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COUNTY COUNCIL OF NORTHUMBERLAND.

ABSTRACT
OF THE
ANNUAL REPORTS
OF THE
MEDICAL OFFICERS OF HEALTH
For the Year 1898,
WITH STATISTICAL INFORMATION AND A
REPORT
ON THE
SANITARY CONDITION OF THE ADMINISTRATIVE
COUNTY.

BY
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COUNTY MEDICAL OFFICER.

R. Ward & Sons, 33, 35, and 37, High Bridge, Newcastle-on-Tyne.

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1899.



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NORTHUMBERLAND COUNTY COUNCIL.

REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH
FOR THE YEAR ENDING 31st DECEMBER, 1898.

TO THE CHAIRMAN AND MEMBERS OF THE PROPERTY AND SANITATION
COMMITTEE OF THE SAID COUNCIL.

GENTLEMEN,—

I have pleasure in presenting herewith my Summary of the Annual Reports of the Medical Officers of Health, for the year ending 31st December, 1898, in which I have dealt with (a) the sanitary condition and requirements of the county as a whole, and with (b) those of each sanitary district, as ascertained both from the annual reports received, and from personal observation and inspection, so far as time and opportunity have allowed.

Reports have been sent in from all the Medical Officers of Health in the Administrative County.

Of the 35 reports received, 27 were printed, being an increase of 1 printed as compared with the previous year; 1 was type-written (Bellingham), and 7 were in manuscript form.

Those from the Urban Districts of Bedlingtonshire, Berwick-on-Tweed, Gosforth, Newbiggin, Seghill, and from the Rural Districts of Bellingham, Haltwhistle, and Norham and Islandshire, were not printed.

I have in each of my previous annual reports emphasized the great importance of each district council printing the annual report of its Medical Officer of Health.

Many of these reports are exceedingly complete. None of them are drawn up without a considerable expenditure of time, thought, and tedious calculations, and they all contain valuable information, which should be communicated to every member of the district council, and to all others interested in sanitary matters. A type-written or manuscript report can only be read over to those members of the district council who happen to be present when the report is handed in, and affords no opportunity for that careful consideration which it requires and deserves. In some cases it has

been decided that the Medical Officer's report be "taken as read." Either of these courses must have a tendency to lessen the interest taken by the Medical Officer of Health in the preparation of his report, and to minimise the amount of thought and time devoted to this work.

In some of the annual reports, the very admirable plan is adopted of dividing the sanitary districts into localities, with the estimated population and death rates (both from general and special causes) of each sub-division appended. This system is carried out in the reports of the Medical Officers of Health for the Urban Districts of Blyth South, Cowpen, Earsdon, Newburn, and Tynemouth; and for the Rural Districts of Alnwick, Bellingham, Castle Ward, Glendale, Morpeth, Rothbury, Tynemouth No. 1, and Tynemouth No. 2.

The great value of this system is demonstrated, by comparing the death rates for the whole of a sanitary district, with those obtaining in the different sub-divisions. It is not infrequently seen, that though the general death rate for the whole sanitary district may not be above the average for that class of district, yet in some of the sub-divisions, the zymotic, the infantile, and the general death rates, are so high, as to at once call attention to the sanitary requirements of that locality.

In each of the reports from the Urban District of Weetslade, and the Rural Districts of Belford, Haltwhistle, and Norham and Islandshire, the Medical Officer of Health divides his district into localities, but does not give sufficient statistics for a calculation of the various death rates to be possible.

SPECIAL REPORTS.

It does not appear to be generally understood that in every case in which a Medical Officer of Health sends a special report to the Local Government Board, a copy of this should simultaneously be sent to the county council.

The general order of the Local Government Board, 1891, which defines the duties of medical officers of health includes the following articles:—

"(15) He shall give immediate information to Us of any outbreak of dangerous epidemic disease within the district, and shall transmit to Us a copy of each annual report and of any special report. He shall make a special report to Us of the grounds of any advice which he may give to the sanitary authority with a view to their requiring the closure of any school or schools, in pursuance of the Code of Regulations approved by the Education Department and for the time being in force."

"(16) *At the same time that he gives information to Us of an outbreak of infectious disease or transmits to Us a copy of his annual report, he shall give the like information or transmit a copy of such report to the county council of the county within which his district may be situated.*"

By a later memorandum, dated July, 1897, the Local Government Board further directs as follows:—

"(13) Reports to sanitary authorities, advising the closure of a school or schools in any district are to be treated as 'special' reports within the meaning of the general order of the Local Government Board of March 23rd, 1891, and copies of them are required by Art. 18 (secs. 15 and 16) of that order, to be sent to the Board and to the county council. These reports should state the grounds upon which the Medical Officer of Health advocates the closure of the school or schools in preference to the exclusion of particular scholars."

"(14) All notices of the sanitary authority for the closing of public elementary schools should be addressed, in writing, to the managers, and should state the grounds upon which the closing is deemed necessary."

"All such notices shall specify a definite time during which the school is to remain closed. This should be as short a period as can be regarded as sufficing on sanitary grounds, since a second notice may be given before the expiration of the first, if it should be found necessary to postpone the re-opening of a school. The managers of schools, after complying with the requirements of the sanitary authority, have the right of appeal to the Education Department, if they consider any notice to be unreasonable."

ADOPTIVE ACTS.

The Adoptive Acts are:—The Infectious Diseases Notification Act, 1889; the Infectious Diseases Prevention Act, 1890; the Public Health Act Amendment Act, 1890.

One or more of these Acts are in operation in the majority of the sanitary districts, but in some, none have been adopted.

The Infectious Diseases Notification Act at the end of 1898 was in operation in 30 out of 35 sanitary districts. Those in which it was not in force were the following:—

URBAN DISTRICTS.					Population.
Amble	...	...	...	...	4,500
Bedlingtonshire	...	...	...	...	18,000
Newbiggin-by-the-Sea	...	...	...	...	2,446
Seghill	...	...	...	...	2,300
					<hr/>
					27,246
RURAL DISTRICT.					
Rothbury...	...	...	...	...	4,780
					<hr/>
					32,026
					<hr/>

During the past year, the above Act has been adopted in the Cramlington and Rothbury Urban districts, thus decreasing the numbers of those denied its advantages by 7,700. The advantages of adopting these Acts are very great, and will be readily appreciated by a consideration of the following points:—

It is the duty of the Medical Officer of Health, on receiving information of the outbreak of any contagious, infectious, or epidemic disease of a dangerous character within his district, to visit the spot without delay and inquire into the cause and circumstances of such outbreak, and in case he is not satisfied that all due precautions are being taken, to advise the persons competent to act, as to the measures which may appear to him to be required to prevent the extension of the disease, and also to take such steps as he is legally authorised to adopt under any statute in force in the district, or by resolution of the sanitary authority. This being the case, it is manifestly of the greatest importance that the Medical Officer of Health should receive information of any case of contagious, infectious, or epidemic disease of a dangerous character at the earliest possible date.

Under the Infectious Diseases Notification Act, "every medical practitioner attending on, or called in to visit the patient, shall, forthwith, on becoming aware that the patient is suffering from an infectious disease to which this Act applies, send to the Medical Officer of Health for the

"district, a certificate stating the name of the patient, the situation of the building, and the infectious disease from which, in the opinion of such medical practitioner, the patient is suffering," and, under the same Act, "the head of the family to which such . . . patient belongs, and in his default, the nearest relatives of the patient present. . . . and in default of such relatives every person in charge of, or in attendance on, the patient, and in default of any such person, the occupier of the building shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which this Act applies, send notice thereof to the Medical Officer of Health for the district."

So that, whether any medical practitioner is in attendance or not, the Medical Officer of Health at once receives information (the Infectious Diseases Notification Act being in force) of any outbreak of infectious disease to which the Act applies within his district, and the parents or persons in charge of the patient, receive the necessary directions as to school attendance, isolation, etc.

Without the assistance of compulsory notification he cannot, except indirectly, become possessed of this knowledge. Many mild cases of infectious disease, notably measles, scarlet fever (frequently mistaken for measles), and even diphtheria, are treated (or maltreated) by the parents, without any medical man being called in, and children, frequently themselves in an infectious condition, from this infected house, are allowed to go to and from school, and thus spread the disease amongst those with whom they are in such close contact during school hours.

The only objection to the adoption of this Act by the district councils who have not made the notification of infectious diseases compulsory in their sanitary districts, appears to be the slight expense which it involves. Surely this is a very short sighted policy, as whatever expense is incurred in checking the spread of infectious disease, must be a wise outlay, and that the adoption of the Infectious Diseases Notification Act does exert a powerful influence in this direction, will be admitted by everyone who will take the trouble to investigate the matter. Moreover in some sanitary districts the adoption of this Act has only entailed an expense of £3—there having been only 24 cases notified during the year. Is it reasonable to argue (as is sometimes done) that this fact proves that compulsory notification is unnecessary in this district? Would it not be more reasonable to conclude, that owing to information of a case of infectious disease being promptly furnished to the Medical Officer of Health, and in consequence of his being thus placed in a position, in conjunction with the sanitary inspector, to immediately take the necessary steps, the spread of the disease has been prevented to a perfectly unknown number of individuals.

