

**[Report 1909] / Medical Officer of Health, Guisborough R.D.C.,
Guisborough U.D.C., Loftus U.D.C., Redcar U.D.C., Saltburn U.D.C., Skelton
& Brotton U.D.C.**

Contributors

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TO THE CHAIRMAN AND MEMBERS

OF THE

GUISBOROUGH RURAL DISTRICT COUNCIL.

GUISBOROUGH URBAN	„	„
LOFTUS	„	„
REDCAR	„	„
SALTBURN	„	„
SKELTON & BROTTON	„	„

GENTLEMEN,

I have pleasure in submitting for your consideration my Report for the year ending December 31st, 1909.

In the report for 1908 I gave details as to water supplies, drainage, excrement disposal and scavenging:—it is only necessary therefore to note new work carried out and such as it is proposed to carry out.

Guisborough rural district:—Local Government Board enquiry re the borrowing of money to improve the water supply at Ainthorpe: scheme amended to meet the requirements of the Board:—application for power to borrow an increased sum consequent on the scheme being amended.

Guisborough urban district:—arrangements entered into with the Water Company for the supply of water for flushing the sewers. More frequent scavenging of fixed night-soil and refuse receptacles during the summer months.

Loftus urban district:—completion of sewer by which the sewage of the district is discharged direct into the sea instead of into the beck. More frequent scavenging fixed of night-soil and refuse receptacles during the summer months. About 50 yards of new sewer laid to take the sewage of newly erected houses.

Redcar urban district:—enclosed refuse tips provided. Several cess-pools in the course of the sewer converted into manholes. Under consideration:—increased water supply for the houses in the Redcar Ward.

Saltburn urban district:—under consideration,—diversion of a sewer, taking the sewage of a few houses, so as to discharge into the town sewer.

Skelton & Brotton urban district:—under consideration, improvement in the water supply to the village of Moorsholm.

Inspections and Special Visits made during the year.

- 1.—Systematic inspections.
- 2.—Special Visits.
- 3.—Factories and workshops inspected.
- 4.—Cowsheds and dairies inspected.
- 5.—Schools inspected.
- 6.—Council and Committee Meetings attended.

	Guisborough Rural.						Guisborough Urban.						Loftus Urban.						Redcar Urban.						Saltburn Urban.						Skelton & Brotton Urban.						
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
January	1	3		1		1												1	2					1						1							
February		2			2	1	1	1	15			1	1	1	5			1	1	1	10				1	1		5		1	6	2	4		1	1	
March ...	1	3	9	10	1	1		1					1		8				2	3	19				1		12			2	2	13			1		
April ...	3	2	22	12	1	1	1	1	4	1		1	2		7	4		1	2	1	5	2								1				1	2	1	
May ...	2	4	2	5	4	1	1	1				1	1	3		6	1	1	1	2	3	3		1		12	1		1	6	2	3	2	4	1		
June ...							1	2	24	1				1					1	3		1	1		1	2	11	1		2	5	2	20	3	1	1	
July ...	2	1	2	17	3	0	3	2		4		1	1	1	23	2		1	1	1	24	5		1		2				2	1	2	1	1	7		1
August ...	2	3		1		1	2	2	2	3	1	1	4	5	12	14		1	2	2	2	3		1	1	2	4	1		5	8	13	12	1	1	1	
September	6	3	14	14	1	1	1		17	5		1	2	2	8	2	2	1	4	3	47	5	3	1	1	1	1	5	1	1	5	4	3	7	4	1	1
October	2	2	9	12	3	1	3	1	9	11	2	1	3	4	1		4	1	2	4	15	6		1	1	1	5	2		1	7	2	1	2	2	1	
November		1	1			1	1	1					1	1				1		3				1	1	3				2	1		1		1		
December		2			3		1	1	5	1		1	1	1			1	1	1	1						5		2	1	1							
	19	26	59	72	18	9	15	13	76	26	3	8	17	17	64	28	8	10	17	25	125	25		12	11	6	18	54	9	2	12	42	25	59	35	15	10

Systematic Inspections.

Systematic inspections were made from time to time in the several districts:—the following Table shows the number of premises seen and reported by me as being in a more or less insanitary condition (workshops, cowsheds, and schools not included).

	Reported.	Remedied.	In hand.
Guisborough rural	22	20	2
Guisborough urban	15	7	6
Loftus urban	44	44	
Redcar urban	25	25	
Saltburn urban	6	6	
Skelton & Brotton Urban	74	66	

All the public-houses and refreshment houses in Redcar and Saltburn were visited by me for the purpose of ascertaining whether the accommodation which the Council can, under Sect. 44 (1) of the Public Health Acts Amendment Act, 1907, require to be provided, did exist:—notices to make such alterations as were necessary for such provision were served in 13 cases and in 11 complied with. During the summer the various premises in which ice-cream is made and the barrows from which it is sold were examined by me:—nothing was noted calling for special remark.

The several slaughter-houses were inspected and meat hanging therein examined:—no diseased carcase was found. On October 27th the Loftus Inspector informed me per telephone that he had received a communication to the effect that a diseased animal had been slaughtered in a certain licensed house;—as it was requisite for me to attend a Local Government Board enquiry that day at Ainthorpe I was unable to visit this slaughter-house till late in the afternoon,—by that time the parts of the carcase I wished to examine had disappeared;—the portion of carcase seen by me showed no sign of disease. One point in connection with the law as to food is worth drawing attention to. Section 116 of the Public Health Act, 1875. says—meat, &c., “diseased or unsound” or unwholesome or *unfit for the food of man.* It does not follow that meat is unfit for food only because it is diseased, it may be that it is so tough as to be indigestible and therefore unfit.

