 60 years and over that age. Only one death was not certified; inquests were held on 5 cases, 2 of these were caused by drowning; 2 by other accidents, and 1 was a case of suicide.

Cases of Infectious disease

44 cases of infectious diseases were notified during 1893, a lessened number as compared with the previous year.

10 certificates reported cases of scarlet fever.

9	„	„	„	diphtheria.
9	„	„	„	erysipelas.
8	„	„	„	enteric or typhoid fever.
8	„	„	„	small pox.

Scarlet Fever

7 of the cases of scarlet fever occurred at 2 houses, the first case being mild very little separation of the sick ones was considered needful by the parents, and the disease naturally spread to others. One case came into the district ailing, but the origin of the others was not traceable. As the 10 cases occurred in 5 separate parishes there was very little spread of the disease beyond the family first attacked.

Diphtheria

The 9 cases of diphtheria occurred in Rawcliffe, Swinefleet, and Reedness, and 1 case in Airmyn parish. 3 cases in one house were not suspected as being more than ordinary sore throats from

cold until a doctor was called in. At the same time cases were noted from 2 other houses in the same village, but no suspicion of infection from one to another could be traced. The houses at which the cases occurred had very imperfect means of carrying off the slop water, and it appeared as if the presence of damp and waste decaying matters near, induced a more serious form of throat disease than others suffered from at the same time. In the autumn again 2 young out-of-door workers were seized with diphtheria following upon cold caught at their work. In none of the cases was the water supply suspected, as many other persons using the same were not affected. Only in one house was there a second person attacked.

The 8 cases of typhoid fever were reported during August and September last. 4 of these occurred in 2 houses in the same block in Hook, but another case in the same parish was one taken there from a house at Hull, where the father had died from that disease. That was the only case where a distinct origin of the case could be traced. At 4 of the houses the drains were found blocked, that state had been overlooked for several weeks until in one instance the sewage had found its way into the well from which the drinking water was obtained. One of the cases was sent home in the early stage, and died in a few days. Another case was removed to the fever hospital at Goole. In every case of scarlet fever, diphtheria, and enteric fever notified, the house was visited and inquiries made as to the history of the illness, and regarding every sanitary matter affecting the household. Reports of the several defects found have been reported, and some improvements have been carried out. Disinfectants were also supplied, and where needed after the patient's recovery the rooms and bedding were stoved.

Enteric Fever

Little is done at houses where cases of erysipelas are notified. There is no evidence of infection, and when advice is offered as to the possible risk of infecting others it is entirely disregarded.

Erysipelas

Cases of measles are not notified. In Snaith, and the parishes near there were a considerable number of cases; one death from that disease occurred at Gowdall, and following upon that outbreak there were a good many cases of whooping cough, from which one child died.

Measles

The 9 cases of small pox, among whom were 3 deaths registered, caused more anxiety than all the other cases of zymotic diseases.

Small-pox

The first was a farm servant, who was sent from an isolated house to Goole hospital, with the rash well out on him. No suspicion

of what the real disease was had been entertained, and no clue of how he had contracted the disease could be made out.

3 months after a case was notified from another parish, the infection had been conveyed from another outside district where the patient had been visiting. This case also was not suspected as being one of small-pox. The patient had been at her work as a servant in a public house while visitors there remarked that she had chicken-pox. 6 of the 7 cases that afterwards occurred were traceable directly, or through later cases to that source. The death of a child in the same house was certified from congestion of the lungs and small-pox. 2 women who had assisted in washing and cleaning at that house were attacked. The 3 others had visited the house. The cases occurred between the 12th June and the 23rd July. 8 of the cases were treated in the isolation hospital, at Goole, where 2 aged persons died. The occurrence of these cases, and the known dangers associated with hospitals when many cases of small pox are being treated to persons living near the buildings, induced the Sanitary Authority to appoint a committee to look out for a sight in a more isolated position where a hospital might be placed for the treatment of cases of that disease. Several inspections were made. In the meantime a committee of the Goole Loard Board was formed for a similar purpose, and a joint meeting of the two committees was held. The Rural Sanitary Authority did not adopt the views of the joint committee, and no further joint action was taken. There is, I think, strong reason to suspect that the cases removed from the Rural districts to the hospital in Goole were the means of conveying the disease to persons living around the hospital. The knowledge that this danger exists, and is operative even at a considerable distance from the building is a strong reason for yet endeavouring to provide a joint hospital for such cases well removed from any houses.

While the cases continued every endeavour was made to induce persons to protect themselves by vaccination, and extra facilities were arranged with the public vaccinator of the district attacked. A very slight case of small-pox was removed to the Goole hospital from another part of the district in September, but no further outbreak occurred.

In connexion with the recurrence of cases of enteric fever at Hook the Sanitary Authority were reminded that it had not been possible yet to obtain the supply of water from the mains at Goole.

The intended scheme has received the sanction of the Local Government Board, but the transfer of the undertaking from a Company to the Goole Local Board has not been completed, hence the delay. The long dry summer and autumn caused very great scarcity of water in those districts where rain is the only available supply, the shallow wells do not yield a water fit to drink. 4 samples of water from wells were analysed, 1 from a deep well was good, a second contained a considerable per centage of iron. The presence of this metal renders the water unusable, although it is free from any organic impurity. Repeatedly I find the water which comes from the upper portions of the underlying sandstone contains sufficient iron to create in the minds of the people a great objection to its use. The only remedy appears to be to bore deeper into the sandstone, and to tube back all the water from the shallow strata. Another sample of water contained a sufficient amount of lead as to make the water dangerous to use. One well water was largely mixed with sewage. A new deep well was sunk in place of the one which had been polluted.

Scarcity of
Water

Analyses of
Well Waters

The proposal to build a number of houses at both sides of Rawcliffe station makes this question of water supply one to be carefully considered. The bore wells made to a depth of 120 feet do not yield a good usable water, and it may be far more desirable to obtain water from the adjacent pumping works of the Goole Local Board.

A considerable amount of time has been given to the drainage requirement of the villages of Rawcliffe and Swinefleet.

The scheme for providing a suitable means of drainage for Rawcliffe was considered at an inquiry held recently by an Inspector of the Local Government Board. The Sanitary Authority now await the decision of the Board.

Works for
Sewage
disposal

The proposed scheme for a better sewer for Swinefleet has also been submitted to that Department.

When the cases of enteric fever occurred in Snaith inquiries showed that the main sewer was in parts in a very defective state. That portion was made good, and a new extension made so as to dispense with the need of cesspools.

At Rawcliffe Bridge a new sewer has been laid 400 yards in length, it effectually removes the sewage that has long stagnated in an open ditch near to houses, and has also provided a suitable outlet for the drainage of houses erected during 1892 and 1893,

In 6 parishes some defect has necessitated relaying some portion of the main sewers.

Analyses have been made of the water in the ditch which receives the waste water from the Pulp Works. I was able to report that there was now no acid present, and the other impurities were lessened in amount.

One house condemned as unfit to occupy was closed by order of the magistrates.

Scavenging of
Privies and
Ash pits

The scavenging of the closets and ash-pits in the town of Snaith was let to a contractor last year, previously very many complaints were made of inability to get the work done at all.

In Swinefleet also that work is carried out by a contractor and in both places the inspector reports that it is satisfactorily done. In other parishes the tenants are responsible for the regular cleansing of the ash pits. A number of these closets and pits are each year altered. Others are reported as causing a serious nuisance from their being too near to the houses, or the well water. Some of these have existed too long. In 4 cases movable box closets have been substituted, in others the alteration required has not yet been completed.

As Urban powers for new streets and buildings are in force in 6 of the largest parishes, 15 sets of plans have been considered and passed.

Dairies and
Cow sheds

There are 55 dairies and cow-sheds registered in the Goole Rural districts.

The Inspector reports that he has repeatedly to complain of the neglect of the removal of manure, keeping the drains in a good workable condition, and to lime-wash the cow sheds. The importance of the trade of milk selling financially, and also in its influence upon the health of those purchasing deserves more consideration from those persons who are registered.

I remain, Gentlemen,

Your obedient Servant,

J. MITCHELL WILSON, M.D.,

MEDICAL OFFICER OF HEALTH.

21ST FEBRUARY, 1894.

INSPECTIONS MADE, WORK CARRIED OUT, AND NUISANCES ABATED
DURING 1893.

Number of Inspections made	...	...	...	...	448
Number of Nuisances found	...	...	...	...	297
Number abated after written Notice	...	...	...	...	210
Main Drainage taken up and re-constructed	...	...	...	...	173 yards
New Main Drains laid	...	...	...	...	595 yards
Houses connected with New Sewers	...	...	...	...	26
House Drains examined and cleansed...	...	...	...	...	57
Newly-constructed House Drains	...	...	...	...	43
New Gullies provided	...	...	...	...	52
Sinks disconnected	...	...	...	...	2
Cesspools removed and Pot Gullies substituted	...	...	...	...	34
Old Privies and Ashpits re-constructed	...	...	...	...	17
Privies (new)	...	...	...	...	22
Houses cleansed, lime-washed, and disinfected after infectious diseases	...	...	...	...	30
New Houses, and other Buildings	...	...	...	...	15
Lodging Houses Inspected	...	...	...	...	6
Slaughter Houses cleansed and lime-washed	...	...	...	...	14
Wells cleansed	...	...	...	...	6
Cow-shed and Dairies Inspected	...	...	...	...	55
Other Nuisances abated, referring to the removal of Manure, &c.	...	...	...	...	71
Village Water Courses cleansed	...	...	...	...	about 8 $\frac{1}{4}$ miles
Number of Notices requiring better Water supply	...	...	...	...	7
Pig-sties removed	...	...	...	...	8
Houses condemned as unfit for human habitation	...	...	...	...	2

E. C. B. TUDOR,
SURVEYOR AND INSPECTOR.

TABLE B.
TABLE of POPULATION, BIRTHS, and of NEW CASES of SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Rural Sanitary District of Goole; classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES.	Population at all ages.	Registered Births.		Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.						Number of cases removed from their homes in the several Localities for treat- ment in Isolation Hospital.		
	1893.				Small-Pox	Scarlatina	Diphtheria	FEVERS.		Erysipelas	Small-Pox	Scarlatina	Enteric Fever
								Enteric or Typhoid	Puerperal				
Goole Rural Sub- Registration District	1410	38	Under 5 5 upwds	... ...	... 3	... 2	... 6	... ...	... 3	......	......	......	......
Snaith do.	3940	121	Under 5 5 upwds	... 1	1 4	2 2	... 2	... ...	... 3	... 1	... ...	... 1	... 1
Swinefleet do.....	3617	104	Under 5 5 upwds	... 8	... 2	... 3	... ...	... ...	... 3	... 7	......	......	......
Totals.....	8967	263	Under 5 5 upwds	... 9	1 9	2 7	... 8	... ...	... 9	... 8	... ...	... 1	... 1

Notification of Infectious Diseases compulsory since 1st December, 1889.
Isolation Hospital in Goole Urban District.

SELBY
RURAL SANITARY AUTHORITY.

1 8 9 3 .

SELBY :
W. B. BELLERBY & SON, PRINTERS, BOOKSELLERS, &c.

1894.

Selby Rural Sanitary Authority.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR 1893.

POPULATION IN 1893 9,263

AREA IN ACRES 53,341

SUB-REGISTRATION DISTRICTS :—

					POPULATION.		AREA IN ACRES.
CARLTON	...	...	...	...	2,261	...	13,741
RICCALL	...	...	...	...	3,126	...	18,030
SELBY	...	...	...	...	3,876	...	21,570

TO THE SELBY RURAL SANITARY AUTHORITY.

GENTLEMEN,

I have now to present my Annual Report for 1893, prepared in accordance with the instructions of the Local Government Board.

For the statistics which follow I have estimated the population of the several districts as unaltered from the date of the last Census. The births registered during 1893 were 257,—males, 129; females, 128. The birth rate was 27 per 1,000, which, like that of the previous year, was considerably under the 10 years' average rate. The birth rate in the Registration Sub-Districts was :—

Selby Rural	...	...	25·8	per 1000	
Carlton	...	...	28·3	„	and in the
Riccall	...	...	29·4	„	

In none of the Parishes having a population of 500 or over did the birth rate last year equal 30 per 1000, which was a very unusual return.