The Infectious Diseases Prevention Act, 1890, may be adopted either as regards all, or any of its sections by any extra metropolitan sanitary authority. It gives powers to deal, in a more satisfactory manner, with the disinfection of infected houses and clothing, and to provide temporary shelter for families who have to vacate their houses, in order that disinfection may be properly carried out; with milk supplies liable to spread infectious diseases with prompt interment of the bodies of persons having died from infectious disease; with detention in hospital of persons who, suffering from an infectious disease and inmates of a hospital, would upon leaving, be without the accommodation necessary to prevent the spread of infection; and it forbids the throwing of infected rubbish, etc., into any receptacle for refuse, without previous disinfection.

The Public Health Act Amendment Act, 1890, may be adopted by Urban authorities in part or in whole; and by Rural authorities, with the exception of those powers which are limited to Urban authorities. It forbids the erection of buildings for human habitation on polluted sites. It gives amended powers as regards bye-laws, with reference to the building of houses, the paving of

yards, the regulation of water-closets and other conveniences, the removal of offensive matter during certain hours, etc., the preparation or exposure for sale as human food of unwholesome, unsound, etc., articles, unfit for human consumption, the pollution of watercourses, the notification of infectious diseases, the registration and regulation of common lodging-houses, etc.

BYE-LAWS.

According to the latest information, the following districts have bye-laws :—

Urban—Alnwick, Amble, Bedlingtonshire, Benwell and Fenham, Berwick-on-Tweed, Blyth South, Cowpen, Earsdon, Gosforth, Hexham, Morpeth, Newburn, Newbiggin-by-the-Sea, Rothbury, Tynemouth, Walker, Wallsend, Weetslade, Whitley and Monkseaton, and Willington Quay.

Rural—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Norham and Islandshire, Tynemouth No. 1, and Tynemouth No. 2.

Of the Urban districts Ashington, Cramlington, and Seghill, have no bye-laws.

Of the Rural districts Morpeth and Rothbury are without bye-laws.

BYE-LAWS CONFIRMED BY THE LOCAL GOVERNMENT BOARD DURING THE YEAR 1898.

Bellingham Rural District Council	Scavenging and cleaning.
Do. do.	Nuisances.
Do. do.	Common lodging houses.
Glendale do.	Nuisances.
Hexham Urban District Council	Streets and buildings.
Morpeth Town Council	Streets and buildings.

FOOD AND DRUGS ACT, 1875.

The number of samples examined during the year was 215, of which 22 were found to be adulterated. Proceedings were taken against 21 persons, 20 of whom were convicted, fines and costs to the amount of £28 6s. being imposed.

The samples examined consisted of rhubarb pills, seidlitz powders, gin, butter, coffee, whisky, lard, port wine, and milk; the convictions being for seidlitz powders, gin, coffee (2), whisky (2), and milk.

LOANS.

Loans for sanitary and other public improvements, applied for by the undermentioned Urban and Rural district councils, were sanctioned by the Local Government Board, the details of which are given below :—

LOANS SANCTIONED TO URBAN DISTRICT COUNCILS.

Authority.	Purpose.	Amount.	Period for redemption.
		£	
Amble	Water supply	600	29 years
Hexham	Water undertaking ...	2,510	30 „
Newburn	Sewerage and sewage disposal	458	22 „
Blyth, South	Private street improvement	2,000	1 „

Authority.	Purpose.	Amount.	Period for redemption.
		£	
Tynemouth	Public walks and pleasure grounds	1,824	18 years
Do.	Street improvements ...	2,100	20 "
Do.	Do.... ...	1,879	13 "
Wallsend	Sewerage	1,056	30 "
Whitley and Monkseaton...	Steam roller scarifier and shed	500	10 "
Willington Quay	Sewerage	700	30 "
Tynemouth	Public libraries ...	1,215	20 "
Total ...		£ 14,812	
LOANS SANCTIONED TO RURAL DISTRICT COUNCILS.			
Alnwick	Water supply at Aln-mouth	100	23 years
Castle Ward	Sewage disposal at Ponteland	110	15 "
Do.	Sewerage and do. do.	1,130	30 "
Hexham	Water supply at Alledale	800	30 "
Total ...		£ 2,140	

REGULATIONS UNDER THE DAIRIES, COW SHEDS, AND MILK SHOPS ORDER.

The condition of cow sheds, dairies, and milk shops, is a matter of the greatest importance; for milk is used as an article of food in nearly every household. It ought to be the sole nourishment of infants, and it should enter largely into the food of children and invalids. It is liable to be highly injurious from various unhealthy conditions existing in the cow, such as tuberculosis, foot and mouth disease, splenic fever, etc. It is also peculiarly liable to absorb offensive gases, sewer and other vapours, from uncleanly surroundings, and to transmit various infectious diseases peculiar to man, such as typhus, cholera, tubercular disease, pneumonia, diphtheria, scarlatina, and enteric fever. Micro-organisms gaining access to milk, whether from a diseased cow, from the hands or clothing of the milker, from polluted water used for rinsing the milk vessels, or diluting the milk, or from particles of dung, find in it a most suitable medium for rapid multiplication.

There are comparatively few cow sheds in the county which do not call for alteration in one or more ways. A large number are absolutely without any provision for drainage; some drain on to the footpath of a highway. The defects generally in evidence are (1) the small amount of floor space allotted to each cow; in some cases the sheds are so overcrowded that the cows have to take it in turns to lie down; (2) insufficient cubic space, the scanty floor space being rendered still more objectionable by the portion above the cow being taken up by fodder; (3) absence of any adequate provision for light; in many cases no light can enter except through the doorway; (4) uneven floors which hold large quantities of liquid manure; (5) either no provision whatever for drainage, or the untrapped commencement of the drain is placed within the cow shed; (6) no provision for ventilation. Whenever two or more of the above conditions obtain (and there are a larger number of cow sheds in which five out of the six may be found combined) we have all the conditions most favourable to the development of tuberculosis in the cows, and to the furnishing of milk of a most questionable quality. There is a great disinclination to increase either the floor space, or the air space, in cow sheds; partly on account of the idea that the animals must be kept hot, if a good

yield of milk is to be looked for, and partly, possibly chiefly, in consequence of the expense incurred in structural alterations. That milch cows should be kept moderately warm there can be no doubt, but that the requisite temperature can be maintained with an allowance of 800, or even 1,000 cubic feet of air space, for each cow, has been proved on the Continent, in Scotland, in several places in England, and even in this county. As in this climate, the air of a dwelling cannot be changed more than three times in an hour, without a sensible draught, ventilation cannot be made to do duty for an initial deficiency in floor or air space. Necessarily opinions differ amongst owners of property, who are perhaps largely influenced by the average cubic capacity of their own existing buildings, as to what constitutes an initial deficiency. Insufficient light, bad floors, and absence of, or inadequate provision for drainage, all contribute to the development of injurious living organisms, and to a general condition of filth. Ventilation should be so arranged as for it to be impossible to close all the openings. It is a general custom during the winter months, to stuff whips of hay into every opening provided for ventilation. Sanitary authorities failing to make regulations under the Cow Sheds, Dairies, and Milk Shops Order, are mainly responsible for the deplorable condition of both cow sheds and dairies, so frequently met with.

HOUSING OF THE WORKING CLASSES.

The condition of the houses for the working classes remains practically unchanged; new houses have been built and eagerly taken up in various districts, but not in sufficient numbers to appreciably relieve the amount of overcrowding which exists in many localities, notably in Alnwick, in Berwick-on-Tweed, and in many colliery districts; still several old one-roomed houses have been closed, and those newly erected are, in the majority of instances, of a very much improved type, both as regards their internal arrangements and surroundings. The old privy middens, however, are still, even for new houses, greatly in evidence, their capacity but little diminished, and in most cases they are uncovered.

The evil results of these unsanitary receptacles are well known; the ground and the air in the immediate vicinity of the houses are grossly polluted; the walls and floors of these outoffices are but very rarely cemented, and, consequently, not being water tight, there is a constant soakage of liquid filth into the walls and ground, and the air is vitiated by foul gases, the products of decomposition. All uncovered ashpits receive large quantities of rain water, and it is quite common to see a rain water spout delivering into them. These arrangements, and the practice of allowing large quantities of refuse of all kinds to accumulate, greatly facilitate decomposition, with all its evil consequences, when in the immediate vicinity of a dwelling, and no one at all familiar with these conditions can have failed to notice the amount of germ-laden material, and the intolerable stench which enters the neighbouring houses during the process of removing a three-months' accumulation. The one recommendation in the eyes of owners of property, possessed by large uncemented and uncovered privy-ashpits, would appear to be their cheapness; inexpensive to erect, and the greater the capacity the less frequently is emptying carried out; to this one recommendation, all other considerations are sacrificed.

SCAVENGING.

There appears in some quarters a disposition to carry out scavenging operations at shorter intervals than formerly; in others, the ashpit filled to its utmost capacity, and two or more cartloads of refuse deposited on the ground, are still to be found.

POLLUTION OF RIVERS AND STREAMS.

The progress made in the direction of freeing rivers and streams from sewage and other pollution, has not been satisfactory. The Morpeth Town

Council have caused another set of plans, for dealing with the Morpeth sewage to be prepared, but have not yet definitely decided upon any scheme. New sewage disposal works have been laid down at Hexham for treating that portion of the town's sewage which is the strongest, and though not fully established at the end of the year, the effluent produced was a great improvement upon the crude sewage, rendered very foul by trade refuse, which was formerly discharged direct into the burn. The Castle Ward Rural District Council have, in connection with the sewage disposal scheme adopted in 1896, secured the land required by the Local Government Board; no further steps however have been taken by this district council, towards freeing the river from pollution. This is a serious matter, as lower down, these waters contribute towards forming the water supply for 18,000 persons at Bedlington, not to mention a considerable amount supplied to the Urban District of Cowpen from the same source. The sewage disposal works of the Tynemouth Rural District Council, for houses in Willington parish, though somewhat improved in construction, and greatly improved as to the method of working and the attention they receive, are totally inadequate for the population they serve, and the crude sewage from the village of Glanton, still flows in an open ditch, by the side of the Whittingham road, before joining, and grossly polluting a burn. In its course down the open ditch, it is a serious nuisance to all persons using this road, and after entering the burn, it becomes if possible a still greater nuisance to the Rev. Wm. Taylor, the occupier of St. Mary's Vicarage, robbing him of the proper enjoyment of his house and garden, and also rendering the burn, for a considerable distance, totally unfit to be used as a water supply for cattle.