Three samples of milk, bought by me in conjunction with the Saltburn Inspector, were forwarded to the County Analyst:—one was certified by him to contain 12% of added water. Legal proceedings were taken against the seller:—the defence was a warranty signed by the farmer who supplied the milk:—the case was dismissed:—the Magistrates have been asked to state a case.

I recommended that certain fixed night-soil receptacles in Redcar should be abolished and water closets substituted:—the carrying out of the necessary work under Section 39 of the Public Health Acts Amendment Act, 1907, is having the consideration of the Council.

Nothing in connection with the common lodging-houses was noted calling for remark:—it is rarely that I have to make any complaint with regard to the condition of these.

Infectious Diseases.

Table showing the number of cases notified.

	Gisbro' Rural.	Gisbro' Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban.	Skelton and Brotton Urban.	Total.
Scarlet Fever ...	54	7	29	12	0	10	112
Diphtheria ...	17	10	23	27	11	24	112
Enteric Fever ...	0	1	1	0	1	4	7
Erysipelas ...	3	8	9	10	0	15	45
Puerperal Fever ...	0	0	1	0	0	0	1
Totals ...	74	26	63	49	12	53	277

Diphtheria.

Compared with the years 1907 and 1908 there was a reduction in the number of cases of diphtheria notified. The case mortality was practically the same as in 1908 being in that year 15·2 per cent., in 1909, 15·1. The disease prevailed in every district but in none did it become epidemic. Its incidence, per 1000 births registered, in the several districts was as follows:—Guisborough rural 9·6, Guisborough urban 4·9, Loftus 8·0, Redcar 9·9, Saltburn 17·7, Skelton and Brotton 5·0. The case mortality varied:—two of the ten in the Guisborough urban district, two of the 23 in the Loftus, two of the 27 in the Redcar, and ten of the 24 in the Skelton & Brotton ended fatally:—none of the 17 in the Guisborough rural. Of the 24 in the Skelton & Brotton district 13 occurred at Lingdale 6 of which were fatal; 5 at North Skelton, 1 fatal; 2 at Boosbeck, 1 fatal; 1 at Moorsholm, fatal; 1 at Skelton, fatal; and one each at Brotton and New Skelton, neither fatal.

Of the 17 cases in the Guisborough rural district 8 occurred in 7 houses at New Marske, 4 in 3 houses at Marske, 2 in one house in the Easington parish, and one each at Lazenby, Dunsdale, and Upsall.

Of the 23 in the Loftus District 9 occurred in 9 houses in Loftus, 5 in 5 houses at Skinnigrove, 5 in 4 houses at Liverton Mines, one at Carlin How, and 3 in 2 houses in the rural part of the district. Two patients (from one house) were removed to the Sanatorium.

The cases in Redcar were not confined to any particular part of the town nor to any particular period of the year.

Of the 11 cases in the Saltburn district nine were notified during the last five weeks of the year. On November 30th I visited the Saltburn school and made enquiries as to the existence of cases of sore throat among the pupils. Several children were found to be suffering, or had recently suffered from sore throat. The majority of these I advised to return home. The same day I called upon the parents and explained the reason of my action. From the throats of seven I took 'swabs' and forwarded these for bacteriological examination:—in none was the specific bacillus found, though in two the pseudo-diphtheria bacillus was present. Sixteen days after, one of the two was notified as suffering from diphtheria. After the receipt of the bacteriological examination all the children were allowed to return to school. Having regard to the fact that the so-called pseudo-diphtheria bacillus may be an attenuated form of the true bacillus I will in future recommend that children in whose throat this bacillus is found be excluded from school.

It will be noted that the case mortality in the Skelton & Brotton district was high. This may be more apparent than real, in other words the actual number of cases was probably larger than the number notified. It is not uncommon to receive a notification after, or a few hours before, the death of the patient. During the second half of the year four cases in Lingdale were notified, one on August 20th, the second on October 24th, the other two on December 10th; the last three being fatal:—in two of these the notification was received the day the patient died. Enquiries made concerning cases of the kind mentioned often elicit the fact that the patient had been ailing for some days and only when the symptoms became alarming was medical advice sought. This indicates that other, milder, cases escape attention altogether. Thus in two ways is the case mortality raised;—delay in obtaining medical advice increases the number of deaths,—milder cases are not recognised and therefore not notified. The returns show that a death certified to be due to diphtheria occurred in a house in Lingdale in May, and in the same house four months later another certified as due to Non-membranous Croup. It is right to say the medical attendant was not the same in each case.

In a very large number of cases it is impossible to say anything definite as to the source of infection. The occurrence of cases in the same street in comparatively quick succession indicates either direct contact between the sick and the healthy or indirect, persons visiting infected houses acting as 'carriers.' In no series of cases was there any evidence that any milk supply was implicated. Further experience confirms the opinion expressed by me in previous reports that attendance at funerals of those who have died from the disease is fraught with great danger. In three instances during the year there was sufficient evidence to justify the belief that infection was contracted directly or indirectly in this way.

Ninety-one 'swabs' were forwarded for bacteriological examination, the majority for the purpose of confirming diagnosis, others to ascertain whether or not the patients were infection-free.

Scarlet Fever.