Throughout the Rural Districts there were 147 deaths registered last year,—males, 67; females, 80; when 5 deaths of persons belonging to the Rural Districts who died at the Workhouse are added, the total number of 152 is equal to a death rate of 16·3 per 1,000, which agrees with the average rate for 10 years. In the Riccall Sub-Districts the death rate was 15·0 per 1,000; in the Carlton it was 16; and in the Selby Rural it was 16·5 per 1,000 of the several populations living in these Sub-Districts.

In the separate Parishes the death rate was :—Brayton, 11·7; Carlton, 14·4; Cliffe, 15·6; Barlby, 15·8. In the following it was in excess of the general average, viz :—Cawood, 18·8; Hambleton, 18·4; Riccall, 19·0; and in Wistow, 19·3. Last year there was an increase in the number (13) of deaths from zymotic diseases as compared with the previous year, but the death rate was low, being 1·2 per 1,000. The causes of these deaths were 7 from diarrhœa; 2 from enteric or typhoid fever; and one each from scarlet fever, continued fever, puerperal fever, and from measles. These deaths were equally distributed throughout the 3 Sub-Districts, and only in the parishes of Barlby, Carlton, and Hambleton was the death rate in this group over 2 per 1,000.

Of the 33 deaths caused by all forms of disease of the lungs, only 3 were due to consumption. The death rate was 3·6 per 1,000, while in the parish of Hambleton that rate was 8 per 1,000, and in Wistow, 6; hence the higher death rate in these two parishes from all causes.

Among infants the deaths equalled 108 per 1,000 registered births. In the Riccall Sub-Districts that proportion was only 76, but it was 140 in the Carlton. In the larger parishes there was a wide difference; in Barlby there were no deaths among infants; in Hambleton the proportion was 300; in Cliffe and Wistow, a little over 200; and in Carlton, 175.

30 per cent. of all the deaths were among children under 5 years of age.

40 per cent. was among persons aged 60 years and over. In the following 8 parishes at least one half of the deaths were among those aged people, viz. :—Barlby, Barlow, Brayton, Drax, Kelfield, Riccall, Skipwith, and Wistow.

In 6 cases the cause of death was returned as not certified, and 12 were registered on the certificate from the Coroner ; 3 of these resulted from accidents, and 9 were due to natural causes.

During 1893, 49 notifications of cases of infectious diseases were received. Cases of
Infectious
Diseases.

27 reported cases of scarlet fever.

15 ,, ,, enteric do.

4 ,, ,, continued do.

1 ,, a case of small-pox.

1 ,, ,, diphtheria.

1 ,, ,, erysipelas.

These cases were considerably over the number reported during 1892.

There were in all 28 cases of scarlet fever in 8 separate Scarlet Fever. Parishes ; 22 of the cases were in the parishes of Osgodby, Barlby, Riccall, Kelfield, and Cliffe, all in the East Riding ; the remainder were in the parishes of Chapel Haddlesey, Camblesforth, and Wistow, in the West Riding. One death was caused by scarlet fever. The infection almost appeared to have continued from the previous year in 2 parishes, as the cases were reported at widely separated houses, and yet associated with slight cases of sore throats which were unheeded.

In Riccall the cases—11—followed closely upon a considerable outbreak of measles, and inquiries as to the beginning of those reported as fever shewed that others were ill with some at least of the symptoms of fever, but were being dealt with as cases of measles. In neither of these diseases is sufficient care taken of the children attacked, but there is rather more readiness to disinfect clothes and keep neighbours children away when the case is declared to be “ a fever.”

A similar history was repeated at Barlby and Osgodby, where, after measles, many children were reported as absent from school, ill of “ sore throats”, followed in a few weeks by genuine cases of scarlet fever. Then as the families first ill began to return to school fresh cases of fever occurred. Every house was visited, and those responsible urged to take every means they could to prevent the disease spreading to others. In addition, these visits resulted in many unsanitary matters being corrected.

Enteric Fever.

The 15 cases of enteric fever occurred in 7 parishes ; two cases died. 13 of the cases were in parishes in the West Riding, and 2 in the East Riding. The cases reported in the early part of the year were at Cawood. 3 of the 4 cases used the Bishopdyke water at the very time when I was reporting cases of the same fever in the district of a neighbouring sanitary authority, where the people used drinking water from the same source. The probability of these having a common origin was strengthened by the fact that a fouling of that stream by coal washing was complained of throughout the whole length. Sewage matter was also known to find its way into the water at the far end. In the early Autumn, cases of enteric fever were notified from several parishes at the same time. 2 of these were introductions from other sanitary districts, and about these also inquiries were made. 2 persons had been removed when ill from one parish to another in these districts, and immediately after suffered from enteric fever. Following the information up I found in one case a fellow-servant had had "a touch of the typhoid fever." That case was not notified. In the other no cause could be found for the disease beginning. The risks attending cases of this fever were shewn by the fact that in four houses second cases of the same disease followed, while one of the fatal cases was a mother, who had nursed her children through an illness, not clearly defined as fever. At the time these cases were prevalent the long drought had considerably reduced the supply from those wells believed to yield good water, and other disused wells were occasionally being drawn from. But the offensive condition of the privies also helped to spread the infection and want of sufficient care in disinfecting the motions. Next door to one of the above group of cases, a whole family—mother and 4 children—were ill together ; one died from continued fever. The Sanitary Authority agreed to my suggestions, that a nurse should be provided to take care of the family, who were then in a condition which might have proved dangerous to the neighbours without the assistance which was granted.

Small Pox.

The case of small-pox began in a workman 2 days after he returned home from Goole, where he usually resided. There had been several cases of that disease under treatment very near

to his lodgings. The greatest care was taken in dealing with this case, and no one else was attacked.

The single case of diphtheria occurred in a family where Diphtheria. several others had sore throats ; the water supply had become so fouled as to be even offensive when it was pumped.

The Medical Attendant reported to me that 2 deaths English Chol registered from diarrhœa—a child and mother—at Cawood, were very suspicious cases of even more than attacks of ordinary English cholera. I made inquiries at once, and found that there was no special condition, such as having visited any other district of late, or any serious sanitary defect about the premises ; as a matter of precaution, a very thorough disinfection of clothes, bedding, drains, and closets, was carried out.

The sanitary work carried out during the year has consisted Sanitary Wo chiefly in extensions of existing sewers, and of relaying such portions as were found in some way defective.

In Brayton parish, the houses in Westfield have had an Extension of Sewer to Westfield. extension of the Local Board's sewer brought, and 8 houses have made suitable connections, and several offensive cesspools and inefficient drains have been got rid of. A tank for flushing this sewer has also been made. The cost of this extension of 80 yards of new sewer has been paid for by the Parish, and in addition a charge of six shillings is to be paid annually by each house for the privilege of discharging the sewage through the mains of the Selby Local Board to their outlet.

In Drax, the outlet of the sewer has long been complained of, Drax. but an entirely new outlet has now been provided with a better fall and suitable manholes.

In the parishes of Barlby, Wistow, Carlton, and Skipwith, the Sewers improved. existing sewers were reported as being deficient, either as being too small, partially blocked, or requiring to be deepened.

In these cases the sewers have now been re-laid in every way to make them efficient and serviceable for carrying off the sewage of the largest number of houses.

To meet these improvements on the part of the Sanitary Authority, 1000 yards of new drains have been laid by private owners for the more effectual drainage of their property. 16 old and objectionable cesspools have been removed, 8 new

ones have been made where found absolutely needful, and 37 properly trapped gullies have re-placed old sink holes, or untrapped openings into drains.

Water Supply. The water supplies of the district have been improved by the following works:—9 houses in Westfield have been provided with a new supply by an extension for 80 yards of a 3 inch main from the Selby mains, the cost of the water to be “Fifty per centum in excess of the water rate charged upon property—other than cottages—in their own district.”

New Wells. Further, 7 new wells have been provided by boring to depths of 54 ft. to 160 ft. in the new red sandstone formation, which prevails generally throughout the whole district. 4 new wells of the old type, varying in depth, from 12 to 14, 24, or 36 feet deep, have also been made; these supply a water very uncertain in quality, and unless most carefully protected are liable to pollutions from the sub-soil.

After analysing, 13 samples of well water were condemned as unfit to drink, and notices served requiring a wholesome supply to be provided. In 5 other cases the amount of impurities found was such as to class the water as of suspicious quality; these wells were opened, cleaned, and usually the water again analysed. These waters were dealt with from 9 separate parishes.

It is occasionally necessary to provide rain water cisterns in lieu of wells supplying unsatisfactory water; one to hold 2400 gallons has been made at Carlton Station, it will probably be necessary for the same Railway Company to provide a similar tank at the Drax Station, as the existing supply is not satisfactory.

Scavenging of ashpits, &c. The scavenging of all the ashpits is done in these Rural Districts by the tenants, and no complaints of any neglect have been made, or cause arisen to suggest any alteration. Where a sufficient water supply and drainage are available, 4 water closets have been provided instead of privies. In 22 other cases alterations of closets and ashpits have been carried out, and half of these are cases where the closets have previously been too near to the dwellinghouses, and were removed to a safe distance, and built after a better method.

Dairies and cow-sheds. The 35 dairies and cowsheds inspected were found in a fairly

satisfactory state, the space is often rather limited in amount, but the cows are, as a rule, few in number lodged together.

Among the 22 boats inspected on the canal and river, no Canal Boats. case of infectious disease was found.

So far no urban powers have been granted to this Rural Sanitary Authority relating to new buildings or to slaughter-houses, and therefore such matters are not systematically kept under observation, but only when some complaint is made, or in the course of the periodical inspections, which are carried out from time to time in each parish.

I remain, Gentlemen,

Your obedient Servant,

J. MITCHELL WILSON, M.D.,

Dip. Public Health, Cambs.,

MEDICAL OFFICER OF HEALTH.

SELBY, 5th February, 1894.

TABLE I.

TABLE SHEWING PARTICULARS OF NUISANCES ABATED AND SANITARY
WORK DONE IN SELBY RURAL DISTRICT, IN THE YEAR 1893.

Number of inspections made	...	...	...	352
Number of nuisances found	...	...	...	152
Number of notices served	...	...	...	85
Number of water notices served	...	...	...	20
New drains laid by Sanitary Authority	...	...	...	391 yds.
Old drains lifted and re-laid by do.	...	...	...	148 „
New drains laid by private owners	...	...	...	869 „
Old drains lifted and re-laid by do.	...	...	...	172 „
Old drains and water courses cleansed	...	...	...	3860 „
New privies and ashpits built	...	...	...	23
New W. C.'s in lieu of privies	...	...	...	4
Old privies and ashpits repaired	...	...	...	3
Old privies and ashpits removed from houses	...	...	...	11
Privies converted into earth closets	...	...	...	4
Ashpits covered and repaired	...	...	...	4
New bored wells	...	...	...	7
New brick wells	...	...	...	4
Old wells bored and deepened	...	...	...	2
Rain water cistern in lieu of well	...	...	...	1
Old wells filled up	...	...	...	8
New pumps	...	...	...	10
New cesspools	...	...	...	8
Old cesspools filled up	...	...	...	16
New gullies	...	...	...	37
Sinks disconnected or removed from houses	...	...	...	3
Dairies and cow-sheds inspected	...	...	...	35
Canal boats inspected	...	...	...	22

*The numerous Cesspools and Gullies throughout the District have all
been frequently cleansed during the year. The open Dykes have also
been cleansed in all the parishes.*

T. CHRISTIE, Inspector.

TABLE II.

STATISTICS FOR THE RURAL SANITARY DISTRICT AND THE SUB-REGISTRATION
DISTRICTS, 1893.