ISOLATION HOSPITALS.

The following sanitary districts have hospital accommodation for the isolation of infectious diseases:—

Urban—Alnwick, Bedlingtonshire, Berwick-on-Tweed, Blyth South, Cowpen, Cramlington, Earsdon, Hexham, Morpeth, Seghill, Tynemouth, Wallsend, and Willington Quay, and (by arrangement with the city hospital at Walker Gate) Walker.

Rural—Belford (2 tents), Castle Ward, Tynemouth No. 2 (tents).

The amount of accommodation available is as follows:—Alnwick, 6 beds; Bedlingtonshire, 9 beds; Berwick-on-Tweed, 8 beds; Blyth South (Blyth Port Sanitary Authority's Hospital), 22 beds; Cramlington, 12 beds; Earsdon, 12 beds; Hexham, 13 beds; Morpeth, 22 beds; Seghill, 8 beds; Tynemouth, 10 beds; Walker (say 9 beds); Wallsend and Willington Quay (joint hospital), 21 beds; Belford (2 tents), 6 beds; Castle Ward, 6 beds; and Tynemouth No. 2 (tents), 16 beds. Total number of beds, 180, for a population of 366,509.

The above figures show an increase of 7 hospitals and 90 beds (including 9 beds at Walker) over those provided at the end of 1897.

The number of cases treated in these institutions during the year was 121, distributed as follows:—Alnwick, 24; Bedlingtonshire, 15; Berwick-on-Tweed, 7; Blyth South, 3; Cowpen, 20; Cramlington, 6; Tynemouth, 19; Walker, 3; Wallsend, 21; Willington Quay, 8; Belford, 8; Castle Ward, 10; and Tynemouth No. 2, 12.

At the end of the year the hospitals at Earsdon, Hexham, Morpeth, and Seghill were not ready for occupation.

The population of the 16 sanitary districts possessing isolation hospitals, or having made arrangements for the use of isolation hospitals provided by neighbouring districts, is 204,234, and the number of beds (supposing 9 to be available in the City Hospital, for patients from Walker) is 180, giving an average of 1 bed for every 1,134 persons. The population of the 19

sanitary districts having no arrangement for the isolation of infectious diseases is 162,275.

I have again to express my regret that so few separate reports are forthcoming from the sanitary inspectors. I am, therefore unable to place on record, as I should wish, the amount of work accomplished by these officials. I wish to take this opportunity of again thanking the various Medical Officers of Health, Surveyors, and Inspectors, for the information and assistance they have at all times placed at my disposal.

I am, gentlemen,

Your obedient servant,

J. W. HEMBROUGH.

THE COUNTY AS A WHOLE.

AREA.

The area of the county is 1,262,935 acres, divided as follows:—Urban districts 63,082 acres, Rural Districts 1,199,853 acres.

POPULATION.

The population of Northumberland (exclusive of Newcastle-on-Tyne) estimated to the middle of 1898 is 366,509, being an increase of 46,079 over the 1891 census, and an increase of 10,256 over the population estimated to the middle of 1897.

The greatest estimated increase during the year, is returned from the Wallsend Urban District (2,000 more than in 1897).

The county up to the end of 1898, was divided for the purpose of sanitary administration, into 35 districts, 23 of which were Urban and 12 Rural.

URBAN DISTRICTS.

Alnwick, Amble, Ashington, Bedlingtonshire, Benwell and Fenham, Berwick-upon-Tweed, Blyth South, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Morpeth, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Tynemouth, Walker, Wallsend, Weetslade, Whitley and Monk-seaton, and Willington Quay, with an aggregate population (estimated to the middle of 1898) of 239,812.

RURAL DISTRICTS.

Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1, and Tynemouth No. 2, with an aggregate population (estimated to the middle of 1898) of 126,697.

The average number of persons per acre, is for the county 0·29; for the Urban districts 3·80, and for the Rural districts 0·10.

This however is subject to great variation; thus in the Urban district of Willington Quay the average population to the acre is 25·25, while in the Urban district of Rothbury it is only 1·26. In the Rural districts the highest average per acre is in Tynemouth No. 2 (1·51), and the lowest in Rothbury (0·02.)

The area and estimated population of each sanitary district in the administrative county, will be found in a table at the end of this summary.

BIRTHS.

The births registered during 1898 numbered 11,319, giving a birth rate of 30·88 per 1,000. In 1897 the birth rate was 31·5, and in 1896 31·75.

Of the 11,319 births, 8,122 occurred in the Urban, and 3,197 in the Rural districts. The birth rate for the former was 33·86 per 1,000 (34·34 in 1897), and for the latter 25·23 (26·45 in 1897).

The following table shows the comparative rates :—

	Birth Rate.	Increase since 1897.	Decrease since 1897.
Administrative County ...	30·88	—	0·69
Urban districts ...	33·86	—	0·48
Rural districts ...	25·23	—	1·22
England and Wales ...	29·4	—	0·30

The three highest birth rates per 1,000 living, were recorded in the following districts :—

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Blyth South ...	46·00	Tynemouth No. 1 ...	33·14
Weetslade ...	45·80	Tynemouth No. 2 ...	29·85
Newburn ...	42·96	Haltwhistle ...	27·18

while the three lowest were returned from

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Whitley and Monkseaton...	16·55	Glendale ...	19·59
Alnwick ...	24·45	Norham and Islandshire...	22·93
Cramlington ...	26·92	Castle Ward ...	23·14

DEATHS.

The number of deaths registered during 1898 was 6,392; 4,482 occurred in Urban, and 1,910 in Rural districts.

The county death rate was 17·44 as compared with 16·73 in 1897, and 15·87 in 1896; that of the Urban districts was 18·68, as compared with 17·77 in 1897, and 17·04 in 1896; and the Rural death rate was 15·07, as against 14·80 in 1897, and 13·96 in 1896.

The death rate for England and Wales was 17·6 as compared with 17·40 in the previous year.

The approximate Urban death rate for England and Wales was 18·3, and the approximate Rural death rate 16·0.

The following table shows the comparative rates :—

Districts.	Death Rate.	Increase since 1897.	Decrease since 1897.
Administrative County ...	17·44	0·71	—
Urban districts ...	18·68	0·91	—
Rural districts ...	15·07	0·27	—
England and Wales ...	17·6	0·02	—

The three highest death rates per 1,000 living in each class of district, were found to be as follows :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Gosforth ...	25·85	Norham and Islandshire...	18·85
Hexham ...	24·16	Rothbury ...	18·41
Weetslade ...	22·40	Belford ...	18·13

while the three lowest were recorded as under :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Whitley and Monkseaton...	11·47	Haltwhistle	12·08
Newbiggin-by-the-Sea ...	14·30	Morpeth	12·24
Amble	14·66	Glendale	13·48

INFANT MORTALITY (UNDER ONE YEAR).

The number of deaths of children under one year was, in the Urban districts, 1,466, and in the Rural districts, 456; total, 1,922. The following table shows the comparative rates of infant mortality (deaths under one year per 1,000 births) :—

	Number of Deaths.	Death rate per 1,000 births.	Decrease since 1897.	Increase since 1897.
Administrative County ...	1,922	169·80	—	19·14
Urban districts	1,466	180·49	—	21·72
Rural districts	456	142·63	—	11·37
England and Wales ...	148,249	161	—	5·00

In 16 of the Urban districts the infant mortality rate was higher, and in 7 lower than in 1897.

In 6 of the Rural districts the infant mortality rate was higher, and in 6 lower than in 1897.

It will be seen that the number of deaths during the first year of life (169·80 per 1,000 births) continues to be a standing reproach to the *carelessness* and *ignorance* of those having the charge of infants, and as the elements of practical hygiene does not appear to be a subject frequently sought after, in the instruction offered by Committees of Technical Education, the conviction is brought home to sanitarians more and more forcibly, that this should form one of the *compulsory* subjects for school children of both sexes, and also in the curriculum of every training college. Half an hour once or twice a week devoted to hygienic subjects by a teacher understanding their importance and far reaching character, could not fail to impart knowledge of a practical nature, which in the great majority of cases, would exert a most beneficial influence upon the home life at all ages. It must be admitted that many of the deaths under one year are due to culpable negligence, but still more must be attributed to the grossest ignorance amongst parents on such subjects as the feeding and clothing of infants, as also upon the importance of air, light, and cleanliness in the house; and the connection existing, between Phthisis and damp, ill ventilated rooms, and between Enteric fever and filth polluted ground, and foetid accumulations of decomposing matter.

DEATHS UNDER 5 YEARS.

The deaths under 5 years numbered 2,624, giving a death rate at this age period of 7·15 per 1,000 living, as compared with 6·54 in 1897, and 6·06 in 1896.

The following tables show the numbers and death rates for the five years 1894-98 inclusive :—

1894.			
Urban.	Rural.	Total.	Death Rate.
1,254	752	2,006	5·88

1895.