Of the 112 cases of scarlet fever notified, 34 occurred at Castleton and 18 at Commondale, both in the Guisborough rural district. This is the first time during my tenure as health officer (over 27 years), that scarlet fever has been epidemic in either of the places named. The earlier cases at Castleton appeared to be due to the attendance at school of some child in an infective condition, the later to contact between the sick and the healthy outside the school. Notices calling attention to the need of greater care being exercised to prevent the spread of the fever were circulated, apparently with good effect for few cases were reported after their issue. The disease spread to the neighbouring village, Commondale;—here the later cases resulted from infected children attending school. Enquiries, based on a communication received, showed that several children had suffered from the fever during the summer holiday. These had not been medically attended. The result was that when school was re-opened the fever spread to such an extent as to cause me to advise closure.

Of the 12 cases in the Redcar district 5 were removed to the Sanatorium.

No death resulted from this fever.

Enteric Fever.

Seven cases of this fever were reported during the year, viz. one each at Guisborough, Loftus, Saltburn, Brotton, Skelton, Lingdale, and Margrove Park. One ended fatally,—in this case death occurred the day after the receipt of the notification. No case appeared to be due to any local condition. In one instance it is probable that the disease resulted from the partaking of specifically contaminated mussels.

Measles.

Measles prevailed in the Loftus and Saltburn urban districts, causing six deaths in the former and three in the latter place.

The rapidity with which measles spreads when introduced into a district free from it for some years and the fact that it is infective in the early stage, before the appearance of the rash, render it exceedingly difficult to adopt successful preventive measures. Hospital isolation is impracticable as the accommodation required would be very much beyond that usually provided. Having regard to the fact above stated as to infection being given off before the rash appears it is very doubtful whether hospital isolation would be of any practical value. Doubtless such isolation would reduce the number of fatal cases. If parents would recognise how susceptible children recovering from measles are to lung complications, especially in winter, and act accordingly, the death rate from measles would be considerably reduced. I am not prepared under present conditions to recommend the compulsory notification of measles. If the disease could be recognised in its early stages by parents as well as by medical practitioners possibly notification might be of some value.

Whooping-Cough.

This disease prevailed more or less in every district causing more deaths (31) than all other forms of infectious diseases combined. Like measles, it is infectious in its early stage, before its characteristic symptom, the cough, has appeared. This renders it difficult of control. No doubt many of those who succumbed to the disease were inherently weak or weakened by previous ailments. To diminish the number of cases individual action rather than that of an Authority is requisite.

Cowsheds and Dairies.

The following Table shows the number of cowsheds and dairies in the respective districts, also the number of notices served to remedy defects, &c.

District.	Cowkeepers.	Dairymen.	Notices served to remedy defects in lighting, ventilation, &c.	Number of notices complied with.	Inspected.
Guisborough rural ...	68	4	8	7	70
Guisborough urban ...	26	3	2	2	70
Loftus urban ...	13	3	15	15	All
Redcar urban ...	16	6	6	5	All
Saltburn urban ...	4	5	2	2	All
Skelton and Brotton urban	32	3	2	1	All

Cowsheds and Dairies.

There is little to add to what has been stated in previous reports as to these. Certain, whenever inspected, will be found clean and in good condition, others in such state as to indicate that those under whose control they are do not realise the necessity of cleanliness. There is a method by which the condition of cowsheds, requiring it, would probably be improved, that is, the granting of certificates, *to be shown to customers on demand*, containing particulars as to cleanliness, air space, ventilation, &c., as ascertained by inspection:—should a future inspection show it needful to make any alteration in the particulars, this to be done at the time of inspection: the original entries and any subsequent alterations thereof to be made in the presence of the cowkeeper, he to have a right of appeal.

Tuberculosis.

Thirty-three deaths were certified as due to pulmonary tuberculosis and twenty-one to other forms, ten less than in 1908. The death rate from this disease in the several districts was as follows:

Guisborough rural ...	1.2	Redcar urban ...	0.6
Guisborough urban ...	2.0	Saltburn urban ...	0.2
Loftus urban ...	1.5	Skelton & Brotton urban	0.7

Nine cases of pulmonary tuberculosis attended by medical men in their capacity as Poor Law Officers were notified to me,—one in the Guisborough rural, two in the Guisborough urban, one in the Redcar, one in the Saltburn, and four in the Skelton & Brotton urban. The first mentioned was reported on October 28th—the patient was removed to the Workhouse where he died on October 31st. Of the two in the Guisborough urban district one occurred in the Workhouse, the patient being a child two years of age:—this was notified on June 2nd—death occurred on the 10th. In the second case the patient is over 60 years of age:—I suggested to the owner of the house occupied by this man that the window of the smaller of the two bedrooms should be made to open,—this has been done. In the Redcar case the patient died 18 days after child-birth; this person came to Redcar a few days before her confinement. The patient in Saltburn had ten weeks previously come from Scotland on the recommendation of his doctor, to reside with his mother. Of the four in the Skelton & Brotton district two were notified on January 22nd:—one patient died on the 25th: the other (a boy) was on my recommendation sent to a sanatorium. The third case was notified on October 1st: a visit to the house showed it to be overcrowded: the patient was a brother of the tenant; I advised his removal to the Workhouse hospital but it was found he was too ill to bear removal:—he died on October 30th. The fourth case was notified on October 30th. This patient, a lad of 18, was sent to a sanatorium.

The home conditions in some of the cases was anything but good as is shown by the following notes made when visiting the respective houses:—“bedroom windows closed, house dirty.” “Odour of bedrooms unpleasant, blinds down.” “House overcrowded, three beds in the room occupied by patient.” “House dirty, windows closed, four other persons in the bedroom occupied by the patient.”

I have under consideration a scheme for the provision of a sanatorium for the reception of cases of pulmonary tuberculosis.

List of Factories and Workshops.