UNION AND SUB-DISTRICTS.	RATE PER 1,000 OF THE POPULATION.				Deaths under 1 to every 1,000 Births Registered.	Percentage of Deaths in Persons aged 60 years and over.
	Births.	Deaths.	From Zymotic Diseases.	From Respiratory Diseases.		
Rural Sanitary District ..	27.7	16.4	1.2	3.6	108	40
Carlton Sub-District ..	28.3	15.9	1.3	4.4	140	36
Riccall Sub-District ..	29.4	15.0	1.2	2.2	76	40
Selby Sub-District ..	25.8	16.5	1.2	4.3	118	45

TABLE III.

AVERAGE BIRTH AND DEATH RATES IN THE WHOLE DISTRICTS AND SUB-REGISTRATION DISTRICTS, DURING THE 10 YEARS, 1881-1890.

	RATES PER 1,000 OF THE AVERAGE POPULATION.			
	Births.	Deaths.	Zymotic Diseases.	Respiratory Diseases.
Rural Sanitary District.. ..	30·4	16·4	1·6	3·1
Carlton Sub-District	32·2	18·7	1·5	3·5
Riccall Sub-District	30·4	15·1	1·2	2·9
Selby Sub-District	29·2	16·5	2·0	3·1

TABLE IV.

BIRTH AND DEATH RATES IN THE LARGEST PARISHES, DURING 1893.

PARISHES.	POPULATION.	RATES PER 1000 OF THE AVERAGE POPULATION.				Deaths under 1 year per 1000 Births.
		Births.	Deaths.	Zymotic Diseases.	Respiratory Diseases.	
Barlby	442	20·3	15·8	2·2	2·2	00
Brayton	509	29·4	11·7	1·9	1·9	66
Carlton	759	22·3	14·4	2·6	3·9	175
Cawood	1108	22·8	18·8	1·9	2·9	43
Cliffe	640	29·6	15·6	0·0	3·1	210
Hambleton	489	20·4	18·4	2·0	8·0	300
Riccall	736	28·5	19·0	1·3	4·0	95
Wistow	674	22·2	19·3	0·0	5·9	200

TABLE A.

TABLE OF DEATHS during the year 1893, in the Rural Sanitary District of Selby, classified according to Diseases and Localities.

NAMES OF LOCALITIES.	Mortality from all causes.							Mortality from subjoined causes, distinguishing deaths of Children under Five years of age.																		
	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.	FEBERS.														Total.				
								Smallpox.	Scarlatina.	Diphtheria.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Erysipelas.	Measles.	Whooping Cough	Diarrhoea and Dysentery.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	All other Diseases		
Carlton Sub-District ..	36	9	5	..	3	6	13	1	1	2	..	1	3	5	1	..	13	14 92
Riceall Sub-District ..	47	7	5	3	..	13	19	..	1	..	..	..	..	..	..	..	1	..	1	1	2	2	2	5	12 35
Selby Sub-District ..	64	12	7	2	3	11	29	..	..	..	..	1	1	..	..	..	..	2	1	1	6	11	1	11	19 45
Totals	147	28	17	5	6	30	61	..	1	..	..	2	1	..	1	..	1	5	2	3	11	14	2	25	45 102
Deaths occurring outside the district among persons belonging thereto...	5	1	..	..	..	1	3	Under 5 upwards	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1 4

TABLE B.

TABLE of POPULATION, BIRTHS, and of NEW CASES of SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Rural Sanitary District of Selby; classified according to Diseases and Localities.

NAMES OF LOCALITIES.	Population at all ages, Census, 1891.	Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality coming to the know- ledge of the Medical Officer of Health.									
				Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.
Carlton Sub-District	2261	64	Under 5 5 upwards	1 3	...	...	...	2	...	...	1	...	...
Ricceall Sub-District	3126	92	Under 5 5 upwards	4 18	...	1	...	1	...	...	...	...	2
Selby Sub-District	3876	101	Under 5 5 upwards	3	...	...	...	12	...	...	...	...	2
Totals	9263	257	Under 5 5 upwards	4 24	1	...	...	15	...	...	1	...	4

Notification of Infectious Disease is compulsory in the district since 1st December, 1889.

There is no Isolation Hospital in or used by the Sick of the district.

TADCASTER
RURAL SANITARY AUTHORITY.

TADCASTER RURAL SANITARY AUTHORITY.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH FOR 1893.

POPULATION AT CENSUS, 1891	...	...	25,987
ESTIMATED POPULATION IN 1893	..	..	26,726
AREA OF DISTRICT IN ACRES	..	..	72,865

REGISTRATION SUB-DISTRICTS :—

ESTIMATED POPULATION.				AREA.	
1893.					
ABERFORD	..	..	16,586	..	29,859
APPLETON ROEBUCK	..	..	5,504	..	25,038
TADCASTER	..	..	4,636	..	17,968

TO THE TADCASTER RURAL SANITARY AUTHORITY.

GENTLEMEN,

It is again my duty to present to you my Annual Report, prepared in accordance with the instructions of the Local Government Board.

I have estimated the population of the district as 26,726, an increase of 739 since the census of 1891. This rate of increase agrees closely with the number of new houses erected from year to year.

Population.

During the year 871 births were registered—males, 445; females, 426. The birth rate was 32·5 per 1000; that rate is 2 per 1000 under the average of the 10 previous years.

Birth and
Death Rates.

In the parishes of Micklefield and Great and Little Preston the birth rate was 36, in Kippax nearly 39, and in Allerton it was again exceptionally high, viz., 47 per 1000. In 1892, in the same parish, it was 48.

464 deaths were registered—males, 251; females, 213. The death rate for the year was 17·3 per 1000; that rate is above the very favourable return of 1892, but the deaths during 1893 were under the average of the previous 10 years.

Last year there was an unusually large number of deaths in the Tadcaster sub-districts when compared with the previous year. In the Workhouse there were 20 deaths in 1893, but only 6 in 1892. In the several parishes included in that sub-district there were 102 deaths in 1893 as compared with 64 during 1892. Deducting 7 of the deaths at the Workhouse as persons brought from the Aberford or Appleton sub-districts, the death rate in the Tadcaster sub-districts was 23·5 per 1000. In the town of Tadcaster the deaths equalled 24·5 per 1000, which was considerably over the rate of the year 1892. The causes of this very exceptional increase will be afterwards noted. In the Appleton sub-districts the death rate was 19·6; in two parishes among these the death rate was high—in Sherburn 25·2, and in South Milford 20·6. The death rate in the Aberford sub-district was exceptionally low, 14·6 per 1000. The only large township in these districts where the death rate greatly exceeded the average was Allerton, there it was 24 per 1000. In the parishes of Barwick, Garforth, Kippax and Preston, the death rate was less than 14 per 1000.

Deaths
from Zymotic
Diseases.

During the year there were 61 deaths registered from causes included in what is usually termed the zymotic group.

25 of these were caused by diarrhœa.

12	“	“	“	measles.
7	“	“	“	enteric fever.
6	“	“	“	scarlet fever.
4	“	“	“	whooping cough.
3	“	“	“	cholera.
2	“	“	“	puerperal fever.
1	“	“	“	diphtheria.
1	“	“	“	membranous croup.

Nearly one-half of all these were deaths among infants from diarrhœa. The death rate for the total was 2·2 per 1000.

The largest share of this mortality was in the Tadcaster sub-districts, where outbreaks of measles and whooping cough, with several deaths from diarrhœa, caused the zymotic rate to equal 4·1.

In Sherburn again, owing to deaths from measles, enteric fever, cholera, and diarrhœa, the zymotic rate was very high, viz., 5·8. In the Aberford sub-districts, as a whole, the zymotic rate was below the average; but in Allerton parish it was 4 per 1000, and in Micklefield and Preston it was 2·5 and 3 respectively.

There were 25 deaths registered from phthisis or consumption, equal to 0.9 per 1000; from bronchitis there were 81, equal to 3.0 per 1000; the rate from these combined 3.9, was less than that for 1892. From these causes the death rate in Tadcaster, Sherburn, South Milford and Allerton, were all in excess of the general average. In addition, 8 deaths were certified as due to influenza, a disease which is often fatal through some lung disease following.

Diseases of the Lungs.

32 deaths, or 7 per cent of the total in the Union, were returned on certificates from the Coroner. 13 were said to be due to natural causes or one not precisely determined, 13 were caused by various accidents, 4 persons were drowned, and 3 were cases of suicide. All other deaths were certified by a medical attendant.

From what has previously been reported as reasons for the increased mortality in several parishes, it would be expected that the children would be the greatest sufferers. The proportion of deaths of infants under one year was 137 per 1000 births registered during the year; in the Aberford districts the deaths equalled only 116, in the Appleton sub-districts 153, and in the Tadcaster sub-districts there was the excessive proportion of 243. In separate parishes we again find South Milford, Sherburn, and Tadcaster with rates of over 200 per 1000 births.

Deaths at Different Ages.

On the other hand, there has been an increase in the number of persons who died over 60 years of age. The general percentage was 34. In both the Appleton and Tadcaster sub-districts there were nearly 37 per cent. of such old persons who died.

During 1893, 216 notifications of cases of infectious disease were received as follows:—

Cases of Infectious Diseases notified

Cases of scarlet fever	..	..	..	122
„ enteric or typhoid fever	..	..	..	45
„ small-pox	..	..	..	8
„ diphtheria	..	..	..	10
„ erysipelas	..	..	..	21
„ puerperal fever	..	..	..	6
„ continued fever	..	..	..	2
„ cholera	..	..	..	2

These returns far exceed the number reported in 1892.

The cases of scarlet fever occurred in 16 parishes in the Union, but nearly 60 per cent. of the whole were cases in the neighbouring parishes of Allerton and Great and Little Preston. The only other townships where the cases were very prevalent were Micklefield and Tadcaster.

Scarlet Fever.

During the first quarter of the year scarlet fever was especially prevalent in Allerton, with a few scattered cases in Preston. From that time up to the end of July very few cases were reported from any township. In August, the first cases were reported at Bower's Rows, and with the children being treated

with all the other inmates of the houses, the disease rapidly spread there and in the village of Great Preston. Many of the houses are found very crowded, and very insufficient disinfection of clothes or bedding can be carried out. In Tadcaster the cases of fever followed quickly upon an outbreak of measles; in some cases the second illness followed very quickly after recovery from the former. Two yards, where the sanitary arrangements are in many ways unsatisfactory, had a large proportion of all the cases that occurred.

In 18 houses throughout the whole district second cases of fever occurred. In four houses, three cases; in three, four cases; and at least in one house, five distinct cases. In addition there were, as often occurs, cases of suspicious sore throat among adults in these houses, as well as distinct cases of fever caught from the children who first began. The history of a few cases was clearly traced to persons coming from other infected houses and districts outside the Union, but far more frequently the continuation of the disease was from door to door among neighbours' children. Isolation in a cottage containing a large family is simply impossible for many reasons, and there is no general feeling that any such care is necessary. 6 deaths were registered among the 120 cases notified, being equal to a rate of 5 per cent. of the cases; 4 of these were children under 5 years of age, among whom there were 55 cases, therefore their death rate was over 7 per cent.

Enteric or
Typhoid Fever.

45 cases of enteric fever were notified. These occurred in nine parishes, although 70 per cent. of all these cases were in the parishes of Micklefield, Sherburn, and Barwick. I ought to add that only 3 cases were notified in the village of Barwick, and 8 others in that parish occurred at Laverack. The cases at that small group of houses were but a continuation of the disease which had broken out in the early part of 1892. As at that time there was no hospital to which the patients could be removed, and as the water supply, the drainage, and the condition of the closets all contributed to the spread of the infection, the result was that three-fourths of the inmates suffered from fever. In the early part of last year the drainage of the houses and the closets and ashpits was thoroughly overhauled; but it was not until October, and only after repeated complaints, that a new and satisfactory water supply was provided.

In Micklefield a group of cases was clearly traced to infection from one case to another. First the woman who nursed one of the early cases was taken ill, another followed in her family, a second in the first house, and a third person was evidently infected from the ashpit into which the motions were deposited.