Urban.	Rural.	Total.	Death Rate.	Death Rate. Increase.
1,746	778	2,524	7.39	1.51
1896.				
Urban.	Rural.	Total.	Death Rate.	Death Rate. Decrease since 1895.
1,540	582	2,122	6.07	1.32
1897.				
Urban.	Rural.	Total.	Death Rate.	Death Rate. Increase since 1896.
1,752	579	2,331	6.54	0.47
1898.				
Urban.	Rural.	Total.	Death Rate.	Death Rate. Increase since 1897.
2,003	621	2,624	7.15	0.61

DEATHS AT 65 YEARS AND UPWARDS.

The number of deaths at this age period was 1,471, giving a death rate of 4.01 per 1,000 living.

Of these deaths 870 took place in the Urban, and 601 in the Rural districts.

The following tables show the number of deaths and death rates for the three years 1896-1898 inclusive :—

1896.

Urban.	Rural.	Total.	Death Rate.	Death Rate Decrease since 1895.	Death Rate Increase since 1895.
644	525	1,169	3.34	0.91	—
1897.					
Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1896.	Death Rate Decrease since 1896.
771	556	1,327	3.72	0.38	—
1898.					
Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1897.	Death Rate Decrease since 1897.
870	601	1,471	4.01	0.29	—

ZYMOTIC DISEASES.

716 deaths occurred from the seven principal zymotic diseases, being an increase of 132 as compared with the number registered in 1897. Of these deaths 566 took place in the Urban, and 150 in the Rural districts. The zymotic diseases which caused the greatest mortality were:—Diarrhœa 338, whooping cough 96, enteric fever 86, and measles 82.

Diseases.	Numbers in 1897.	Numbers in 1898.
Diarrhœa	225	338
Whooping Cough	58	96
Enteric Fever	87	86
Measles	136	82

As diarrhœa and measles are not generally notifiable, I can give no information as to the number of cases which have occurred. The following table shows where the zymotic death rate was highest, in the two classes of districts:—

Urban.	Death Rate.	Rural.	Death Rate.
Blyth South	4·35	Tynemouth No. 2	1·83
Bedlingtonshire	4·00	Hexham	1·82
Cowpen	3·69	Tynemouth No. 1	1·69

And the lowest death rates are shown in the next table:—

Urban.	Death Rate.	Rural.	Death Rate.
Rothbury	Nil	Bellingham	0·16
Seghill	Nil	Rothbury	0·20
Newbiggin-by-the-Sea	0·40	Glendale	0·49

The comparative rates are set out in the following table:—

	Death Rate.	Decrease since 1897.	Increase since 1897.
Administrative County	1·99	—	0·30
Urban districts	2·42	—	0·36
Rural districts	1·19	—	0·19
England and Wales	2·22	—	0·07

In 1898 the zymotic death rate showed an increase in 20 districts, and a decrease in 13 districts, as compared with 1897. In two (Rothbury and Seghill Urban districts) the zymotic death rate remained the same as or the previous year.

ZYMOTIC DEATH RATES.

District.	1896.	1897.	1898.	Decrease since 1897.	Increase since 1897.
URBAN.					
Alnwick ...	0.60	0.74	1.03	—	0.29
§ Amble ...	Nil.	0.66	0.88	—	0.22
Ashington ...	1.44	2.00	1.72	0.28	—
§ Bedlingtonshire ...	2.00	2.00	4.00	—	2.00
Benwell and Fenham ...	1.71	1.75	2.92	—	1.17
Berwick-upon-Tweed ...	1.12	2.10	1.12	0.98	—
Blyth South ...	2.76	5.67	4.35	1.32	—
Cowpen ...	4.07	3.18	3.69	—	0.51
Cramlington ...	3.44	1.90	1.84	0.06	—
Earsdon ...	Not formed	1.96	1.45	—	—
Gosforth ...	0.92	1.07	2.00	—	0.93
Hexham ...	2.16	3.00	3.50	—	0.50
Morpeth ...	0.93	0.36	1.08	—	0.72
§ Newbiggin-by-the-Sea ...	0.84	1.25	0.40	0.85	—
Newburn ...	1.78	1.73	3.21	—	1.48
Rothbury ...	0.77	Nil.	Nil.	Nil.	Nil.
§ Seghill ...	Nil.	Nil.	Nil.	Nil.	Nil.
Tynemouth ...	0.90	2.40	1.44	0.96	—
Walker ...	† 3.76	* 3.20	‡ 2.92	0.28	—
Wallsend ...	1.20	1.06	2.27	—	1.21
Weetslade ...	4.40	0.80	1.80	—	1.00
Whitley & Monkseaton.	0.40	0.86	0.87	—	0.01
Willington Quay ...	1.98	1.70	2.35	—	0.65
RURAL.					
Alnwick ...	1.06	0.41	0.98	—	0.57
Belford ...	1.03	0.41	1.05	—	0.64
Bellingham ...	0.66	0.33	0.16	0.17	—
Castle Ward ...	0.52	1.05	1.48	—	0.43
Glendale ...	0.29	0.09	0.49	—	0.40
Haltwhistle ...	1.12	1.71	0.72	0.99	—
Hexham ...	0.93	0.64	1.82	—	1.18
Morpeth ...	0.99	0.82	1.09	—	0.27
Norham & Islandshire...	0.47	0.15	0.62	—	0.47
§ Rothbury ...	0.62	0.62	0.20	0.42	—
Tynemouth No. 1 ...	1.67	3.21	1.69	1.52	—
Tynemouth No. 2 ...	2.31	2.72	1.83	0.89	—

† 2.08 after deducting 21 deaths in hospital of persons from other districts.

* 1.17 after deducting 26 deaths in the City hospital.

‡ 6.46 after adding 46 deaths occurring in the City hospital.

§ Notification Act not in force.

Table showing death rates from the seven principal zymotic diseases for four years ending 31st December, 1898:—

Diseases.	1895.	1896.	1897.	1898.	Decrease. 1898.	Increase. 1898.
Smallpox ...	Nil.	Nil.	Nil.	0.008	—	0.008
Scarlatina ...	0.30	0.24	0.13	0.15	—	0.02
Diphtheria ...	0.14	0.18	0.08	0.14	—	0.06
Fevers ...	0.35	0.21	0.24	0.23	0.01	—
Measles ...	0.40	0.27	0.37	0.22	0.15	—
Whooping Cough ...	0.33	0.27	0.16	0.26	—	0.10
Diarrhoea ...	0.73	0.34	0.63	0.92	—	0.29

Cases of zymotic diseases notified from each district:—

URBAN.

1 Name of District.	2 Number of cases notified.	3 Percentage of population attacked as notified.	4 Mortality rate per 1,000 from zymotic diseases notified or ascertained.
Alnwick	180	2.66	1.03
§ Amble	—	—	0.88
Ashington	28	0.25	1.72
§ Bedlingtonshire	343	1.90	4.00
Benwell and Fenham (measles notifiable)	164	0.56	2.92
Berwick-on-Tweed	72	0.54	1.12
Blyth South	46	1.11	4.35
Cowpen	140	0.84	3.69
Cramlington	59	0.90	1.84
Earsdon	51	0.58	1.96
Gosforth	40	0.57	2.00
Hexham	180	2.61	3.50
Morpeth	14	0.25	1.08
§ Newbiggin-by-the-Sea	1	0.04	0.40
Newburn	121	1.25	3.21
Rothbury	4	0.33	Nil
§ Seghill	—	—	Nil
Tynemouth	187	0.35	1.44
Walker	124	0.95	2.92
Wallsend	86	0.47	2.27
Weetslade	39	0.78	1.80
Whitley and Monkseaton	3	0.04	0.87
Willington Quay	26	0.30	2.35

The calculations in column 3 do not include 91 cases of measles from the Urban district of Benwell and Fenham, nor 23 from the Urban district of Hexham, as in the majority of districts this disease is not notifiable.

RURAL.

1 Name of District.	2 Number of cases notified.	3 Percentage of population attacked as notified.	4 Mortality rate per 1,000 from zymotic diseases, notified or ascertained.
Alnwick	58	0.47	0.98
Belford	15	0.31	1.05
Bellingham	16	0.26	0.16
Castle Ward	24	0.25	1.48
Glendale	144	1.41	0.49
Haltwhistle	26	0.31	0.72
Hexham	531	1.86	1.82
Morpeth	52	0.31	1.09
Norham and Islandshire	19	0.29	0.62
§ Rothbury	21	0.43	0.20
Tynemouth No. 1	105	1.18	1.69
Tynemouth No. 2	40	0.36	1.83

§ Infectious Diseases Notification Act not in force.

The zymotic diseases which are generally notifiable are smallpox, scarlatina, diphtheria, and the four fevers—typhus, enteric, continued, and relapsing—grouped together. As before noted, the four zymotic diseases which caused the greatest number of deaths were diarrhoea, whooping cough, enteric fever, and measles; but as the notification of diarrhoea and measles is not compulsory, it is therefore impossible to make any reliable calculation as to the number of cases. Of the 733 deaths from the principal zymotic diseases, 82 were due to measles.

CHOLERA.

There were no cases of cholera reported during the year 1898.

SMALLPOX.

There were 46 cases of smallpox, resulting in 3 deaths, reported during the year; no cases of this disease were notified during 1897.

CHICKEN POX.

Chicken pox was present in 12 districts.

SCARLATINA.