Workshops:—	Guisbro' Rural.	Guisbro' Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban.	Skelton and Brotton Urban.
Dressmakers and Milliners ...	12	9	14	15	9	20
Tailors ...	4	5	5	9	4	7
Shoemakers ...	8	12	6	11	5	14
Bakers ...	4	4	5	9	7	
Blacksmiths ...	9	5	4	4	2	4
Printers ...		1	1	1		
Carpenters and Upholsterers	12	12	7	14	5	10
Plumbers and Whitesmiths ...		1	1	4	3	
Saddlers ...	1	2	2	1		1
Tinsmiths ...		3		2	1	
Laundries ...				1	1	
Workplaces ...			1	22		
Ice-Cream Makers ...	1	2	2	6	2	1
Cycle Repairers ...		1		3		
Coachbuilders & Wheelwrights				1	1	1
Leather-dressers ...		1				
Confectionery Makers ...		1				
Outworkers ...						
Factories:—						
Brick and Tile Works, &c. ...	2					
Printers ...		1		3	1	
Carpenters and Builders ...		1	2	1	1	
Gas Works ...		1	1	1		1
Aerated Water Works ...		1	2	2	1	
Laundries ...		1		1	1	
Cycle Repairing Works ...			1		1	
Electric Supply Works ...					1	
Founders, Whitesmiths, &c. ...		1	2	1		
Sawmills ...	1	1	1			
Flour Mills ...			1		1	
Blast Furnaces ...	1		1	2		
Slag Brick Works ...	2			2		
Slag Wool Works ...	1			1		
Tar Macadam Works ...				1		
Totals ...	58	66	59	118	47	59 = 407

The whole of the Workshops, Workplaces, and Factories on the several Registers were inspected by me. Six notices to provide (or improve) closet accommodation, two to cleanse workshops, and five to remedy nuisances were served under the Factory & Workshop Act, all complied with.

8
Schools Inspected, &c.

District.	School.	When Visited.	Conditions Reported. (See foot note).	Result.
Guisborough Rural.	Castleton (Council) ...	Mar. 29th ...		
	Commondale do. ...	May 18th ; Aug 31st		
	Danby do. ...	Oct. 27th ...		
	Dunsdale do. ...	May 7th ...		
	Fryup do. ...	Dec. 1st ...	C.W. ...	Having attention of L.E.A.
	Hutton do. ...	Oct 18th ...		
	New Marske do. ...	July 29th ...		
	Scaling do. ...	July 12th ...		
	Yearby do ...	April 19th ...		
	Easington (non-provided)	Sept. 20th	P. ...	Not remedied.
	Lazenby do. ...	May 18th		
	Wilton do. ...	May 18th ; Sept. 2nd		
	Westerdale do. ...	Sept. 22nd ...		
	Upleatham do. ...	July 15th ...	P. ...	Remedied.
	Marske do. ...	July 15th ; Dec. 18th	P. ...	Not remedied.
	Do. Infants do. ...	Mar 18th ; July 15th ; Dec. 18th ...	P. ...	Do.
Guisborough Urban.	Providence (Council) ...	Aug. 11th ...	A. ...	Remedied.
	Northgate do. ...	Oct. 7th ...		
	Barnaby Moor do. ...	Oct. 26th ...		
Loftus Urban.	Zetland (Council) ...	May 10th ; Dec. 9th	A. H. P. V. ...	Recently taken over by L.E.A. } Under consideration.
	Do. Infants do. ...	Oct. 14th ...		
	Liverton Mines do. ...	Sept. 6th ...	D. P. V. ...	Do.
	Skinningrove do. ...	Oct. 18th ...		
	Do. Infants do. ...	Oct. 4th ...		
	Liverton Village do. ...	Oct. 26th ...		
	Roman Catholic (non-provided)...	Sept. 10th ...	M. ...	Remedied.
Redcar Urban.	" Central " (Council) ...	Feb. 18th ; June 26th ; Dec. 18th ...		
	Redcar do. ...	Sept. 17th ...		
	Warrenby do. ...	Mar. 17th ; Sept. 15th		
	Coatham (non-provided)	Mar. 15th ; Dec. 18th	A. V. ...	Not remedied.
	Roman Catholic (non-provided)...	Mar. 15th ; Sept. 15th	D. ...	Remedied.
Saltburn Urban.	Saltburn (Council) ...	Feb. 3 ; Dec. 9th ...		
Skelton & Brotton Urban.	Carlin How (Council)	May 28th ; Sept. 20th		
	Boosbeck do. ...	Oct. 15th ...	M. ...	Remedied.
	North Skelton do. ...	June 28th ; Sept. 27th	C. ...	Remedied.
	Lingdale do. ...	May 5th ...		
	Boosbeck Infants do. ...	Oct. 15th ...	M. ...	Remedied.
	Moorsholm do. ...	Aug. 28th ...	C. & M. ...	Managers instructed to carry out recommendations.
	Skelton Green do. ...	Apr. 28th ; Sep. 30th	M. ...	Remedied.
	Stanghow Lane do. ...	May 5th ...	V. ...	Work being carried out.
	Skelton do. ...	Feb. 3rd ; Apr. 28th	C. ...	Remedied.
	Brotton (non-provided)	Sep. 20th ...	V. ...	Instructions given to teacher.

A—insufficient floor area.
C—defects in closets.
D—defects in drains.
H—inadequate heating.
M—defects in cleansing.

P—defects in playgrounds.
U—defects in urinals.
V—defects in ventilation.
W—defects in water supply.
Y—minor defects or requirements.
L. E. A.—Local Education Authority.