A similar history of infection is to be noted immediately about the cases at Sherburn; but here, I venture to say that a mistaken impression is conveyed to persons sometimes even by the medical attendant in his desire not to excite unnecessary anxiety as to the illness, in stating, as is so often told us, that there is no infection

from cases of this fever. That is probably the correct view of cases of enteric fever as treated in hospitals under the care of well-trained nurses; but in ordinary cottages, without any adequate notion of the use of disinfectants, and how to deal with soiled linen, my experience throughout the whole of my districts is, that there is a very distinct likelihood of the disease spreading to others, and that far more care is necessary in dealing with such cases.

The liquid sewage from Micklefield was supposed to be filtered through artificially made filter tanks, but the condition of the stream below showed that the purification was far from being efficient. During January and February cases of enteric fever were reported among persons living below Micklefield, whose water supply was obtained either directly from that stream or from wells influenced by it. It was difficult to account for the cases at Newthorpe and in South Milford village. Those at Lennerton in that parish were at first suspected as being cases of influenza, but clearer evidence of these being cases of fever caused them to be notified. Then it was found that the water supply was from an open ditch, which received the effluent from the Sherburn sewage grounds and surface and land drainage, which made the water quite unfit to drink.

Another group of cases of suspected influenza, accompanied with one of enteric fever, occurred a little way above that house. These persons used the same water for drinking, and actually at a point below where the slops from their own houses was thrown into it.

New wells in both cases were ordered by the Sanitary Authority and provided by the owners.

In Sherburn, during the autumn, there were no less than 12 cases of enteric fever in four houses. In two the illness was actually brought into the town by persons returning home ill; in one of these cases the disease spread to another adult, who died. But the most serious outbreak was in two houses in the old crowded yards in Finkle Hill. In each case a young person was first attacked, the family were found destitute and with no possible chance of being properly nursed. In addition, the ash-pits in the yard were so foul and leaking that the health of the whole of the householders in the yard was endangered. There seemed very good reasons for having the first patients removed to the hospital at Garforth Cliff, and that was done. Three others from one of the houses, and two from the second were soon afterwards removed to the hospital, where all recovered.

As was to be anticipated with cases of small-pox very prevalent throughout the West Riding—cases occurred in the Tadcaster districts. Towards the end of April a woman, who had only left Leeds two days before, was found at Garforth with the eruption of small-pox. The husband and wife were lodgers in an ordinary

Small-pox.

cottage where there was a family and a third lodger. An unsuccessful endeavour was made to get the patient into the hospital at Leeds. Happily she was accommodated in an attic. The husband and other persons in the house were at once re-vaccinated, and none of them took the disease. The Sanitary Authority provided maintenance for the whole household. A second case was brought home ill from a house in Leeds; the eruption developed a few hours after her arrival. Similar action was taken about her family, and no fresh case occurred among them. There were, soon after, two cases in the house next to that where the first case was nursed. Another introduction of the infection from Leeds was in a young man engaged at business there, but who lived at Crossgates.

Hospital for
Infectious Cases
provided.

Before these cases broke out, the Sanitary Authority had for some time been trying to obtain a building or site for a hospital for infectious cases. After several negotiations, a site was obtained in a well isolated spot, and yet fairly situated as the centre of a large part of the population of the Union. There was no alternative but to provide an iron building, as the matter had become urgent. A hospital, consisting of two wards, with kitchen, nurses' room, bath rooms, all under one roof, was purchased. A caretaker's lodge and a very complete suite of outside buildings were also provided. Some delay occurred in getting the whole arrangements completed, but the persons then recovering from small-pox were removed to the hospital and a very thorough disinfection of the houses carried out.

In November, two cases occurred—one was a worker in Leeds who lived at Crossgates. At the time the disease was very prevalent at Bradford, and several cases were in the Leeds Hospital Buildings at Manstone; the boundary wall of the park this patient passed every morning. He was isolated at his home, the others there were re-vaccinated, and there was no further case. A visitor to Micklefield was found to be suffering from small-pox, with no history of how infected. She was removed to the hospital, and her friends were placed in quarantine there for a fortnight. No fresh case followed.

Cholera.

Three deaths were registered from cholera. Two of these were in one house, and regarding them there was a suspicion of the illness being more than ordinary English cholera or severe diarrhoea following.

There was a history of diarrhoea neglected, then severe cramps with sickness and purging. After the wife died the husband was, in a few days, very similarly affected, and died after three day's illness. As a matter of precaution the bedding was burned, and the drains, closet, and ashpit very thoroughly disinfected. The well water used was found to contain an excessive amount of lime sulphate—200 grains per gallon—but no indications of organic impurities sufficient to suspect it of having received any leakage from drains or ashpits. The third was a severe case of diarrhoea in an aged person.

There were 10 cases of diphtheria notified ; of these one died. Inquiries showed that the majority of the cases were slight, with no isolation suggested. The fatal case at Sherburn was associated with many cases of mild sore throat, but only three were notified. The worst case, in an adult, followed immediately on having cleaned out a foul cesspool. Diphtheria.

Of the six cases of puerperal fever notified, two died. There was no common cause to explain the origin of these cases, which occurred in five different parishes.

21 cases of erysipelas were notified, with four deaths, two of these being very young children. The cases were reported from 13 parishes, and no second case occurred in the same house, although one person was ill on two occasions. There were therefore no signs of infection. Erysipelas.

On the other hand, measles is a disease which is not included in the list to be notified. Last year cases were very prevalent, and owing to the large proportion of school children attacked, it was deemed necessary to give certificates for a temporary closing of the schools at Tadcaster, Ulleskelf, Crossgates, and Sherburn. The extensive prevalence of the disease and its severity is shown by 12 deaths having been registered from it. These were equally distributed in each sub-district; 11 were among children under 5 years of age. The majority of these fatal cases was due to infection contracted from older members of the family who attended school. There is very little done by parents in the way of separating children ill from measles, and in spite of the number of fatal cases, in practice, the idea prevails that the children had better all have it. Measles.

In addition to the large increase of work in connection with visits to the cases of infectious disease, which have exceeded those of 1892 between three and four times, there have also been many important works for the sanitary improvement of the district considered. Sanitary Work.

WATER SUPPLY.

The provision of a better supply of water to the houses known as Laverack, although not a large matter, was undoubtedly important, as it checked the spread of the cases of enteric fever there. The water supply obtained through Castleford from Wakefield has been extended in Garforth and Allerton parishes. It has been definitely agreed to provide a supply of the same water from Kippax reservoir to Micklefield. This improvement of the water supply there has long been felt to be necessary, but delays have as yet prevented anything being done. Water Supply.

At the end of the year the Wakefield water was supplied in a state which was unfit to use. It was quite milky in appearance, evidently from the presence of finely divided clay. On analysis it was found to contain an excessive amount of saline ammonia. No case of what is known as lead poisoning, through water, has come to my knowledge throughout the district.

Water at
East Tadcaster.

Bilbrough.

The supply of East Tadcaster failed during the summer to that extent as to cause serious inconvenience. The pump which was fixed to obtain a supply from the river very often became useless from the pipe being blocked up with sand. The Sanitary Authority, on the advice of Mr. Brundell, engineer, adopted a proposal to obtain water from a higher point in the river, and to pump it into a tank for general distribution. This proposal is to be considered at a public inquiry held to-morrow. Another scheme for water supply has engaged much attention. Repeated visits have been made to Bilbrough, and analyses made of seven well waters. The result showed that the supply from the wells was impure, and an additional supply necessary. Mr. Brundell's advice was again sought, and a proposal was submitted to raise water in the village from a new well to be sunk. In the meantime, a short length of pipe has been laid, by Mr. Fairfax, from the Hall tanks to the near end of the village. There are still houses a long distance from this supply, and the Sanitary Authority are still considering what further action may yet be necessary. For many separate parishes nine new wells have been sunk and 20 old wells cleaned out, and, where necessary, deepened. During the present year the water supply of Sherburn will require some consideration, as it is very restricted, and the parish wells are not of much service.

SEWAGE AND SEWAGE DISPOSAL.

New Sewers
and
Sewage Disposal

The following townships have been provided with proper sewers and some means of treating sewage :—

Sherburn.

Sherburn has had sewers and a sewage farm for at least 15 years. One part of the town is not yet provided with any adequate sewers, and as a large quantity of the house slops is discharged with the road water into an open pond. Complaints have been repeatedly received of the smell arising from it. A proposal to provide a new sewer for that portion, with an outlet into the present sewage ground, was rejected by a meeting held in Sherburn. Last year £50 was spent in improving the fall of one portion of the old sewer, and £30 in providing better ventilation of all the sewers.

Kippax.

Kippax sewage scheme was completed in 1891, but as yet the method of disposal on the land has not been quite satisfactory. An additional flushing tank has been provided, and a leak from the sewage grounds was made right by laying a subsoil drain.

Garforth.

At Garforth an inspection has been made and a report submitted for extending the sewers from the existing sewage ground to a considerable distance lower down the valley and there deal with it on land. In the meantime, the Sanitary Authority have agreed to allow Mr. Green to endeavour to purify the sewage by means of peat as a filtering material in the existing tanks and adjacent land.

The tanks and filter beds at Crossgates have been well looked after by the tenant, and no cause for complaint at the ground or in the village from the sewers has arisen.

Crossgates.

The sewage from Aberford has been regularly pumped out and distributed over the land, at regular intervals, in a satisfactory manner. The main sewer has been extended 125 yards in the village, and a large offensive cesspool done away with.

Aberford.

In Barwick village, also, a short extension of the main sewer has been made, and a tank for flushing provided, at a cost of £20.

Barwick.

The hamlet of Newthorpe has had a new sewer and filter beds laid down by the chief proprietor, and these are likely to work well as they are attended to every week.

Newthorpe.

The difficulties previously noted in reports in getting ashpit refuse removed induced the Sanitary Committee to let this work to contractors in the townships of Kippax and Allerton. Since the work has been mastered and the old accumulations cleared away, the cleansing in both districts has been carried out satisfactorily. This experiment will be carefully noted, and if entirely successful a similar step can be urged for adoption in other townships with a considerable population. Notices have many times to be served requiring heaps of offensive refuse to be removed from the near neighbourhood of dwelling-houses, and complaints are not uncommon of that work being delayed until, or even after, mid-day.

Scavenging of Ashpits.

I would refer to the table prepared by the Inspector, which gives full details of the sanitary improvements carried out last year. They include work in many branches, and all tending to the protection of health throughout the district.

Details of Sanitary Work.

Under the powers of the existing bye-laws now in force in eight parishes, plans for 8 new streets, 93 new buildings, and 36 alterations to buildings were passed; 85 new houses have been occupied during the year.

Passing of Plans.

159 persons are now on the register as milksellers or cow-keepers, and the only inattention requiring notice was delay in having the premises limewashed in 22 cases. This matter was always at once attended to.

Cow Sheds and Milksellers.

Of the 28 canal boats inspected, 22 were found in every way satisfactory; the remainder had neglected to keep the cabins thoroughly clean, or had not the required certificates on board. No case of infectious disease was found among the 52 men, 12 women, and 23 children living on board these canal boats.

Canal Boats.

I remain,

Yours obediently,

J. MITCHELL WILSON, M.D.,

Dip. Public Health, Cambs.,

January 15th, 1894.

MEDICAL OFFICER OF HEALTH.

TABLE SHEWING PARTICULARS OF NUISANCES ABATED AND SANITARY
WORK DONE DURING 1893.