1,512 cases of scarlatina were notified during the year; 838 in the Urban, and 674 in the Rural districts, causing 58 deaths; the number of deaths from this cause in 1897 was 47, and in 1896 the deaths numbered 84. Of the 58 deaths, 43 occurred in the Urban, and 15 in the Rural districts.

The following table gives the comparative death rates:—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·15	—	0·02
Urban districts	0·17	—	0·01
Rural districts	0·11	—	0·04
England and Wales	0·11	0·03	—

In the Urban districts the greatest number of cases occurred in Alnwick (172), Newburn (85), Tynemouth (80), and Walker (79).

In the Rural districts the greatest number of cases appeared in Hexham (376), Glendale (129), and Tynemouth No. 1 (54).

MEASLES.

There were 82 deaths from measles, 70 of which occurred in the Urban, and 12 in the Rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·22	0·16	—
Urban districts	0·29	0·12	—
Rural districts	0·09	0·14	—
England and Wales	0·41	—	0·01

TYPHUS FEVER.

There were no cases of typhus fever reported during the year

ENTERIC FEVER.

There were 324 cases of enteric fever notified during the year, resulting in 86 deaths, as compared with 87 in 1897, 76 in 1896, and 122 in 1895. Of these 86 deaths, 64 occurred in the Urban, and 22 in the Rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·23	0·02	—
Urban districts	0·26	0·03	—
Rural districts	0·17	—	0·03
England and Wales ... ..	*	.....	.....

* The Registrar-General does not give the death rate for Enteric (or Typhoid) Fever singly.

Of the 324 cases, notified or ascertained during the year, 237 occurred in the Urban, and 87 in the Rural districts. The number of cases notified per 1,000 living was 0·88. In the Urban districts the greatest number of cases occurred in Cowpen (55), Tynemouth (33), and Bedlingtonshire (28).

In the Rural districts the greatest number of cases occurred in the Hexham (21), and Tynemouth No. 1 (19) districts.

The period of the year during which enteric fever was most prevalent, was the months of September, October, November, December.

DIPHTHERIA AND MEMBRANOUS CROUP.

There were 143 cases notified during the year, 123 being returned as diphtheria, and 20 as membranous croup.

The diseases (one or both of them) were notified or ascertained from the following 23 districts; (25 districts in 1897):—

Urban.—Alnwick, Bedlingtonshire, Benwell and Fenham, Berwick, Blyth South, Cowpen, Cramlington, Gosforth, Hexham, Morpeth, Tynemouth, Walker, Wallsend, and Willington Quay.

Rural.—Alnwick, Belford, Bellingham, Castle Ward, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, and Tynemouth No. 1.

There were 35 deaths from diphtheria, and 18 from membranous croup, during the year; of the former, 17 occurred in the Urban, and 18 in the Rural districts; and of the latter, 10 in the Urban and 8 in the Rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·14	—	0·01
Urban districts	0·11	0·04	—
Rural districts	0·20	—	0·09
England and Wales	0·24	—	—

WHOOPING COUGH.

There were 96 deaths from whooping cough, 81 of which took place in the Urban, and 15 in the Rural districts.

The following table shows the comparative rates :—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·26	—	0·10
Urban districts	0·33	—	0·15
Rural districts	0·11	—	—
England and Wales	0·31	0·04	—

PUERPERAL FEVER.

This disease caused 16 deaths in the county during the year, as compared with 14 in 1897. Of the 16 deaths, 13 occurred in the Urban, and 3 in the Rural districts.

The following table indicates the comparative rates :—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·04	—	0·01
Urban districts	0·05	—	0·02
Rural districts	0·02	0·01	—
England and Wales ... ..	*	.....	.....

* The Registrar-General gives no figures except for London.

ERYSIPELAS.

There were 12 deaths from erysipelas during the year; 8 in the Urban, and 4 in the Rural districts.

The comparative rates will be seen by reference to the following table :—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·03	Same as in 1897.	Same as in 1897.
Urban districts	0·03	Do.	Do.
Rural districts	0·03	Do.	Do.
England and Wales ... ..	*	.....	.....

* The Registrar-General gives no figures except for London.

DIARRHŒA.

The number of deaths was 338, as compared with 225 in 1897, and 120 in 1896. Of these deaths 280 occurred in Urban, and 58 in Rural districts.

The following table shows the comparative rates :—

	Death Rate per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	0·92	—	0·29
Urban districts	1·16	—	0·37
Rural districts	0·45	—	0·13
England and Wales	0·96	—	0·10

PHTHISIS.

There were 485 deaths from this disease in the Administrative County during the year, distributed as follows:—349 in the Urban, and 136 in the Rural districts.

The number of deaths in 1897 was 535, and in 1896, 503.

The comparative rates are shown in the following table:—

	Death Rate. per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	1·32	0·18	—
Urban districts	1·45	0·13	—
Rural districts	1·07	0·27	—
England and Wales ... ..	*	.....	.....

* The Registrar-General does not give the phthisis death rate except for London.

RESPIRATORY DISEASES.

There were 804 deaths from Respiratory Diseases (exclusive of Tuberculosis) in the Administrative County during the year, 579 taking place in the Urban, and 225 in the Rural districts.

The following table shows the comparative rates:—

	Death Rate. per 1,000.	Decrease since 1897.	Increase since 1897.
Administrative County	2·19	—	0·13
Urban districts	2·41	—	0·17
Rural districts	1·77	—	0·03
England and Wales ... ..	*	.....	.....

* The Registrar-General gives the death rate for London only.

PORT SANITARY AUTHORITIES.

THE TYNE.

Medical Officer of Health—WILLIAM EDMUND HARKER, M.D., B.H.Y.

During the year 15,602 vessels were inspected.

Vessels arriving coastwise	7,633
Fishing vessels arriving coastwise	2,764
Vessels arriving from Foreign Ports	5,205
Total	<u>15,602</u>

The above vessels are further classified as follows:—

British steamers	9,319
„ sailing vessels	996
„ fishing vessels	2,764
Foreign steamers	1,915
„ sailing vessels	608
Total	<u>15,602</u>

Extra visits were also paid to the above, also visits to water boats and gangways, as follows:—

Extra visits paid	...	...	...	...	...	356
Visits to water boats	...	...	...	...	...	42
„ gangways	...	...	...	...	...	43
Total	...	...	...	...	...	441

This number, added to the inspections before mentioned, brings the total number of visits paid during the year 1898, to 16,043.

The gangways of the Tyne General Ferry Company, extending from the Fish Quay North Shields, to Elswick, have been inspected twice during the year, and found to be in good condition.

The increase in the number of visits paid over those for the previous year is 332.

Sixteen patients were admitted into the floating hospital.—Scarlet fever, 1; typhoid fever, 5; diarrhoea, 2; smallpox, 4; malarial fever, 2; syphilis, 1; and pneumonia, 1. Two of the cases (enteric fever) proved fatal, the others were discharged cured.

The following cases of disease are reported as having occurred during the voyage:—Yellow fever in 10 vessels, three cases terminated fatally; 43 cases of influenza were reported on voyage, and on arrival.

The number of emigrants passing through the Tyne port was 485 (ascertained). Information as to emigrants debarking here, and proceeding overland to other British ports, continues to be forwarded to the Medical Officers of Health of the respective ports. Of the total number of vessels entering port (15,602) the sanitary condition was as follows:—

Good	...	...	...	...	...	13,556
Structural defects	...	...	...	...	...	378
Dirty condition	...	...	...	...	...	1,668
Total	...	...	...	...	...	15,602

Orders given to cleanse those found to be in a dirty condition were fully complied with and were classified as follows:—

British steamers	...	...	...	...	...	788
„ sailing vessels	...	...	...	...	...	73
„ fishing „	...	...	...	...	...	483
Foreign steamers	...	...	...	...	...	279
„ sailing vessels	...	...	...	...	...	45
Total	...	...	...	...	...	1,668

Suspected drinking water in 61 ships was changed, the tanks thoroughly purified. A large amount of clothing has been disinfected, while 633 beds and 13 lots of filthy clothing have been destroyed, on account of infection; 14 vessels were thoroughly disinfected. Dead dogs to the number of 110 have been removed from Dunston foreshore, and after disinfection they were taken out to sea, in the River Tyne Commissioners' hoppers. During the smallpox epidemic at Middlesbrough, extra supervision was necessary, and an additional medical officer was appointed to take night duty, from February 19th to May 21st. It was decided to enlarge and improve the accommodation provided at the floating hospital, by adding a new administrative block on a separate pontoon. The Local Government Board, however, refused to sanction a loan for this purpose, without an undertaking been given that no cases of smallpox would be treated simultaneously with other diseases in this hospital. The question of constructing a separate hospital for the reception of smallpox cases is under consideration.

THE BLYTH.

Medical Officer of Health—JOHN CROMIE, L.R.C.P., L.R.C.S.

During the year 2,250 vessels arrived at the port of Blyth, representing a registered tonnage of 1,551,652 tons; this shows an increase of 8 vessels and 173,474 tons over the previous year.

The ships are classified as follows:—

British steam	...	1,038	Foreign steam	...	935
„ sailing	...	97	„ sailing	...	180
Total	...	1,135	Total	...	1,115

Of these vessels 1,073 came direct from foreign, and 1,177 from British ports; all were inspected as soon after arrival as possible, and the following defects were found:—

Structural defects (including one or more of the following), defective drainage, ventilation and lighting; overhead beams of iron not covered and sweating, thus causing damp forecastles and beds; aerial communication between forecastles and w.c.'s, and leaky decks:—

British steamers	...	...	...	...	39
„ sailing	...	...	...	...	1
Total	...	...	...	...	40

No record is kept of the structural defects on ships sailing under foreign flags, as the authority has no power to compel them to remedy such defects.