For the purpose of ascertaining the efficiency or otherwise of the means of ventilation of school-rooms I estimated the amount of carbon di-oxide in one or more rooms of five schools. The re-agent used, in apparatus specially designed for the purpose, was so standardised as to prevent the possibility of over-estimation.

School 'A.' This school is provided with Boyle's air-inlets and air extractors, supplemented by outlets placed in the chimneys (fires not used). It is heated throughout by hot water, pipes and radiators.

Room No. 1 (floor area 340 feet, 32 pupils). At 10 o'clock the amount of carbon di-oxide, per 10,000 parts of air, was 10.9; at 10.45 it had risen to 13.8. The room was vacated for 10 minutes, windows and doors being opened; a third estimate made immediately after the return of the pupils showed the amount to have fallen to 5.0:—at 11.50 it had risen again to 13.8. It was found that the air-extractor was not working. In the exhaust shaft there is a diaphragm by which the air passing through can be lessened in amount or the shaft completely closed. The cord by which the diaphragm is actuated had jerked out of the pulley groove and become jammed. Several of the ventilator cords in this school were in the same condition.

Room No 2 (floor area 560 feet, 30 pupils). At 10.20 the amount of carbon di-oxide was 10.9. Apart from the test it was apparent to the senses that the ventilation was insufficient or impeded. One of the air-inlets was found to be acting as an exhaust,—even when windows (opening into the cloak-room) were opened this continued. In this room the ventilator cord was out of order.

In a third room three out of the four air-inlets were acting as exhausts;—here also some of the ventilators could not be opened because of the cords being jammed.

School 'B.' In this school exhaust is provided for by openings in the ceiling, the air passing through a louvre in the gable, facing east. In one room (floor area 650 feet, 61 pupils) the amount of carbon di-oxide at 10.20 was 8.2. As there are no air-inlets it is necessary in order to maintain ventilation to open the doors or windows. When the wind is in the east it is requisite to close the ventilators in the ceiling to prevent down-draughts.

School 'C.' The room in which the test was made has an air-exhaust in the ceiling and two air-inlets (very little air was entering thereby). It has a floor area of 450 feet; number of pupils, 48. At 2 p.m. (half-an-hour after school opening) the amount of carbon di-oxide was 9.3. At the time of the test an outer door in an adjoining room was open and so was the door between the two rooms. This room is heated by a stove (close).

School 'D.' Room No. 1—(floor area 750 feet, 63 pupils). There are no exhaust ventilators in the ceiling. At the time of the test (2.20) two windows, and ventilators in other two, were open. The amount of carbon di-oxide was 10.9. The room is heated by one large close stove.

Room No. 2—(floor area 336 feet, 50 pupils). Two Boyle's air-inlets, exhaust in ceiling, two windows open, open fire:—at 1.50 p.m. the amount of carbon di-oxide was 9.3.

School 'E.' This school is quite new. The room in which the test was made is heated by hot water, radiator. The air-inlet is attached to the radiator (to warm the incoming air). There is an open fireplace for use when required. Air is extracted by means of a grating about one foot square communicating with an exhaust shaft. Two windows were open at the time the test was made. At 2.45 the amount of carbon di-oxide was 15.0. It was found that the windows were acting as exhausts.

Though no standard is fixed by which the efficiency of ventilation can be determined I think it may be stated that when the amount of carbon di-oxide exceeds 10 per 10,000 of air, improvement in the means of ventilation is required. It is stated that fouling of the air is apparent to the senses when the amount exceeds 7 parts per 10,000. That normally present in the air is 4 or a little under.

The tests led to the following deductions being made:—

(1) That all appliances controlling the means of ventilation should be examined systematically so that they may be maintained in efficient working order.

(2) That though doors and windows may under certain conditions be used to assist ventilation, efficient ventilation cannot be maintained by these alone. During very windy and very cold weather doors and windows are necessarily closed.

(3) That the aggregate area of exhaust openings should be so proportioned that they will carry off the fouled air without the necessity of opening windows.

In some schools there is room for great improvement in the means used for heating. A close stove though it may heat a room better than an open fire has the disadvantage of rendering the air too dry and does not, like an open fire, assist ventilation. An open fire in cold weather has to be so large that the children near are too warm, whilst those most remote are not warm enough. The temperature in rooms so heated is often in severe weather under 40 when the school opens.

Parents are desirous, and rightly so, that the conditions under which their children are taught in school shall be such as will not effect prejudicially their health. It is essential that the home conditions be equally good. If efficient ventilation of school-rooms be necessary that of bedrooms is no less, more in fact, seeing that the child spends some 10 hours out of the 24 in bed.

In September a Memorandum on Closure of and Exclusion from school was issued jointly by the Local Government Board and Board of Education.

This Memorandum calls attention to alterations in the procedure as to school closure and the exclusion of children. When a school is closed voluntarily under medical authority including the advice or approval of any medical practitioner the requirements of the Code will not be met unless the School Medical Officer has advised or has approved the closure. The ordinary method of school closure, that is, on the certificate of any two members of the sanitary authority of the district acting on the advice of the medical officer of health still continues in force. But, the Memorandum says:—"As a rule closure should only be arranged in consultation with the School Medical Officer." The temporary exclusion of any infected child and of others who have been in contact with the infected child will not be deemed to be on "reasonable grounds" unless at the time or subsequently the certificate of exclusion is endorsed by the school medical officer.