Number of Inspections, including those to Cow Sheds and						
Dairies, also to Houses in course of erection						1,422
Nuisances found	...	...	...	...	...	393
Notices served by Inspector	...	...	...	...	...	413
Number of Notices served from the Rural Sanitary						
Authority	...	...	...	...	...	65
Nuisances abated	...	...	...	...	...	295
New Drains laid	...	...	...	...	yards.	4,661
House Drains disconnected	...	...	...	...	...	112
New Trapped Gullies provided	...	...	...	...	...	180
Old do. do. cleansed and repaired	...	...	...	...	...	98
Old Drains cleansed and repaired	...	...	...	...	yards	818
Open Drains and Water Courses cleansed	...	...	...	...	yards	3,845
New Privies and Ashpits built	...	...	...	...	...	104
Old do. repaired and Ashpits built	...	...	...	...	...	39
Do. do. and Ashpits removed	...	...	...	...	...	36
New Water Closets	...	...	...	...	...	12
Privies and Ashpits cleansed out after notice	...	...	...	...	...	274
Cesspools made new	...	...	...	...	...	7
Do. cleansed or removed	...	...	...	...	...	10
Houses whitewashed and cleansed	...	...	...	...	...	33
Do. overcrowding of, abated	...	...	...	...	...	5
Do. repaired and ventilated	...	...	...	...	...	21
Do. closed, as being unfit for habitation	...	...	...	...	...	2
Pigs and Pigstyes removed after notice	...	...	...	...	...	50
New Wells sunk	...	...	...	...	...	7
Wells cleansed and Pumps repaired	...	...	...	...	...	20
Rain Water Tanks made and repaired	...	...	...	...	...	5
Cowsheds and Dairies on the Register	...	...	...	...	...	170
Do. do. altered	...	...	...	...	...	3
Do. do. whitewashed after notice	...	...	...	...	...	22
Plans passed for New Houses	...	...	...	...	...	93
Plans passed for other buildings and alterations	...	...	...	...	...	36
Canal Boats inspected	...	...	...	...	...	28
Do. requiring painting, cleaning, or repairs	...	...	...	...	...	4
Do. without registration certificate	...	...	...	...	...	3
Do. without name plate	...	...	...	...	...	2
Urinals provided	...	...	...	...	...	6
Other Nuisances abated	...	...	...	...	...	30

HODGSON DENHAM, *Inspector.*

TABLE II.

TABLE of POPULATION, BIRTHS, and of NEW CASES of INFECTIOUS SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Rural Sanitary District of TADCASTER; classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; public Institutions being shown as separate localities.	Population at all ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.											*Cases removed.									
	Census, 1891.	Estimated 1893.			Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.						Typhus.		Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Small-pox.	Enteric Fever.	
ABERFORD (Sub-registration district)	15,920	16,586	578	Under 5 5 upwards	7	38	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TADCASTER (H) (Sub-registration district)	4,553	4,636	143	Under 5 5 upwards	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
APPLETON ROEBUCK (Sub-registration district)	5,504	5,504	150	Under 5 5 upwards	.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	25,977	26,726	871	Under 5 5 upwards	7	45	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

No case originated at any Public Institution.

Notification of Infectious disease is compulsory in the district since 1st December, 1890. Hospital provided in the parish of Garforth.

*Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital.

TABLE III.
STATISTICS FOR THE RURAL SANITARY DISTRICT AND THE SUB-REGISTRATION
DISTRICTS, 1893.

UNION AND SUB-DISTRICTS.	Population in 1893.	RATE PER 1000 OF THE POPULATION.				Deaths under 1 to every 1,000 Births Registered.
		Births.	Deaths.	From Zymotic Diseases.	From Respiratory Diseases.	
Rural Sanitary District ...	26,726	32.5	17.3	2.2	3.9	137
Aberford	16,586	34.8	14.6	1.6	3.2	116
Appleton Roebuck	5,504	27.2	19.6	2.3	4.9	153
Tadcaster	4,636	30.8	23.5	4.1	5.3	243

TABLE IV.
BIRTH AND DEATH RATES IN SEVERAL OF THE LARGEST TOWNSHIPS, DURING 1893.

TOWNSHIPS.	ESTIMATED POPULATION 1893.	RATES PER 1000 OF THE POPULATION.				Deaths under 1 year per 1000 Births.
		Births.	Deaths.	Zymotic Diseases.	Respiratory Diseases.	
Allerton-Bywater, Township of	2405	47.4	24.1	4.1	5.8	140
Barwick, ,,	2503	26.0	11.6	1.2	2.8	63
Garforth, ,,	2645	29.1	12.4	0.7	2.6	149
Kippax, ,,	2844	38.7	13.3	0.4	3.1	139
Micklefield, ,,	1188	36.2	10.1	2.5	1.6	116
Great and Little Preston, ,,	1626	36.2	11.6	3.0	1.2	135
Sherburn, ,,	1859	26.3	25.2	5.8	4.7	204
South Milford, ,,	1064	29.1	20.6	1.8	4.7	225
Tadcaster, ,,	2895	34.8	24.5	4.6	6.8	206
Swillington, ,,	912	24.1	9.8	0.0	2.1	90

Goole Urban Sanitary Authority.

GOOLE

URBAN SANITARY AUTHORITY.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR 1893.

POPULATION IN 1891	...	...	...	...	14,413
ESTIMATED POPULATION IN 1893	...				16,066
AREA IN ACRES	...	...	...	...	1,332
RATEABLE VALUE	...	...	...	...	£58,060

TO THE GOOLE LOCAL BOARD.

GENTLEMEN,

I have now to submit to you, my Annual Report for 1893, prepared in accordance with the instructions of the Local Government Board.

From all inquiries I can make, there has not been during the past year a similar rapid increase of the population as in previous years. I have estimated the population to the middle of the year as 16,066.

There were 604 births registered, males 291, females 313. The birth rate was 36·6 per 1000, that rate is 2 per 1000 under the average of the five previous years.

There were 310 deaths registered in the town, males 141, females 169; 23 of that number were persons who died at the workhouse or on board ships, canal boats, or were strangers in the town; the corrected number of deaths of Goole persons was 287, the death rate was 17·4 per 1000. The average death rate for the previous 10 years was 18 per 1000. If my estimate of the population for 1893 is in excess, then the death rate would come nearer to the 10 years' average. If the Local Board District was divided into several wards a com-

Population.

Birth and Death
Rates.

parison could then be made of the death rates in the several portions, and with that of the whole town, and it would also help us to localise those conditions which contribute to high death rates and excessive sickness.

Deaths from
Zymotic
Diseases.

During the year 51 deaths were registered from causes usually included in the Zymotic group. Four of these were not residents in Goole, and no less than 31 of the remaining 47 were deaths of children under one year from diarrhoea, and 2 deaths from that cause were of aged people. From other diseases in that group there were 3 deaths of infants from small-pox, 3 from enteric fever, 2 each from diphtheria, membranous croup, and whooping cough, and 1 each from scarlet fever and puerperal fever. The death rate from these, including the fatal cases of diarrhoea, was 3 per 1000, an excess of 1 per 1000 above the average.

Deaths from
Disease of the
Lungs.

There were 13 deaths caused by phthisis or consumption, equal to a death rate of 0.8 per 1000. 35 deaths were caused by other forms of disease of the lungs, which equalled a death rate of 2.1 per 1000: the combined death rate 2.9 from all forms of lung disease was 1 per 1000 below the average. The lessened numbers were among children under 5 years of age, and this fact must be considered in connection with the excess of deaths among children of the same ages from diarrhoea.

Deaths at
different Ages.

For many years, with the exception of 1890, the death rate among infants in Goole was lessening, such a fact is usually considered a good indication of generally improved sanitary conditions. From the facts to which I have just referred the death rate last year among infants was above the average. It was in the proportion of 187 deaths under one year in every 1000 births registered during the year. If we omit the deaths of 13 aged persons not belonging to Goole who died at the Workhouse, then children under 5 years of age contributed one-half of all the remaining deaths registered in the town. If we consider the relatively small number of those living under 5 years of age to the whole population, the proportion of deaths among these children is greatly in excess. To lessen this waste of life the mothers of Goole must aid by their efforts in the house the work of the Sanitary Authority in every thing that tends to keep off or to prevent the spread of disease and death.

On the other hand, nearly 23 per cent. of the deaths were among persons who had reached 60 years or over.

20 deaths or 6.4 per cent. of the whole were registered on the certificate of the Coroner, 7 of these cases were returned as having died from natural causes, 7 were caused by drowning, and 6 by other forms of accidents.

During 1893 notifications were received of the following cases of infectious diseases :—

Prevalence of
Cases of
Infectious
Diseases.

50	cases of scarlet fever,
23	„ enteric fever,
20	„ erysipelas,
16	„ small-pox,
4	„ continued fever
1	„ diphtheria,
1	„ puerperal fever, and
1	„ membranous croup.

The 50 cases of scarlet fever occurred in 47 houses, with no special prevalence in any part of the town. The inquiries made at each house did not often give any direct clue as to the origin of the infection, nor were there many of them grouped near together, while about 60 per cent. of those attacked were children aged between 5 and 14. A much larger number than in previous years, viz., 24 per cent., were adults over 14, the majority of these were young people, at outdoor work, whose infection it was difficult to trace. There were 10 cases under 5 years of age, and these are some of the results of imperfect separation of the children, when ill, from others. 20 of the cases were removed to the Hospital. These, with 2 exceptions, were removed the same day as the notification was received. Following upon the outbreak reported during November and December of 1892, the cases of scarlet fever continued to spread freely during the first quarter of 1893, but afterwards the numbers never exceeded the average prevalence of the disease at ordinary times.

Cases of scarlet
fever.

As some indication of the sanitary condition of the houses in Goole, it is worth noting that among the houses inspected on account of cases of scarlet fever, in 27 the sink drain was found to be properly cut off in the open air over a trapped drain, and where no sink was found there was a good trapped gully in the yard.

One death was caused by scarlet fever.

23 cases of enteric or typhoid fever were notified, in addition a nurse who had come to assist at the Hospital was taken ill of fever 2 days after her arrival, and died. I ascertained that she had just come from nursing cases of that disease.

Enteric or
typhoid fever.

With one exception all the cases in the town were in different families. Up to the end of July there had only occurred 6 cases, but during the next 4 months no less than 17 cases were notified, and owing to cases of small-pox being then under treatment in the Hospital, only 2 very urgent cases of enteric fever could be admitted.

The history of 4 of the cases notified showed clearly that the disease had been contracted elsewhere and only developed very soon after reaching Goole. Two of them travelled together actually ill, from Birkenhead, and 2 others had been living away from Goole for some weeks before they returned in the early stage of the fever. 3 of the cases arising in the town were strongly suspected as being caused by very offensive smells which came from a street ventilator. That private sewer although recently laid—not by the Local Board—was suspected, and was found to be defective in its construction. One of the cases who lived very near to the ventilator complained of died. Some improvement has since been made of that sewer.

Of the remaining cases no special cause of the origin of the fever was traceable. 4 of the patients were from houses where well water was drunk, but none of these waters were found on being chemically analysed to be unwholesome; the town's water was used by the other householders. If we consider the relative numbers who used water for drinking from the old wells and those who drank the town's supply, the cases of fever were in a far greater proportion among those still using well waters. Again there was a proportionately large number of cases among the minority of houses where the privy midden is still retained, and still there have been only exceptional cases of the disease spreading to other persons in the same household partly due, I believe, to the great care taken in having all infected matters systematically disinfected.

No case was traceable to any particular milk supply.

Small-Pox.

The first case of small-pox in a Goole resident was notified on the 7th August. There had been no visit made for weeks before away from the town; on the other hand during the month of July 5 cases of small-pox had been removed from the rural districts for treatment at the Hospital in Goole. There was a suspicion that this first patient who was associated with a man who had disinfected a house in which a case of small-pox had occurred might in that way have contracted the disease. But in the next 8 days 3 additional cases were notified who were proved not to have had any connection with that suspected cause. Some bedding from an infected house in a rural parish had been carted into Goole on the 1st August under conditions which seriously endangered the townspeople of Goole. Two cases notified on the 14th and 15th were far more likely to be due to germs from that infected bedding than any other possible origin. One notified on the 11th lived close to the boundary wall of the Hospital. On the 26th August the mother and sister of a patient, who had been admitted from the town on the 15th, were also taken ill. These were cases of direct infection from the earlier case, and

ccination of the infant and re-vaccination of the mother had been refused. During September 8 new cases were admitted, 6 of these lived within a radius of 250 yards from the Hospital; two others lived much further off. In neither of these last could any direct history of infection be obtained. A second case in one of these families occurred in October. That case was discharged cured on November 9th, and the wards disinfected, as we hoped the disease was stamped out, but on November 16th another slight case occurred within the same circle. Of these 16 cases, 3 died; these were children aged 6 months, 1 year and 2 years, and none of them had ever been protected by vaccination. The 13 others had all been vaccinated in infancy, but none of them had been re-vaccinated. Every endeavour was made specially to get the other members of the family to protect themselves by being re-vaccinated, and happily in many cases with success: 2 adults who declined, afterwards suffered from small-pox. In the town also arrangements were made whereby gratuitous re-vaccination at convenient hours was offered by the public vaccinator; 42 persons availed themselves of this most trustworthy protection.