Of the 40 vessels exhibiting structural defects, 36 were put right before leaving port, the captains of the remaining 4 having promised to rectify the defects at the next port, notices of the necessary alterations, and of the promises to carry out the same, were sent to the sanitary inspector of the port named.

Sanitary defects (including dirty forecastles, w.c.'s, bow-lockers, paint-lockers, fore-peaks, and bilges) numbered 301, classified as follows:—

British steam	...	...	...	...	158
„ sailing	...	...	...	...	14
Foreign steam	...	...	...	...	95
„ sailing	...	...	...	...	34
Total	...	...	...	...	301

In every case the defect complained of was immediately rectified. During the year, 3 cases of infectious disease were reported, as follows:—

On May 26th the Danish steamer “Volmer” arrived with one of her crew suffering from typhoid fever; he was removed to the Port Hospital, and recovered; the ship was thoroughly fumigated and disinfected, the bedding burnt, the water tanks cleansed, and a fresh supply of water taken.

On June 24th the s.s. “Erick,” of Copenhagen, from Rotterdam, arrived with one of her crew suffering from measles; he was removed to the Port Hospital, and discharged on July 23rd. Every precaution was taken to prevent the introduction of this disease into the surrounding district, and with the most satisfactory results.

On December 25th the Danish steamer “Dan” arrived from Ghent, with one of her crew suffering from scarlet fever; he was removed to the Port Hospital, and recovered. Stringent measures were adopted to prevent any further outbreak, and the ship was thoroughly disinfected, as in the former cases.

There were 26 patients admitted to the Port Hospital during the year; of this number 20 were sent by the officials of the Cowpen District Council,

3 by the officials of the South Blyth District Council, and 3 were removed from ships; 6 of the cases were smallpox, 18 were typhoid fever, 1 was measles, and 1 scarlet fever. Three of the typhoid fever cases died; the other 23 patients recovered.

URBAN DISTRICTS.

ALNWICK.

Medical Officer of Health—G. F. EASTON, M.D.

Area, 4,777 acres; Estimated population, 6,746; Birth rate, 24.45; *Death rate, 17.04; Zymotic death rate, 1.03; Infant mortality rate (per 1,000 births), 127.27; Phthisis death rate, 1.18; Death rate from respiratory diseases, 3.11.

Both the birth and death rates show a considerable decrease as compared with last year; the former being less by 6.04 per 1,000, and the latter by 3.58 per 1,000. The zymotic death rate shows an increase of 0.29 per 1,000, and the phthisis death rate a decrease of 0.76 per 1,000.

The respiratory death rate and the infant mortality rate are practically the same as in the previous year. Of the total number of deaths (115) recorded, 64 were males, and 51 females; showing a decrease of 23 as compared with the previous year, and including 17 deaths in public institutions. Twenty-one of the deaths were of children under 12 months, and 55 were of persons over 60 years of age.

The Medical Officer of Health has, at considerable trouble, prepared a table of all the deaths that have occurred in the district during the year, the locality, age, sex, date, and cause of death being given in each case. During a period of five months, an epidemic of scarlet fever raged in the district; 172 cases were notified, resulting however, in only one death. There were 24 cases admitted to the hospital, but a great number of applications had to be refused, owing to the limited accommodation provided. During the year an enquiry was held by Dr. Buchanan, one of the medical inspectors of the Local Government Board, with reference to the sanitary requirements of Alnwick, especially as they related to the dwellings of the working class. Dr. Buchanan's report was practically to the effect that the only satisfactory way of dealing with certain parts of the town (which he divided into three areas) was by entire demolition and rebuilding, not necessarily *en bloc*, but by instalments. After prolonged deliberation this suggestion has been adopted, and negotiations for acquiring the different properties required for carrying out the scheme as regards one of the three areas, have been in progress for some time. Plans of the proposed alterations (including a new common lodging-house urgently required) have been prepared and submitted to the Local Government Board for approval.

Improvements. A number of good houses, in good positions, have been erected by private enterprise; altogether 25 were completed and inhabited, while 15 were almost completed, when the annual report of the Medical Officer of Health was issued. Nuisances to the number of 351 have been abated, and many drains tested, relaid, and otherwise improved.

Requirements. The opening out of many crowded courts and alleys, and the removal of insanitary buildings. The provision of more houses for the working class population. Facilities for storing a larger quantity of water. Completion of the sewerage scheme. Increased common lodging-house accommodation. A steam disinfecter for the isolation hospital.

*14.52 after deducting 17 deaths in public institutions.

AMBLE.

Medical Officer of Health—W. SMYTH, M.B.

Area, 2,025 acres; Estimated population, 4,500. Birth rate, 34·66; Death rate, 14·66; Zymotic death rate, 0·88. Infant mortality rate (per 1,000 births), 147·43; Phthisis death rate, 1·11; Death rate from respiratory diseases, 2·66.

The birth and death rates have increased by 2·89 and 0·22 per 1,000 respectively. The infant mortality rate has decreased by 27·39; the zymotic death rate has increased by 0·22; the respiratory death rate has decreased by 1·11, and the phthisis death rate remains the same as last year. Of the total number of deaths (66) 23 were children under 1 year, and 18 were persons over 65 years of age. Zymotic diseases caused 4 deaths, phthisis 5, heart disease 5, and respiratory diseases 12. The deaths from zymotic diseases were as follows:—Scarlet fever 1, typhoid fever 1, and whooping cough 2.

Diarrhoea was very prevalent in August and September, and influenza in April and May. Measles broke out in December, the schools were closed, and disinfected and the disease checked.

The water supply continues extremely satisfactory both as to quality and quantity.

Referring to the milk supply the Medical Officer of Health says:—"The present method of supply is not satisfactory from a sanitary point of view, and some action should be taken; the periodical inspection of the cows and dairies should be insisted on, the former especially by a veterinary surgeon.

Improvements. Defective sewers have been relaid and all cesspools in the district abolished. A branch sewer to Woodbine Street has been constructed and a long standing grievance has been thereby removed. The sewers have been regularly flushed and manholes and ventilation provided where necessary. The water supply has been extended to Hope Farm. The streets are receiving better attention than formerly. A few new houses have been erected with proper sanitary arrangements.

Requirements. The old Fish yard, at the corner of Henderson Street, requires better attention from the scavengers, and the refuse should be removed more frequently and more regularly. All ash-pits in the district should be emptied more frequently, the old fashioned midden should be abolished. The street sweepings should be removed more expeditiously. *The Infectious Diseases Notification Act should be adopted immediately. An isolation hospital, steam disinfectors and mortuary are an absolute necessity.* Urinals and water troughs are required at various points. The sanitary arrangements at the Central Hall are unsatisfactory. The unseemly place in front of the Central Hall should be filled in.

ASHINGTON.

Medical Officer of Health—ALEXANDER BLAIR, M.B.

Area, 2,766 acres; Estimated population, 11,000; Birth rate, 36·63; Death rate, *15·54; Zymotic death rate, 1·72; Infant mortality rate (per 1,000 births), 186·10; Phthisis death rate, 1·27; Death rate from respiratory diseases, 1·45.

The birth and death rates show a decrease of 8·27 and 2·26 per 1,000 respectively, over those of the previous year; the phthisis and respiratory death rates have also decreased, while the infant mortality rate has increased by 10·16 per 1,000.

The births during the year numbered 403; 198 were males and 205 females.

Of the total number of deaths (171) 88 were males, and 83 females; seven of the deaths were due to premature birth, 75 were of infants under 12 months old, and 17 were of persons of 65 years and upwards.

The Medical Officer of Health again calls attention to the alarming number of deaths of infants, and urges the necessity of more rational methods of feeding children; no fewer than 20 deaths were due to inflammation of the bowels, 10 to diarrhoea, and 11 to convulsions (frequently resulting from injudicious feeding).

The number of deaths from tubercular diseases was 36 (an increase of 4 over the previous year), viz.:—Consumption 14, meningitis 13, marasmus 7, and general tuberculosis 2.

There were no cases of zymotic disease during the first eight months of the year, but 19 cases occurred during September, October, November, and December, being classified as follows:—Diarrhoea 10, whooping cough 4, measles 2, enteric fever 2, and membranous croup 1. There were 28 cases of infectious diseases notified during the year. The Medical Officer of Health has provided tables in which are given the number of deaths at each age period during every month of the year, and the cause of death, and also the number and nature of infectious diseases notified during each month.

He also notes the recurrence of enteric fever in houses previously visited by this disease. The system adopted for excrement and refuse disposal is the privy ashpit method, and as neither the privy nor the ashpit are properly cemented, it is only natural that this disease should recur again and again in families making use of these erections which can never be properly cleaned and disinfected.

Improvements. The scavenging and removal of refuse has been carried out in a more praiseworthy manner. Bothal Road has been widened. Three public urinals have been provided. Better provision has been made for carrying away storm water. Footpaths have been paved and asphalted. The public lighting system has been extended. The Middle Market sewer has been further improved. The Hirst Market Place sewer has been connected with the main sewer.

Requirements. An isolation hospital and disinfector. The adoption of bye-laws. The removal of the refuse heap behind Ashington Market Place, which has been the cause of several complaints.

*This includes 3 deaths from injuries and 7 from premature birth, which, if deducted, gives a death rate of 14·63.

BEDLINGTONSHIRE.