The Memorandum contains a number of suggestions of which the following are the chief:—

- (1) That where the medical officer of health is not the school medical officer the Local Education Authority should authorise managers and teachers to act as in the past on the recommendation of the medical officer of health and that the sanitary authority should arrange that the medical officer of health should transmit his recommendation to the school medical officer with a view to the formal authorisation required by the Code.
- (2) That regulations be made by the Local Education Authority defining the circumstances in which teachers and other school officers should notify suspected cases of infectious disease to the medical officer of health and to the school medical officer.
- (3) That in the investigation of missed cases of infectious disease the inquiry should be shared by the medical officer of health and the school medical officer.
- (4) That clear directions should be given by the Local Education Authority instructing teachers temporarily to exclude children showing any symptom of any infectious disease until medical assurance can be had that they may attend school without harm to themselves or danger to other scholars.
- (5) That in the case of a child suspected to be suffering from an infectious disease where the parents cannot afford to send, or will not send, for a doctor, the exclusion of such child should continue until doubt of the nature of the case has been removed, and that the medical officer of health or school medical officer or some other medical man temporarily or permanently acting for the sanitary authority should make or aid in making a diagnosis.
- (6) That all cases of exclusion from school by the direction of the medical officers of health should be promptly reported by that officer to the school medical officer.

A similar suggestion to the last named was made by me in the early part of the year, viz.—that the notices of exclusion forwarded by me to teachers should be sent weekly to the school medical officer. This suggestion was conveyed to the Local Education Authority by the Guisborough Rural Council. It does not appear to have been acted on.

The following particulars are supplied by the respective Nuisance Inspectors.

		Guisborough rural district.	Guisborough urban District.	Loftus urban district	Redcar urban district.	Saltburn urban district.	Skelton & Brotton urban district
House yards repaired	...	1	23	12	5	6	35
Drains repaired	...	9	21	0	79	4	26
Closets repaired, &c.	...	6	48	8	25	15	54
Other defects remedied	...	21	30	52	86	4	70
Rooms disinfected	...	56	24	54	52	5	44

House Accommodation, &c.

		Number of houses erected.	Number in course of erection.
Guisborough rural district	...	5	11
Guisborough urban district	...	26	6
Loftus	" "	34	30
Redcar	" "	82	35
Saltburn	" "	9	11
Skelton & Brotton urban district		51	37

For the purpose of ascertaining certain particulars as to house accommodation I made enquiries at 176 houses in the Skelton and Brotton district, 83 in the Guisborough urban, and 65 in the Loftus. The following is a tabulated statement of the particulars obtained.

	Number of houses visited.	Number of occupants over 18.	Number under 18.	Average number per room.	Average number per house.
Guisbro' Urban District.	5 rooms, 51 4 " 20 3 " 12	178 43 23	142 67 26	1.25 1.37 1.33	6.27 5.5 4.08
Loftus Urban District.	5 rooms, 25 4 " 9 3 " 31	90 23 79	70 16 62	1.28 1.08 1.51	6.4 4.33 4.55
Skelton & Brotton Urban District.	5 rooms, 58 4 " 104 3 " 14	161 272 39	147 255 17	1.06 1.26 1.33	5.62 5.06 4.0

Taking overcrowding to exist when the number of occupants is in excess of two per room this condition was found in 24 instances, 7.4 per cent. In the 24 cases the average number of persons per room was 2.48. In five the overcrowding resulted from lodgers or relatives living with the family. In seven instances the joint occupation of a house by two families was noted but in only one of these did overcrowding exist. An increased number of houses is not so much required as an increase in the number of bedrooms per house:—both on the grounds of morality and health this is requisite. In a few cases it was found that full advantage was not taken of the bedroom accommodation, the inmates being crowded into one or two rooms when a second or third could have been used. In some instances the dwelling had more room accommodation than was required by the occupants. In one-third of the houses visited the number of occupiers was one or less per room.

The need of larger bedrooms in many houses is undoubted. At the same time it is necessary to draw attention to the fact that the deleterious effects of insufficient air-space could be considerably lessened by rigid cleanliness and ventilation. Increasing the air-space of a room does not reduce the need of ventilation. A small ventilated room is less unhealthy than a larger unventilated.

Housing, Town Planning, &c., Act, 1909.

This important Act confers on District Councils largely increased powers as regards housing accommodation. Under it Part III of the Housing of the Working Classes Act, 1890, takes effect in every district:—Councils are empowered thereby to purchase or erect "lodging-houses for the working classes." This expression includes separate houses or cottages, whether containing one or several tenements.

Section 14 of the new Act provides that in any contract made for the letting of a house or part thereof at a rent not exceeding a specified sum, according to the population of the district (£16 in the several districts in the Guisborough Union), "there shall be implied a condition that the house "is at the commencement of the holding in all respects reasonably fit for human habitation," except when let on a repairing lease of three years or more. Section 15 requires that the above section shall "take effect as if the condition implied by that section included an "undertaking that the house shall, during the holding, be kept by the landlord in all respects "reasonably fit for human habitation." If the undertaking implied be not complied with the District Council "shall, if a closing order is not made with respect to the house, by written "notice require the landlord, within a reasonable time, not being less than twenty-one days, "specified in the notice, to execute such works as the authority shall specify in the notice, as "being necessary to make the house in all respects reasonably fit for human habitation." If the notice be not complied with the authority can carry out the necessary work and recover the cost from the landlord. The owner has the right of appeal to the Local Government Board.

Section 17 (1) requires the authority "to cause to be made from time to time inspection of "their district, with a view to ascertain whether any dwelling-house therein is in a state so "dangerous or injurious to health as to be unfit for human habitation, and for that purpose it "shall be the duty of the local authority, and of every officer of the local authority, to comply "with such regulations and to keep such records as may be prescribed by the Board." Sub-section (2) of this section enables an authority to make an order prohibiting the use of a dwelling-house for human habitation until the house is rendered fit. It will be noted that it is no longer necessary to apply to magistrates for a closing order.