Up to December no case of diphtheria was notified, then 2 cases were reported after death; there were some doubts during life as to the real nature or extent of the disease.

4 cases were notified as suffering from continued fever, but none of these indicated a very serious illness and were not followed by others in the same house. No less than 20 cases of erysipelas were notified, so far no special action in the way of requiring disinfection to be carried out has been attempted, and no spread of the disease in the same house has occurred.

During 1893, 53 patients were treated in the Hospital for infectious cases, 43 were inhabitants of Goole, 1 was a nurse, previously named, and 9 were from the rural districts.

20 patients were ill of Scarlet Fever,

24 " " Small-pox,

5 " " Enteric Fever, and

4 were admitted into an end ward for a short term of quarantine. All the patients who suffered from scarlet fever recovered.

One patient died from enteric fever and 5 died from small-pox, 3 of these were the children I have previously referred to, and the 2 others were old men who had been brought in from the rural districts.

Diphtheria.

Continued
Fever
and Erysipelas.

The Hospital for
Infectious Cases

The ages of the patients admitted were :—

	Under 1 year,	1 to 5 years,	5 to 20 years,	20 to 60 years
Scarlet Fever	0	5	15	0
Enteric Fever	0	0	2	3
Small-pox	1	4	5	14

The management of the Hospital has been more than usually difficult, and its usefulness greatly hindered through the anxiety of dealing with cases of small-pox and other diseases in the same building. In fact while cases of small-pox were there under treatment only exceptionally urgent cases of any other disease were admitted; happily no such patient was at any time attacked with small-pox. That difficulty first began in April when a case of that disease was admitted from the country. After the dismissal of that patient, a number of cases of scarlet fever were admitted in May and June, but a fresh case of small-pox from the country was admitted on June 14th, others on July 7th, 18th (2 cases), 22nd and 24th. These dates are very important in connection with the question of the origin of those cases which occurred in the town during the month of August. In addition to the 16 cases from the town of Goole already mentioned, 2 cases occurred of persons who usually lived in the town. These were attacked with small-pox after leaving Goole, one of them began on the 7th July, 2 days after, and another on September 7th, the 13th day after he had left Goole. Both these cases had lived within the area of 250 yards from the Hospital. No case of small-pox however occurred among the inmates of the Workhouse, which is in close proximity to the Hospital.

The large percentage of cases, 9 out of 16, occurring within that limited portion of the town, and with no discoverable source of infection other than the fact of their living in near proximity to the Hospital, and in the light of the danger which has been proved to exist in connection with other hospitals where a number of persons are being treated for small-pox, compelled me to bring this matter before the General Purposes Committee, as one requiring very serious consideration. The whole facts were embodied in a short report sent to the Local Government Board and some correspondence followed with that Department. At the request of the Rural Sanitary Authority a joint committee of the Local Board and of that Authority met and discussed the question of a hospital being provided for both Authorities specially for the treatment of small-pox. The Rural Authority subsequently decided not to take any part in the proposed new hospital, and the committee appointed by the Local Board, passed a resolution that a separate hospital for small-pox was necessary, and considerable time was occupied in looking for and corresponding as to the most suitable sites. After having had the benefit of Dr Parsons' opinion, who knows the district

thoroughly, a site was recommended as the most suitable. As the committee were informed that a fresh circular on this question of hospital accommodation might be expected, they decided to defer the further consideration until such circular was received. But the fact ought not to be lost sight of, that wherever a number of cases of small-pox are being treated in the present Hospital under the most careful supervision against the spread of the disease by persons who are compelled to visit there, the persons living near to the building appear to suffer a greater risk of contracting that disease than those living further off. And yet the public are more convinced of the need of persons who are suffering from small-pox being removed for treatment to a hospital than those who suffer from any other disease.

It is very satisfactory to report that while cases of Asiatic Cholera. Cholera were being reported both at several seaports and inland towns during the Autumn, no case even suspected of being cholera occurred in Goole. As part of the Port Sanitary work specially to protect the health of Goole, a hospital ship was provided in every way equipped for the treatment of any sailor attacked with cholera. Another matter especially rising out of the shipping trade of Goole was the question of providing suitable means for disinfecting, by steam, rags imported from abroad. The merchants of the Dewsbury district, who are the chief importers, were anxious that in the required disinfection by steam an apparatus should be used which would injure in the least degree the material. On the other hand the Medical Officer of Health is required to certify that the process of disinfection is adequately carried out. After a good deal of correspondence and consultation, an agreement was come to that a suitable apparatus should be provided at Goole by a syndicate of merchants. Before that work was begun, however, the Local Government Board withdrew the need for rags imported as merchandise being disinfected. Personally I have on more than one occasion experienced some difficulty on being called upon to act under the conditions of a new Order of the Department without having previously been furnished with a copy. The last occasion was only a few days ago when the Customs' Authorities produced a later Order than I had ever been aware of. As these and similar Orders are addressed on their first page to Medical Officers of Health and others, I venture to think that a copy should be furnished to that officer direct.

Disinfection of
Imported Rags.

I was considerably disappointed that the proposal to put down an apparatus for disinfecting goods by steam was not carried out, for I had hoped that it might have led to an arrangement whereby clothing, &c. from infected houses could

Disinfecting
Apparatus.

Sanitary Work.

have been properly disinfected. We are forced still to rely upon the old untrustworthy means of stoving with the fumes of burning sulphur. In reporting upon the Hospital, I omitted to note that a long needed want was last year provided, viz., a bath room outside the actual hospital block where patients have a final bath and change of clothing before returning to their friends. But a steam disinfector is equally necessary for our work in controlling the spread of infection.

Ventilating and Flushing of the Sewers.

In order to prevent any accumulation of foul air in the sewers, 12 additional upright shafts have been provided. There is need for an increasing number of these, for there can be little doubt that as the sewer outlets in Goole are periodically closed through the high tides, and especially when there is also a great deal of fresh in the river, ventilation by road grates is not a safe method. There must at such times be a filling up of the sewers by retained sewage and surface water and a consequent driving out of the air of the sewers by every opening, therefore the number of ventilators by upright shafts should, I think, greatly exceed the openings at the street level.

As last year there was a very limited supply of water to be had from the water mains for flushing, it was necessary to obtain an additional supply for that purpose, first by a bored tube well in Hook road and also by an arrangement with Mr. Timms to utilize the condensing water from his mill. Some amount of water is also obtained for flushing from an open ditch at the far end of Pasture-road. For the district of Old Goole the well and flush tank there have been altered, so as to increase the volume of water. In addition the street gullies were during the summer and autumn months very frequently flushed and disinfected. The Surveyor reports

"that 38 gullies have been fixed in the streets in place of brick cesspools. There has been a decrease in the number of new buildings erected. Plans for 88 dwelling-houses have been passed, and 12 for other buildings or alterations"

Water Supply.

The arrangements for the purchase by the Local Board of the Gas and Water Works formed the subject of an inquiry last year by an Engineering Inspector of the Local Government Board. That Department has not yet given its decision. The proposal to add to the present supply now obtained at Rawcliffe Bridge, by sinking from 600 to 1,000 feet deeper, was adopted after considerable inquiries as to the nature of supplies in the surrounding districts, and also on the recommendation of Mr. De Rance, of the Geological Survey.

Several well waters have been analysed, these vary very slightly in character, and although not entirely free from organic impurities they could not be condemned as unwholesome. At the present time fully three-fourths of the houses are supplied with the town's water.

The scavenging of the ashpits and the box-closets have been carried out by the Contractors with very little cause for complaints. The disposal of the stuff is mainly on the agricultural land in the near neighbourhood of Goole. The actual amount of refuse removed was less last year owing to the special efforts as to extra and thorough cleansing made during the previous year. Scarcity of fuel during the coal strike, and the long hot summer helped to lessen the amount of refuse to be removed. The Inspector's list of works carried out, shows that in every branch of it there has been a systematic notice taken, and the removal required of conditions which are likely to injuriously effect the health of householders.

Scavenging of
Ashpits.

Unfortunately the officials of the Local Board know nothing as to whether any steps are taken in protecting the inhabitants against adulteration of their food, &c., as that work is in the hands of the police.

Apart from the work of the Port Sanitary Authority there is a large floating population on board the Canal Boats. Among the 93 boats inspected last year, it was very satisfactory to find that no case of infectious disease was found. The sanitary condition of these boats as dwelling-houses was very satisfactory, the great majority of the non-observance of the regulations found were omissions to note the change of owners or failing to register the boat.

Canal Boats.

Many of the Cow-sheds which have long been registered in Goole come far short of what a healthy structure should be, and the surroundings are not kept as clean as they ought to be in places where food is concerned.

Cow-Sheds.

There was a lessened number of the old common Lodging-houses last year, as several have been closed. There is great want of good accommodation for the persons who use these houses and as disease is very often spread by these strangers, it is very desirable that only suitable premises should be registered.

Common
Lodging-Houses

In concluding this report, I would remind the Board that it has long been felt necessary to reconsider the Bye-laws relating to new buildings. The amount of air space now sanctioned at the rear of houses is not adequate when compared with the practice of surrounding towns and also by the literal reading of your Bye-laws. Additional Bye-laws are also required under the extended powers given by the Public Healths (Act) Amendment Act which you adopted last year.

Bye-Laws.

I remain, Gentlemen, your Obedient Servant,

J. MITCHELL WILSON,

Goole, January 10th, 1894.

TABLE I.
LIST OF NUISANCES ABATED, AND STRUCTURAL ALTERA-
TIONS MADE DURING THE YEAR 1893.

No. of Inspections made	...	...	...	...	4,498
„ Verbal notices given	...	...	...	...	178
„ Written notices served	...	...	...	...	85
„ Notices complied with	...	...	...	...	245
„ Nuisances partly abated or in progress	...	...	...	...	18
The Nuisances abated include :—					
No. of House drains repaired and defects remedied	...	...	...	...	215
„ Cesspools replaced with Pot Gullies	...	...	...	...	36
„ Common Lodging-Houses regularly inspected	...	...	...	...	5
„ Houses disinfected and cleansed	...	...	...	...	82
„ Closets and Ash-pits	...	...	...	...	884
„ Middens emptied	...	...	...	...	10,069
„ Closets and Ash-pits repaired	...	...	...	...	85
„ Box Closets and Dry Ash-pits	...	...	...	...	2,575
„ „ emptied	...	...	...	...	120,553
„ Sinks and Cisterns disconnected from drains	...	...	...	...	17
„ Dry Ash-boxes emptied	...	...	...	...	11,069
„ Loads of Night-soil removed	...	...	...	...	8,383
„ Other Nuisances abated	...	...	...	...	51
„ *Canal Boats Inspected	...	...	...	...	93
„ Boats on Goole Register	...	...	...	...	717
„ „ Registered in 1893	...	...	...	...	6
„ Regulations cancelled	...	...	...	...	1
„ Canal Boats Notices served	...	...	...	...	22
„ „ Letters as to	...	...	...	...	42
„ „ No Certificate on Board	...	...	...	...	2
„ „ Not Registered	...	...	...	...	7
„ „ Change of Owners not notified	...	...	...	...	12
„ „ Requiring better ventilation, cleans- ing, &c.	...	...	...	...	2
„ „ Transfer of Ownership and Certificate	...	...	...	...	31
„ „ „ Captain's and Boat's Names	...	...	...	...	13
„ „ Duplicate Certificate provided	...	...	...	...	5
„ Houses now supplied with Town Water	...	...	...	...	3,041
„ Cow-sheds, Dairies and Milk-shops registered	...	...	...	...	46
„ Bodies placed in Mortuary	...	...	...	...	5

*No Case of Infectious Disease has been noted during 1893.