Medical Officer of Health—D. CARMICHAEL, F.R.C.S., L.R.C.P. Edin.

Area, 8,435 acres; Estimated population, 18,000; Birth rate, 40·27; Death rate, 18·94; Zymotic death rate, 4·00; Infant mortality rate (per 1,000 births), 193·10; Phthisis death rate, 1·00; Death rate from respiratory diseases 2·55.

The birth rate shows a decrease of 3·39, and the death rate an increase of 1·06 per 1,000 over that for the previous year. The phthisis death rate shows a slight decrease (0·61), but the zymotic and respiratory death rates have both increased, the difference being 2·00 and 0·17 per 1,000 respectively. The infant mortality rate shows the alarming increase of 49·34 as compared with 1897.

Of the total number of deaths (341) 140 were children under one year, and 62 were persons of 65 years of age and upwards. There were 72 deaths from zymotic disease, as follows:—Diphtheria 1, membranous croup 1, typhoid fever 6, continued fever 1, whooping cough 1, and diarrhoea 62. Speaking of the latter disease, the Medical Officer of Health says:—"The majority of the deaths occurred in the months of September and October, and were in children under one year of age—a time of life when they should be suckled by the mother. I have made a searching inquiry and find that of 20 cases, only three were so fed; six were fed on cow's milk and eight on tinned milk." There

were 28 cases of enteric fever notified, resulting in six deaths; 15 of these cases were treated in the hospital. There were 18 deaths from phthisis, and 46 from respiratory diseases.

Improvements. The sewers at Red Row were completed. The old sewer at Vulcan Place Bedlington, was relaid with 12 inch sanitary pipes. A new sewer was laid at Bank Top Sleekburn, and the sewer at Stakeford Village has been carried to tidal waters. Several beds used by typhoid patients were destroyed, and others disinfected. Four damp houses were repaired and made habitable.

Requirements. A new filter bed to assist the steel filter in the purification of the drinking water. All the schools in the Bedlingtonshire district should be furnished with *trough water closets* instead of the privies at present in use. The road to Mr. Hogarth's brickyard at Scotland Gate is in such a condition that it has become a nuisance, injurious to health, causing damp walls. The ash-pits at Shiny Row (Bedlington), Mechanics' Row and Double Row (West Sleekburn), and at Choppington Guidepost, frequently contain stagnant water, which is a nuisance injurious to health. The open gutter at West Sleekburn, which is at present utilised for carrying the water to flush the school closets, should be filled in, and the water conveyed in pipes and made to discharge into the main sewer; the water closets should be flushed from the mains. Many of the dwelling houses at Stakeford Village have damp walls. The council should adopt the Infectious Diseases Notification Act. The report of the Medical Officer of Health, which contains several valuable tables, should be printed. A steam disinfector should be provided at the Isolation hospital.

BENWELL AND FENHAM.

Medical Officer of Health—N. HARDCASTLE, M.R.C.S., L.S.A., L.M., L.S.Sc.

Area, 1,367 acres; Estimated population, 13,000; Birth rate, 41·92; Death rate, 20·69; Zymotic death rate, 2·92; Infant mortality rate (per 1,000 births), 214·67; Phthisis death rate, 2·00; Death rate from respiratory diseases, 3·00.

All the above rates show an increase over the previous year, the general death rate being higher by 3·94, and the infant mortality rate by 43·67. Of the total number of deaths (268) 140 took place during July, August, September, and October; these months were characterised by phenomenally hot weather; zymotic disease was not prevalent, but an excessive infantile mortality prevailed. Vigilant house to house visitation, and advice as to the rearing of children, met with no success; 117 children died before they had reached the age of 12 months. There were 26 deaths from phthisis, 38 from zymotic, and 39 from respiratory diseases. The Medical Officer of Health speaking of phthisis, says:—"It would be a prudent thing to disinfect rooms in which persons have died from consumption." There were 49 cases of scarlet fever notified during the year (the greatest number—30—being from Scotswood), 4 cases of enteric fever, 2 of diphtheria, and 18 of erysipelas were notified.

The Medical Officer of Health emphasizes the urgent necessity of instruction being given in Board and other Elementary Schools, in the laws of health and other kindred subjects so as to gradually dispell the gross ignorance on these matters at present existing, and draws attention to the fearful mortality amongst children during the first year of life (Benwell and Fenham, 1898, 214 per 1,000 births) for which improper feeding is mainly responsible.

Here is a population of 13,000, actually joining the city of Newcastle (with a population of 223,021), and the District Council are still without any means of isolating a case of infectious disease, or of disinfecting unwashable articles from an infected house.

There is no public slaughter house, and even in this densely populated district, privy ash-pits are not extinct.

The more thoroughly inspection of meat is carried out, the more apparent are the evils arising from a multiplicity of private slaughter-houses.

Privy ashpits, the homes of decomposition, are the great polluters of air and ground, and when emptied are frequently the cause of food pollution in the adjacent house. They form, except when at long distances from houses and water supplies, a constant menace to health, and have been proved over and over again, to have been the cause of a recrudescence of enteric fever, after an interval of a year or more from the last case.

Improvements. 135 new houses have been built, and four estate plans, laid out for building purposes, have been submitted to the authorities. House accommodation is improving wonderfully, and the old form of tenement is rapidly disappearing. The Co-operative Society have built large and imposing business premises. A public park of 5½ acres has been presented by Dr Hodgkin.

Requirements. An isolation hospital and disinfectors. Public abattoirs. The abolition of all privy ashpits.

BERWICK-UPON-TWEED.

Medical Officer of Health—D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

Area, 6,930 acres; Estimated population, 13,330; Birth rate, 27·90; Death rate, *19·05; Zymotic death rate, 1·12; Infant mortality rate (per 1,000 births), 139·78; Phthisis death rate, 1·65; Death rate from respiratory diseases, 1·87.

The death rate shows an increase of 1·88 per 1,000 over that for the previous year, and the birth rate a decrease of 2·20. The zymotic and respiratory death rates have decreased by 0·98 and 0·08 per 1,000 respectively, while the phthisis death rate shows a slight increase. The infant mortality rate has decreased by 4·55 per 1,000 births.

Of the 254 deaths registered, 126 were males, and 128 females. Fifty-two deaths occurred under 12 months, being a decrease of four over the previous year, and 94 deaths occurred at the age period of 65 years and upwards. There were 15 deaths from zymotic diseases classified as follows:—Whooping cough 4, scarlet fever 1, diphtheria 3, diarrhoea 2, measles 4, and enteric fever 1. The number of cases of infectious diseases notified was 73, classified as follows:—Diphtheria 10, scarlet fever 40, enteric fever 17, erysipelas 5, and puerperal fever 1. The cases of scarlet fever were of a very mild type, as were for the most part those of diphtheria; 10 cases of the latter disease were notified.

The Medical Officer of Health calls attention to the fact that it is about 40 years since the town was drained, and that many of the pipes were jointed with clay. He urges the authorities to have all the drains tested, and all defects rectified. The water supply has been very scanty, and during the summer it was shut off at night time.

Improvements. Over-crowding in 13 rooms has been rectified. Damp rooms, and choked drains have been attended to; 18 cesspools have been abolished, and the majority of houses in Spittal connected with the new main sewer; one well was found polluted, its further use was prevented, and a fresh supply of water obtained. Roads and footpaths have been paved, and a new roadway made at Spittal.

Requirements. A thorough overhauling of the sewerage system and private drains, especially in Berwick; additional flushing tanks for Berwick, and also Spittal; a more abundant water supply; a substantial isolation hospital for the whole borough; a steam disinfectors. The paving of Gibson's Row, Middle Street, and West Street, Spittal. Improved sewerage for Tweedmouth. The report of the Medical Officer of Health should be printed.

*17·77 after deducting 17 deaths in public institutions.

BLYTH SOUTH.

Medical Officer of Health—JOHN CROMIE, L.R.C.P., L.R.C.S.

Area, 1,446 acres; Estimated population, 4,130; Birth rate, 46·00; Death rate, *22·27; Zymotic death rate, 4·35; Infant mortality rate (per 1,000 births), 168·42; Phthisis death rate, 1·21; Death rate from respiratory diseases, 2·17.

The birth and death rates both show an increase over those for the previous year; the former by 2·33 and the latter by 1·55 per 1,000 living. The phthisis, zymotic, and respiratory death rates have all slightly decreased, but the infant mortality rate shows an increase of 10·23 per 1,000 births. Of the total number of deaths (92) 32 were of children under 12 months, and 14 were persons of 65 years and upwards. Phthisis caused 5 deaths, heart disease 3, and injuries 7; there were 18 deaths from zymotic diseases, as follows:—Scarlatina 3, enteric fever 2, measles 2, and diarrhoea 11. The number of cases of infectious diseases notified during the year was 46, classified as follows:—Smallpox 3, scarlatina 31, diphtheria 1, enteric fever 4, continued fever 4, and erysipelas 3; the 3 cases of smallpox were removed to the Port Hospital and all recovered. Scarlatina, whooping cough, and measles, were all epidemic, and the schools were closed for a month in November.

The Medical Officer of Health divides his district into 2 wards and appends a table from which the death rates from different causes in each ward can be seen at a glance.

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality rate per 1,000 births.
North Ward ...	2901	70	24·12	4·48	1·72	1·30	179·10
South Ward ...	1229	22	17·90	3·88	3·07	0·81	142·85

Improvements. A steam disinfecter has been procured; a settle well has been placed at the outlet of the sewer at New Newsham; the back premises of the row of houses in Nelson Place have been rebuilt.