The putting into force of the powers bestowed upon Councils by this Act should do much to improve a certain class of houses, houses which being short of 'unfit for habitation' approximate closely thereto. Hitherto the only means of dealing with many defects was to treat them as nuisances and to order their abatement. In too many instances the work carried out only led to a temporary abatement:—under the new Act the Council can *specify* the requisite work.

Birth and Death Rates in the several Districts.

	Guisbro' Rural.	Guisbro' Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban.	Skelton and Brotton Urban.	Totals and means.
Population ...	7900	6300	7650	11,750	3700	14,400	51,700
Number of Births ...	M. 91 F. 106	M. 102 F. 99	M. 148 F. 139	M. 150 F. 121	M. 30 F. 32	M. 236 F. 239	M. 757 F. 736
	197	201	287	271	62	475	1493
Birth Rate ...	24.93	31.90	37.53	23.06	16.75	32.98	28.87
Average for years 1899-1908	29.25	33.38	34.68	25.43	17.71	33.84	
Number of Deaths ...	M. 59 F. 52	M. 49 F. 59	M. 50 F. 58	M. 54 F. 54	M. 24 F. 19	M. 105 F. 93	M. 341 F. 335
	111	108	108	108	43	198	676
Death Rate ...	14.05	17.14	14.11	9.19	11.62	13.75	13.07
Average for years 1899-1908	14.95	16.52	14.73	13.62	10.57	15.36	
Proportion of Deaths in children under 1 year of age to each 1000 births ...	101.5	124.3	114.9	84.8	112.9	111.5	107.8
Average for years 1899-1908	135.2	135.2	130.3	119.4	75.9	136.4	
Proportion of Deaths in children under 5 years of age to each 100 deaths ...	26.1	30.5	43.5	34.2	25.5	40.4	35.0
Infectious diseases death rate	0.50	1.58	1.30	1.18	1.35	1.31	1.21
Diarrhoeal diseases death rate	0.12	0.63	0.39	0.51	0	0.55	0.42

Infantile Mortality.

Number of deaths :—161.

Rate per 1000 births registered

 legitimate, 106.9.
 illegitimate, 157.1.

	Guisbro' Rural District.	Guisbro' Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban.	Skelton & Brotton Urban.	Totals.
Congenital defects, Wasting, ...	8	3	9	2	4	8	34
Premature birth ...	4	3	3	8	0	12	30
Diarrhoeal diseases ...	0	1	3	1	0	7	12
Bronchitis and Pneumonia ...	5	2	5	5	1	8	26
Convulsions ...	0	6	7	0	1	3	17
Tubercular Diseases ...	0	3	1	0	0	1	5
Infectious Diseases ...	2	6	3	3	0	7	21
Other causes ...	1	1	2	4	1	7	16
	20	25	33	23	7	53	161

Table showing the number of Deaths in the several districts
from the causes named.

CAUSES OF DEATH.			Guibro' Rural.	Guibro' Urban.	Loftus.	Redcar.	Saltsburn.	Skelton and Brotton.	Totals.
Small-pox	...	...					
Measles	...	...	4		6	1	3		14
Scarlet Fever	...	...					
Whooping Cough	...	...		7	2	9		9	27
Diphtheria and membranous croup	...	...		2	2	2	1	10	17
Croup	...	...		1				2	3
Fever {	Typhus	...							
	Enteric	...					1		1
	Other continued	...							
Epidemic influenza	...	...					
Cholera	...	...					
Plague	...	...					
Diarrhœa	...	...	1		1	2		4	8
Enteritis and Gastritis	...	...		4	2	4		4	14
Puerperal Fever	...	...			1				1
Erysipelas	...	...		1		2			3
Phthisis	...	...	7	6	8	5		7	33
Other tubercular diseases	...	...	3	7	4	2	1	4	21
Cancer, malignant disease	...	...	9	4	3	4	4	9	33
Bronchitis	...	...	13	6	13	8	1	19	60
Pneumonia	...	...	8	10	5	6	5	11	45
Pleurisy	...	...						1	1
Other diseases of Respiratory organs	...	...					
Alcoholism	}	...				1	1	2	4
Cirrhosis of liver		...							
Venereal diseases	...	...					
Premature birth	...	...	4	3	3	8		12	30
Diseases and accidents of parturition	...	...		1	1			1	3
Heart diseases	...	...	4	14	9	9	2	20	58
Accidents	...	...	6	4	5	6	2	14	37
Suicides	...	...		1		1			2
All other causes	...	...	52	37	43	38	22	69	261
All causes	...	...	111	108	108	108	43	198	676

Comparing the birth rate and the several mortality rates for the year with the average of the same during the previous ten years it is found that :—

The birth rate is 1·40 lower.

The death rate 1·58 lower.

The infantile mortality (per 1000 births) 22·5 lower.

The infectious diseases mortality rate 0·86 higher.

The diarrhoeal diseases mortality rate 0·09 lower.

Of the 434 deaths from infectious diseases during the ten years 1900-1909, 128 resulted from diphtheria and membranous croup, 112 from measles, 108 from whooping-cough, 32 from scarlet fever,—the remainder (54) from enteric fever, continued fever, puerperal fever, and erysipelas.

The deaths from tubercular diseases during the same period numbered 595, 161 in excess of those from all other infectious diseases combined. Of the 595 deaths, 329 were due to pulmonary tuberculosis, the remainder (266) to other forms of tubercular disease.