F. CHAMBERS, INSPECTOR.

TABLE II.
BIRTH AND DEATH RATES IN GOOLE, IN 1893, AND FOR THE PREVIOUS FIVE YEARS, COMPARED
WITH THOSE OF THE WHOLE COUNTRY.

Year.	Rate per 1000 of the Population.				Deaths from Zymotic Diseases.		Deaths in Infants per 1000 Births.	
	Births.		Deaths.		Goole.	England and Wales.	Goole.	England and Wales.
	Goole.	England and Wales.	Goole.	England and Wales.				
1893	36.6	30.8	17.4	19.2	3.0	2.4	187	159
1892	39.6	30.5	16.6	19.0	1.9	1.9	152	148
1891	38.7	31.4	17.5	20.2	0.9	1.8	141	149
1890	35.8	29.7	20.8	19.2	3.4	2.0	200	151
1889	40.8	30.5	20.0	17.9	2.0	2.1	141	144
1888	38.0	30.6	16.0	17.8	1.3	1.7	127	137

TABLE III.

DEATHS FROM THE PRINCIPAL ZYMOTIC DISEASES IN 1893 AND DURING THE FIVE PREVIOUS YEARS.

	1893	1892	1891	1890	1889	1888
Small-Pox	3	0	0	0	0	0
Scarlet Fever	1	0	2	8	3	2
Membranous Croup ...	2	2	0	0	0	0
Diphtheria.....	2	1	1	0	1	1
Fevers ..	3	3	6	6	9	1
Puerperal Fever	1	1	0	0	0	0
Measles	0	7	0	4	25	0
Whooping Cough	2	18	2	23	8	7
Diarrhoea	33	3	4	16	2	7
Total.....	47	35	15	57	48	—18
Rate per 1000	2·9	1·9	0·9	3·4	2·9	1·3

TABLE IV.
DEATHS FROM SEVERAL GROUPS OF DISEASES, CHIEFLY AMONG CHILDREN UNDER FIVE YEARS OF AGE.

	Total.	Deaths per 1000 of Population.	Proportion of Deaths in every 1000 from all causes.
1.—Seven Principal Zymotic Diseases.....	47	2.9	125
2.—Pulmonary Diseases	35	2.3	122
3.—Tubercular Diseases	20	1.2	64
4.—Wasting Diseases of Infants	23	1.3	74
5.—Convulsive Diseases of Infants	23	1.3	74

- 1.—Includes Measles, Scarlet Fever, Whooping Cough, Enteric and Continued Fevers, Diphtheria
Membranous Croup, and Diarrhoea.
- 2.— " Bronchitis, Pneumonia, Pleurisy, and Asthma.
- 3.— " Phthisis, Scrofula, Tabes-Mesenterica.
- 4.— " Marasmus, Atrophy, Debility, and Premature Birth.
- 5.— " Hydrocephalus, Infantile Meningitis, Convulsions, and Teething

TABLE V.
SUMMARY OF CASES TREATED IN THE FEVER HOSPITAL, GOOLE, DURING 1893.

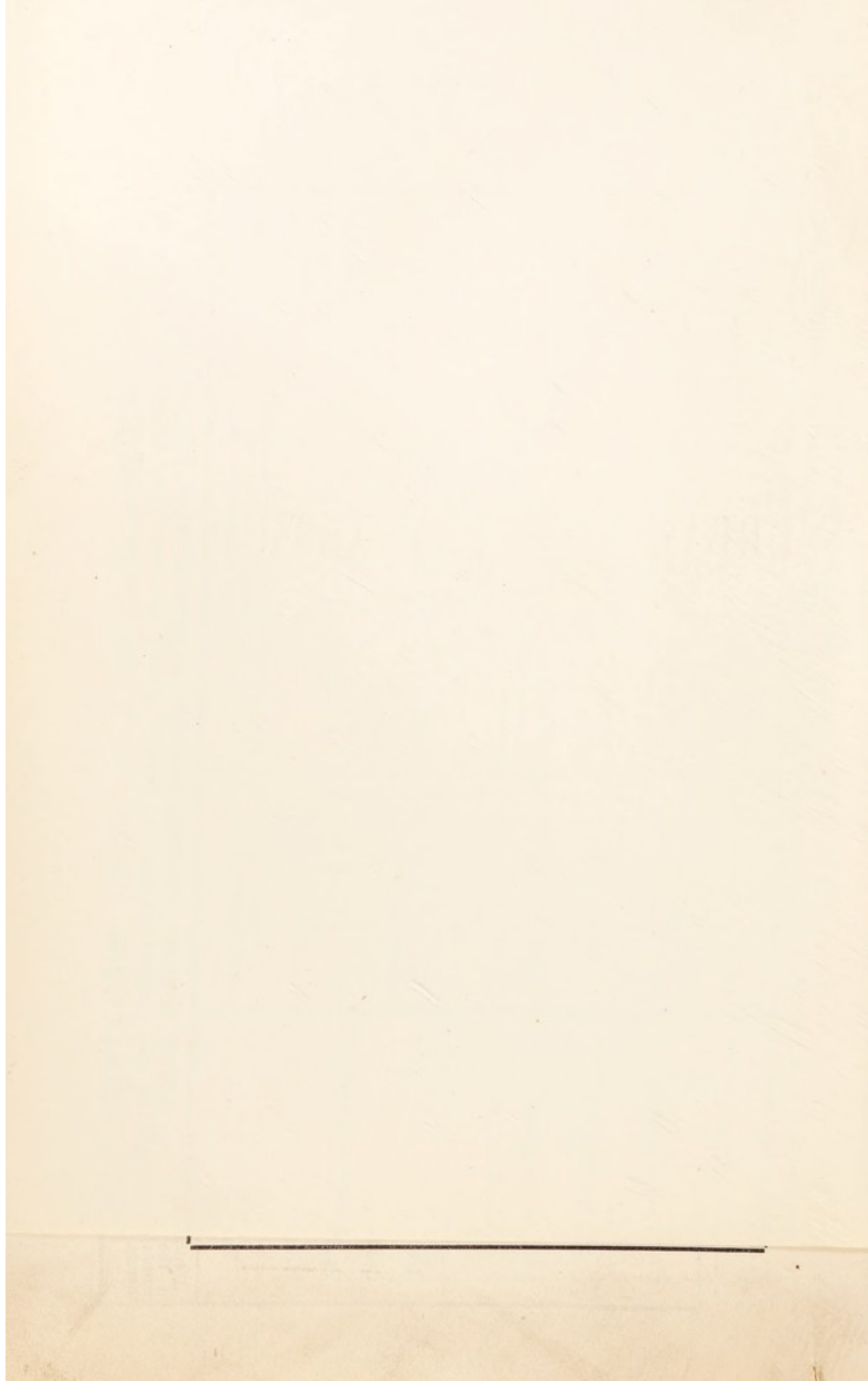
DISEASES.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Recov- eries.	Died.
Scarlet Fever ...	5	2	2	1	4	4						2	20	
Enteric Fever ...								1			3	1	4	1
Small Pox				1		1	5	7	8	1	1		19	5
Other Diseases ...	3											1	4	
Totals	8	2	2	2	4	5	5	8	8	1	4	4	47	6

TABLE B.

TABLE of POPULATION, BIRTHS, and of NEW CASES of SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Urban Sanitary District of Goole; classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES.	Population at all ages.		Registered Births.	Aged under 5 or over 5.	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 Localities for treatment in the Isolation Hospitals.									
	Census. 1891,	Estimated 1893.			FEVERS.												Small-Pox	Scarlatina	Enteric or Typhoid Fever	Erysipelas	Other Diseases					
					Small-Pox	Scarlatina	Diphtheria	Membranous Group	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas											
Goole Town	15,281	16,334	604	Under 5 5 upwds	5 11 11 39	1	1	1	1	5	18	2	2	1	1	5	3	2	1	1	20	5	15	3	1	3
Workhouse H.	132	132		Under 5 5 upwds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever Hospital.....				Under 5 5 upwds	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Totals.....	15,413	16,466	604	Under 5 5 upwds	5 11 11 39	1	1	1	1	5	19	2	2	1	1	5	4	2	1	1	20	5	15	4	1	3

Notification of Infectious Diseases has been compulsory in the district since 9th December, 1889.
Isolation provided in the Fever Hospital



SELBY

URBAN SANITARY AUTHORITY.

SELBY

URBAN SANITARY AUTHORITY.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

FOR 1893.

POPULATION, CENSUS, 1891	..	..	..	6,022
ESTIMATED POPULATION IN 1893	..	..	..	6,022
AREA IN ACRES	..	..	..	3,643

TO THE SELBY URBAN SANITARY
AUTHORITY.

GENTLEMEN,

I have now to present my annual report for 1893, prepared in accordance with the instructions of the Local Government Board.

I am not aware of any reason for altering the estimate of the population from the numbers found at the last Census.

During 1893, 186 births were registered—males, 96; females, 90. The birth rate for the year was 30·8 per 1,000, that rate is slightly under the average.

Birth and
Death Rates.

136 deaths were registered in the district, males, 57; females, 79; 8 of these were deaths at the workhouse of persons belonging to the rural districts, or strangers. The corrected number, 128, is equal to a death rate of 21·2 per 1,000. The average rate of the previous 5 years was only 18. Some of the causes for the

increase during last year will be noted, but the heaviest mortality was during the first quarter of the year, when the

deaths during	January, February, and March last	were	44.
„ „	April, May, and June	„ „	27.
„ „	July, August, and September	„ „	32.
„ „	October, November, and December	„ „	33.

There were 10 deaths during the whole year from diseases in the zymotic class, viz. :

1	from enteric fever.
1	„ scarlet fever.
1	„ puerperal fever.
2	„ whooping cough, &c.
5	„ diarrhoea.

The death rate from these was 1·6 per 1,000, which is near to the 5 years average rate; of late years the deaths from diarrhoea among infants have equalled at least one half of this group.

There were 11 deaths caused by phthisis or consumption, 5 males and 6 females, the ages of the males were between 22 and 55 years, 3 were outdoor workers and 2 indoor. 2 female children were certified as having died from phthisis, the ages of the 4 adults were between 24 and 50 years, only one had been an outdoor worker. The death rate was 1·7 per 1,000, which is in excess of last year's rate. From other diseases of the lungs, including bronchitis, pneumonia, &c., there were 28 deaths, equal to a death rate of 4·5 per 1,000; together, the deaths from all diseases of the lungs equalled 6·2, whereas the rate for 1892 was only 3·5.

During the last quarter of the year, 7 deaths were registered from Influenza, in 4 cases associated with some form of lung disease. It is therefore in this combined group that the increased mortality of the year occurred.

The proportion of deaths among infants was 139 per 1,000 registered births, this is considerably in excess of the rate for 1892, and slightly over the 5 years average. 34 per cent. of all the deaths, during 1893, were among children under 5 years of age; 36 per cent. were of persons aged 60 years and over.

All the deaths were certified by a medical attendant with the exception of a death from burning which was certified by the coroner.

Cases of
Zymotic Disease

During 1893, 50 notifications of cases of infectious disease were received.

25	reported cases of scarlet fever.
14	„ „ small-pox.
9	„ „ enteric fever.
1	„ „ continued fever.
1	„ „ erysipelas.

The 25 cases of scarlet fever occurred in 17 houses, in 1 house there were 6 cases; in 3 houses, 2 cases occurred in each; in 13 houses, the disease only attacked one inmate. One death—an adult—was caused by scarlet fever. The first case was reported in August, and was a boy who had returned home ailing; in September, again, a second imported case occurred. The history obtained of some of the cases, during the next 2 months, gave strong reasons to think that slight cases were either not detected, or, if they were, no notification was sent. In the early part of November notice was received of 5 cases in one house, where the disease had existed for at least a fortnight, complicated with clothes being made on the premises. The remaining cases did not appear to have a school origin, but rather as due to infection from previous cases near to, or no clue could be obtained of how the disease originated; 4 of the cases were among adults. The cases were all treated in their own houses, in the majority of those reported some endeavour was made to keep the sick person from others. This time of isolation is very often far too short, due to the patient being pronounced as “better of the fever,” while for a further term of several weeks there still continues a power to infect other persons, and the complete disinfection of the clothing and of the infected room should only be carried out when the patient is not only better but entirely free from the risk of infecting others.