Skinningrove Port. (Loftus Urban District.)

In consequence of the occurrence of cholera on the Continent I arranged (in the beginning of June) to be present at the Jetty whenever a vessel was due from Terneuzen. When a vessel was due from this port the owners of the jetty, the Skinningrove Iron Company, informed me by telephone stating the day and probable hour of its arrival. I was thus able to be at the jetty before any ship from the port named touched it. Each vessel as it approached was hailed and enquiry made as to the presence or absence of sickness. Five visits for the purpose of making such enquiry were made by me :—no case of sickness of any kind had occurred among those on board the vessels.

Through the kindness of Mr. Pearson, Saltburn, I am able to give the following meteorological record :—

Average readings, 1909 : at Saltburn-by-the-Sea.

Attached thermometer	...	48·9
Dry bulb	...	47·7
Wet Bulb	...	44·8
Rainfall (inches) ...	...	24·17
Days on which rain fell	...	180
Mean maximum temperature	...	53·4
Mean minimum temperature	...	43·7
Hours of sunshine	...	1451

Steps requisite to be taken to maintain and improve the Public Health.

Before detailing these it is desirable to review past action.

Epidemics of cholera and typhoid fever drew attention to the necessity of a pure water supply ; the prevalence of diarrhoeal diseases and lesser outbreaks of typhoid fever to the need of the speedy removal of night-soil and filth of all kind ; the pollution of water by sewage, the offensive odour of sewer gas, and the possibility of such gas acting as the carrier of disease organisms led to the provision of efficient sewers and sewage disposal ; the fact that infectious diseases were spread mainly by contact between the sick and healthy to the desirability of providing isolation accommodation. Purity of water, efficient sewers and sewage disposal, and systematic scavenging are recognised requirements. It is true that the provision and use of isolation hospitals has not led to that diminution in the number of cases of infectious disease which was anticipated. Not because isolation is a failure but because mild cases of the various infectious diseases occur which, not being recognised, escape isolation of any kind.

What is required in the future to improve the Public Health? It would be well I think if the word 'Public' were deleted, as its continuance tends to perpetuate the idea that the health officer is concerned only with the causes and prevention of diseases affecting groups of individuals, and the idea that all disease is due to the neglect of authorities or their officials. The public is composed of units:—if public health is to be improved that of each individual unit must receive attention.

The steps to be taken for improving the health of the people are:—

(1) Abolition of fixed night-soil and refuse receptacles. Many of these are so near the dwellings that in hot weather neither doors nor windows can be allowed to remain open on account of the odour preceeding therefrom. This offensive odour is in itself injurious to health apart from the fact that it prevents efficient ventilation of living rooms. The flittings of flies from pit to pantry is a fruitful source of diarrhoeal diseases. However frequently a pit may be scavenged it is impossible so to cleanse the walls, etc., as to prevent nuisance. The work connected with the scavenging of many of these pits is most disgusting.

(2) The putting into force of the various health Acts, specially the most recent, The Housing and Town Planning, &c., Act, whereby the structural condition of houses and their appurtenances may be improved.

(3) The provision of public slaughter-houses whereby the meat supply could be more effectively supervised and the nuisance caused by the proximity of slaughter-houses to dwellings removed.

(4) The provision of *Joint* isolation accommodation thus obtaining efficiency with economy.

So far I have mentioned only those conditions the removal or adoption of which are under the control of the local authority. If the action of an authority is to have full effect, the active co-operation of the individual is essential. That which is so urgently needed on the part of the individual is the recognition of the fact that much as may be done by a local authority to remove harmful and supply beneficial conditions, he himself is master of most of those which immediately affect his health. The following incident illustrates the point:—a communication was received from the School Medical Officer to the effect that the unhealthy condition of a child examined by her was attributed by the mother to structural defects of their dwelling. A visit paid to this house showed the existence of defects but its dirty state indicated that the child's condition was much more probably due to neglect. The defects had been reported by me to the authority previously but owing to the death of the owner there had been delay in carrying out the repairs. Much as may be done by an authority more can be by the individual. I do not advocate legislation which would compel a man to do or refrain from doing this or that. Legal suasion always 'puts up the back' of the man it is applied to; whatever he is compelled to do is done unwillingly and the benefit derived he refuses to acknowledge. Excessive and unnecessary legislation tends to mental and moral degeneration, to make the individual a machine, moved hither and thither as the State or the Government of the day pleases, instead of a thinking responsible human being. Moral suasion is much better and its effects more lasting.

It is requisite that both Councils and individuals should realise that minor ailments have a cumulative effect; by their continual recurrence the inherent power to resist disease, infectious and other, is reduced to such an extent that the body falls a prey to more serious disease. Prevent the minor ailments and the greater will not occur.

When making inspections with a view, quoting the words of Section 17 of the Housing, Town Planning, &c. Act, 1909, "to ascertain whether any dwelling-house therein is in a state so "dangerous or injurious to health as to be unfit for human habitation," I propose to keep a record not only of the structural but of any other condition which may render the house unfit. Structural defects are not the only cause of unfitness, neglect on the part of the occupier, lack of cleanliness, &c., may be *the*, or a contributory, cause.

In drawing the attention of occupiers to the existence of injurious conditions for which they are responsible I trust and believe that they will consider that I am actuated more by a desire to effect an improvement in their environment and in the health of themselves and their families than by any wish to enforce any authority I may possess as an official.

I remain, Gentlemen,

Yours obediently,

W. W. STAINTHORPE.

Saltburn-by-the-Sea,

January 15th, 1910.