Scarlet Fever.

14 cases of small-pox occurred from January to June. The first and the last cases both occurred at the workhouse. The infection each time was taken there by the person attacked. These cases were treated in the new isolation block without any further spread of the disease from them. The remaining cases occurred in houses in one of the common yards or among the relations of persons living there. The first was reported on March 20th, the origin was no doubt due to infection from a neighbour's house where 3 adults had been ill of supposed chicken-pox; the first of these having begun within a week after returning home, “feeling poorly,” from a neighbouring town where cases of small-pox were rife. The first case occurred at No. 14 in the yard; 2 additional cases were reported from there at the end of a fortnight. On the 1st April a case was reported from No. 11, followed by 2 fresh cases there on the 16th.

Small-pox.

2 relations who had visited the first case at No. 14 were both attacked on April 3rd,—these lived in another part of the town. On the 19th April, another case was reported in a street very near the yard where there had been 6 cases ill, it appeared to be a fresh introduction of the infection from Leeds. On the same day a new case occurred at No. 10 in the same yard as the others, and on the 20th 1 at No. 17, and on May 5th a second case occurred at the same house.

Of the 14 cases, 9 occurred in 4 houses in the same yard; 2 others were relations who had visited there; 2 were distinct cases of bringing the infection with them; and 1 was of doubtful

origin. All the cases made a good recovery, although several suffered from a very sharp attack. The dates given of the first beginning of the several cases in the separate houses are very characteristic of cases of small-pox, and also the fact that the persons attacked were, with 2 exceptions, over 14 years of age. The houses were ill-fitted in which to isolate such cases for want of sufficient bedrooms, and in some there was even overcrowding under ordinary circumstances. Very little response was given to our appeals to protect themselves by re-vaccination, by others in the same houses or near to; hence the additional cases that broke out at the end of 14 days, the almost invariable time before the infection fully declares itself.

The occurrence of the cases was at once reported to the Local Board, also the insufficiency of the means to prevent the spread of the disease at the patients houses; my advice was that a hospital should be provided, to which the patients could be removed. A meeting of the local Medical Practitioners was called by the chairman on April 5th to specially consider the best means of preventing the spread of the disease, they submitted the following resolutions to the Board—

- 1.—“That a temporary hospital of 3 wards should be provided.”
- 2.—“Failing any other site being obtained, we see no objection to the allotments site especially at the Flaxley road end.”
- 3.—“Medical attendance not to be provided by the Local Board unless an extra charge for journeys to the hospital.”
- 4.—“Cases of chicken-pox ought to be notified, at least for a time.”

Several inquiries were afterwards made as to the cost of a temporary hospital, the providing of tents, and as to utilizing an old building. Inspections were made of several likely sites but no definite decision was come to on the question of providing a hospital. In the meantime everything was being done to prevent persons from the infected houses mixing with others, the Board supplied food, &c., to the several families; when there was overcrowding an empty house was taken and several persons lodged there. Nurses were provided and repeated instructions were given as to the need for thorough disinfection of clothes, bedding, and rooms. On the recovery of the case, that work was finally carried out at the expense of the Board.

Enteric Fever.

The 9 cases of enteric fever were notified in 6 houses, in one of these there were 3 persons attacked; in another, 2.

The first originated immediately after eating a large quantity of fruit with no other history of a likely origin. No case had been reported in the town for 6 months previously. The boy was nursed at home amid a large family, and 2 other cases of

the same fever followed. This spread of the disease may have been due to a very defective privy situated near the house.

2 cases occurred in another small house in a yard off Finkle Street. The origin of the first could not be traced, and as there was only a single bedroom, the occurrence of the second case was not unlooked for. 2 cases were reported from another yard, the first of these appeared to have originated while at work in the country, and the condition of the common closet—which was complained of as being very offensive—probably contributed to the second case. Another case gave a history of the illness beginning before returning to Selby; while another was believed to have begun from offensive air coming from a manhole. All the 9 cases notified this year recovered; the death from enteric fever was of a child who had been ill during the previous year.

In addition to these cases of infectious disease notified, cases of measles were prevalent during August. The cases were chiefly among the scholars from one school. Following upon that outbreak, there were some cases of whooping cough from which 2 young children died.

Measles.

An extension of the sewer in Brayton Road, 200 yards in length, has been taken to the houses in Westfield. There has now been carried out the only effectual remedy of the cesspools and inefficient drains which had been very frequently complained of. The same district has also now been supplied with the town's water supply instead of the uncertain supply previously had from a well.

Sanitary Work.
Sewers.

2 additional ventilators have been provided to the sewer in Millgate, and arrangements are being made to provide better ventilation, by 4-inch pipes, of the Doncaster road sewer.

Arrangements for flushing New Lane sewer from Brayton drains were completed, an extra flushing of the town sewers, also the common yard drains, was done during the summer.

Nuisances.

Many of the nuisances dealt with by notice during the past year were cases of blocked drains, and closets either blocked or without any ventilation.

Slaughter
Houses.

The Local Board having adopted new bye-laws relating to slaughter houses, I accompanied the Inspector in visiting each place and explained the alterations in these, and so far there have not been any complaints made.

The new Inspector has recently examined the 25 dairies, cow-sheds, and milk shops on the register, and reported them as in a satisfactory state, unless a few who had not limewashed the walls very recently.

Dairies
and Milkshops.

The scavenging of the privies and ashpits has been carried out, as in previous years, by the Board's workmen; 1,500 loads of

Scavenging.

ashes, &c., have been removed at a cost of just under 2s. per house. The privies and ashpits are cleansed about once in 6 weeks, and a large amount of house refuse from boxes weekly. Very little is sold, and the remainder has been disposed of, as in previous years, by tipping in an old brick pond.

The condition of closets with middens attached, both at old and comparatively new houses, has been, in those reported, so very offensive that the only remedy was to convert these into water closets. That order has in most cases been complied with, to the very great advantage of the tenants.

The Local Board adopted the model set of bye-laws relating to nuisances.

Offensive Trades

The Local Board granted permission to new works for bone grinding and manure making, also for premises to be used for boiling tripe. These have been carried out without any complaints.

The paving of several—9—of the common yards has been improved, and where it has been effectually done with flags or asphalt the cleanliness and comfort from the surface being dry must be an immense benefit to the householders.

House Accommodation

Through the change of the Surveyor and Inspector to the Local Board the details of the year's sanitary work may not be so full as in previous years, but Mr. Curry has supplemented my own notes with many particulars. The plans passed last year for new houses were only 11, but we may anticipate a considerable increase in that number shortly, owing to land recently laid out as building sites. The fact, that many of the old houses in yards, and those in other situations but placed back to back with other buildings, are being left for more healthy houses, shows that there is a need for such being built. 16 houses ordered to be closed in 1892 still remain unaltered and untenanted, others were being altered. It has been very frequently noticed that cases of infectious disease were reported in houses without any through ventilation. Some of these are old houses with other buildings at the back; others have a free air space at the rear but with no opening upon that space. Other houses have been reported as being very dirty, often from neglect on the part of the tenant, and these have been required to be limewashed.

Last year an order was made to close one house as unfit to be occupied.

During the prevalence of cases of Asiatic cholera in several places extra work of cleansing drains, ashpits, and common yards was carried out.

The bakehouses inspected were found in a clean and satisfactory condition. No case of infectious disease was found on board any of the 20 canal boats inspected. Bakehouses.

I remain,

Yours obediently,

J. MITCHELL WILSON, M.D.,

Dip. Public Health, Cambs.,

January 15th, 1894.

MEDICAL OFFICER OF HEALTH.

NUISANCES ABATED AND SANITARY WORK DONE DURING THE YEAR
ENDING 31ST DECEMBER, 1893.

Inspections made	...	...	...	...	...	...
Verbal and Written Notices from Inspector	...	...	...	...	...	...	177
Notices from the Board	...	...	...	...	...	...	38
Drains taken out from under Dwellings	...	...	...	...	...	...	2
Sinks, &c., disconnected	...	...	...	...	...	...	8
House Drains ventilated	...	...	...	...	...	...	3
Blocked Drains and W.C. opened out and cleansed	...	...	...	...	...	...	36
Ashpits repaired and removed from against dwellings	...	...	...	...	...	...	6
Town Water Supply laid on to Houses	...	...	...	...	...	...	11
Premises cleansed and limewashed	...	...	...	...	...	...	17
Nuisance from overcrowding abated	...	...	...	...	...	...	3
Surface of Yards repaired	...	...	...	...	...	...	9
Accumulations of Manure removed	...	...	...	...	...	...	3
Spouts repaired	...	...	...	...	...	...	3
Houses closed unfit for human habitation	...	...	...	...	...	...	1
Loads of House Refuse and contents of privies removed	...	...	...	...	...	...	1,500
Other Nuisances abated	...	...	...	...	...	...	64
Common Lodging Houses on the Register	...	...	...	...	...	...	6
Dairies and Cowsheds on the Register	...	...	...	...	...	...	25

Canal Boats inspected	...	...	...	...	...	20
Bake Houses inspected	...	...	...	...	...	9
Slaughter Houses on Register	...	...	...	...	...	8
Length of New Sewer in Westfield in Urban district					yds.	200
Do. Water Main	do.		do.		,,	200

W. CURRY,

Surveyor and Inspector.

TABLE B.

TABLE of POPULATION, BIRTHS, and NEW CASES of INFECTIOUS SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Urban Sanitary District of SELBY; classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES.	Population at all ages.	Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.									
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.
	1893.												
SELBY LOCAL BOARD DISTRICT	5914	186	Under 5 5 upwards	4 12 21					9	1			1
WORKHOUSE	108		Under 5 5 upwards										
Totals	6022	186	Under 5 5 upwards	4 14 21					9	1			1

Notification of Infectious disease is compulsory in the district since December 9th, 1889. There is no Hospital for cases of Infectious Disease.

TABLE I.

BIRTH and DEATH RATES during 1893, and Five Previous Years, in the Selby Urban Sanitary District, and in England and Wales.

Year.	Rate per 1000 of the Population.						Deaths in Children under 1 year to every 1000 Births.	
	Births.		Deaths.		Deaths from Zymotic Diseases.			
	Selby.	England and Wales.	Selby.	England and Wales.	Selby.	England and Wales.	Selby.	England and Wales.
1893	30·8	30·8	21·2	19·2	1·4	2·4	139	159
1892	32·3	30·5	16·9	19·0	0·9	1·9	109	148
1891	30·5	31·4	18·4	20·2	1·8	1·8	152	149
1890	30·0	29·7	16·0	19·2	1·2	2·0	146	151
1889	32·5	30·5	17·8	17·9	1·2	2·1	120	144
1888	30·4	30·6	20·6	17·8	1·8	1·0	155	137

TABLE II.

SUMMARY of the BIRTH and DEATH RATES during the 10 Years 1881-90.

	Average of the 10 years 1881-1890.
Birth Rate per 1000	31·2
Death „ „	18·4
From Zymotic Diseases	1·5
„ Phthisis or Consumption... ..	1·4
„ other Lung Diseases	2·9
Deaths in Infants under 1 year per 1000 births	133

TABLE III.

MORTALITY FROM SEVERAL GROUPS OF DISEASES DURING 1893.

	Total.	Deaths per 1000 of Population.	Proportion of Deaths in every 1000 from all causes.
1.—Seven Principal Zymotic Diseases	10	1.6	66
2.—Pulmonary Diseases (other than Phthisis)	28	4.5	206
3.—Tubercular Diseases	14	2.3	103
4.—Wasting Diseases of Infants	12	1.9	88
5.—Convulsive Diseases of Infants	12	1.9	88

2.—Includes Bronchitis, Pneumonia, Pleurisy, and Asthma.

3.—, Phthisis, Scrofula, Tabes Mesenterica.

4.—, Marasmus, Atrophy, Debility, and Premature Birth.

5.—, Hydrocephalus, Menengetis, Convulsions, and Teething.