Requirements. The enforcing of bye-laws. Flushing tanks should be placed at the head of all sewers, the present system of flushing being very ineffectual. The adoption of bye-laws for sailors' lodging houses, which are under consideration.

*19·85 after deducting the deaths of 10 non-residents.

COWPEN.

Medical Officer of Health—R. LAING, L.R.C.P., M.R.C.S. Eng.,
L.M., D.P.H.

Area, 1,738 acres; Estimated population, 16,500; Birth rate, 41·09; Death rate, *21·27; Zymotic death rate, 3·69; Infant mortality rate (per 1,000 births), 227·13; Phthisis death rate, 1·09; Death rate from respiratory diseases, 1·51.

The birth rate has decreased by 1·66, while the death rate shows an increase of 3·21. The zymotic death rate, and infant mortality rates, have also increased, the former by 0·51 and the latter by 40·00 per 1,000; the phthisis and respiratory death rates have both slightly decreased.

The Medical Officer of Health, as usual, divides his district into eight localities, giving in each case the population, number of deaths, death rate, zymotic death rate, infant mortality rate, and the phthisis and respiratory

death rates. The value of this table is very great, as it shows at a glance, the great variation in the death rates from different causes, in the several localities of the Sanitary District. For instance the general death rate varies from 12 to 44 per 1,000; the zymotic death rate from 1 to 6 per 1,000; and the infant mortality rate from 75 to 415 per 1,000 births.

Table showing the division of the sanitary district into localities, together with the various death rates for each locality.

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Phthisis Death rate.	Respiratory Death rate.	Infant Mortality rate per 1,000 births.
Waterloo ...	4758	88	18.49	3.15	1.47	0.84	175.00
Cowpen Quay...	4941	107	21.65	5.06	1.21	1.21	242.42
Isabella Pit and Cowpen Colliery	1641	34	20.71	4.26	0.60	0.60	195.12
Newsham Freeholds ...	789	28	35.48	2.53	2.53	2.53	297.87
Crofton ...	975	13	13.33	4.10	Nil	2.05	75.00
Hodgson's Mill, Cowpen Square, and Buck's Mill	703	9	12.80	1.42	Nil	Nil	272.72
Kitty Brewster, Farms, and Cowpen Village	993	44	44.31	6.04	Nil	6.04	415.38
Bebside Colliery and Ironworks	1700	28	16.47	0.58	1.17	2.35	187.50

In October, an extensive epidemic of measles broke out in Cowpen Quay, extending to Cowpen Colliery and Waterloo, necessitating the closing of the Foster, Cowpen Colliery, and Catholic Schools. The cases of infectious disease notified during the year were as follows:—Diphtheria 1, smallpox 3, and enteric fever 55; whooping cough was also prevalent.

Improvements. Some improvements have been made in the sewerage and water supply at Newsham Freeholds, Cowpen Village, and Kitty Brewster; some structural defects in the Brick Row, Bebside Colliery, have been removed; the quality of the water supplied to the district has been improved by the addition of a new filter bed at Bebside Waterworks, by which the filtering capacity is more than doubled; over two miles of new streets have been made; over 400 yards of defective sewers have been taken up and relaid, and additional ventilating manholes, and four new flushing chambers have been constructed; Newsham, the North Road, and Hodgson's Lane have been supplied with street lamps.

Requirements. A better water supply, and still further improvements in the sewerage of many parts of this district, and in the receptacles provided for disposal of excrement and house refuse.

*20.72 after deducting the deaths of nine visitors.

CRAMLINGTON.

Medical Officer of Health—ROBERT ANDERSON, M.D.

Area, 3,583 acres; Estimated population, 6,500; Birth rate, 26.92; Death rate, 15.69; Zymotic death rate, 1.84; Infant mortality rate (per 1,000 births), 137.14; Phthisis death rate, 0.76; Death rate from respiratory diseases, 2.30.

The birth and death rates have both decreased (by 8.79 and 0.34 respectively), as have also the zymotic, phthisis, and infant mortality rates; the latter has decreased by 13.86 per 1,000 births. The death rate from respiratory diseases has increased by 0.88.

Of the total number of deaths (102) 57 were males, and 45 females; 24 occurred under 1 year, and 25 at the age of 65 years and upwards. There were 12 deaths from zymotic diseases, 5 from phthisis, 15 from respiratory diseases and 14 from heart disease. The deaths from zymotic diseases are classified as follows:—Scarlet fever 7, diphtheria 1, typhoid fever 1, and diarrhoea 3. There were 59 cases of infectious disease notified, namely:—Scarlet fever 35, diphtheria 2, typhoid fever 12, and erysipelas 10. Six of these cases were treated in the isolation hospital.

Improvements. The scavenging of the district has been regularly and efficiently carried out. During the year 50 houses have been erected with proper ash closets. The Infectious Diseases Notification Act has been adopted since May 1st, and should be of great assistance to the Medical Officer of Health in ascertaining the existence of infectious disease.

Requirements. There are a number of open privy ashpits which are only cleaned out once in five weeks; these should be cleaned out every week, and disinfectants for the purpose of deodorising them, should be supplied. A steam disinfecter is required in connection with the hospital, and bye-laws for the whole district are needed.

EARSDON.

Medical Officer of Health—TAYLOR DIXON, M.B., B.S., Durh.

Area, 4,711 acres; Estimated population, 8,650; Birth rate, 34.14; Death rate, 16.06; Zymotic death rate, 1.96; Infant mortality rate (per 1,000 births), 169.49; Phthisis death rate, 1.73; Death rate from respiratory diseases, 1.15.

The birth rate has increased by 2.48, and the death rate decreased by 2.45; the phthisis death rate has increased by 1.00, and the respiratory, zymotic, and infant mortality rates have decreased, the latter by as much as 49.51 per 1,000 births.

The Medical Officer of Health sub-divides his district as follows:—

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Phthisis Death rate.	Respiratory Death rate.	Infant Mortality rate per 1,000 births.
Earsdon	2350	40	17.02	1.70	2.12	1.70	129.31
Backworth	2375	30	12.63	1.26	1.26	1.26	187.50
Holywell	3167	57	17.99	2.53	1.89	0.63	205.35
Murton	758	12	15.83	2.63	1.31	1.31	157.89

Of the total number of deaths (139) 50 were children under 1 year, and 33 persons of 65 years of age and upwards. Phthisis caused 15 deaths respiratory diseases 10, heart disease 11, and zymotic disease 17. There were 42 cases of scarlet fever notified during the year, also 5 cases of typhoid, and 4 of erysipelas. Influenza and whooping cough were prevalent.

Improvements. The houses at Lane Side and Fenwick's Close, near Earsdon, are now supplied with Whittle Dene water instead of obtaining it from a roadside well. At Backworth Lane Side, and High Farms, the Whittle Dene water has also been laid on; the water supply at Murton has been considerably improved. The flushing tank at Bates Cottages has been altered, and now flushes the drains from every row instead of only from one, as formerly. A sewer has been constructed for the new houses at Bertram

Place. The irrigation ground at Holywell is in better condition than previously. Several new houses have been erected in the Earsdon township. A new isolation hospital, with accommodation for 12 beds, is being erected.

Requirements. The irrigation ground at Earsdon is receiving more liquid sewage than it is capable of dealing with efficiently. Some cowsheds are deficient in air space, require ventilating, and white-washing. The privies and ashpits require emptying at regular and shorter intervals. A steam disinfectant should be provided in connection with the new hospital. Bye laws suitable for an Urban District should be framed.

GOSFORTH.

Medical Officer of Health—W. GALBRAITH, L.R.C.P., L.R.C.S.

Area, 1,304 acres; Estimated population, 7,000; Birth rate, 27·71; Death rate, *25·85; Zymotic death rate, 2·00; Infant mortality rate (per 1,000 births), 159·79; Phthisis death rate, 1·71; Death rate from respiratory diseases, 2·85.

The birth and death rates both show an increase (4·95 and 4·62 respectively) over the previous year. The phthisis death rate has decreased by 1·67 per 1,000, and the zymotic, respiratory, and infant mortality rates have all increased. Of the total number of deaths (181), 67 occurred in Caxlodge Asylum, and 1 in the Cripple's Home. There were 31 deaths of children under 12 months, and 38 of persons 65 years of age and upwards. Zymotic diseases caused 14 deaths as follows:—scarlatina 3, membranous croup 4, and diarrhoea 7. There were 29 cases of scarlatina notified, but mostly of a mild type. Phthisis was accountable for 12 deaths, a decrease of four over the previous year. There were no cases of measles, and only one case of typhoid fever. For the first time in fifteen years, smallpox made its appearance, two cases being notified.

Improvements. A small temporary isolation hospital has been erected. There were 131 new houses completed and occupied during the year, and 87 are in course of erection. Over 3½ miles of footpath have been asphalted, much to the comfort of residents. Over 130 notices to abate nuisances were served.

Requirements. A permanent hospital, also a steam disinfectant; the Medical Officer's report should be printed.

*16·14 if 68 deaths occurring in public institutions are deducted.

HEXHAM.

Medical Officer of Health—D. JACKSON, M.D.

Area, 5,313 acres; Estimated population, 6,000; Birth rate, 31·66; Death rate, *24·16; Zymotic death rate, 3·50; Infant mortality rate (per 1,000 births) 189·47; Phthisis death rate, 1·83; Death rate from respiratory diseases, 2·16.

All the above rates show an increase over the previous year, the birth rate by 2·50, death rate by 3·00, zymotic death rate by 0·50, phthisis death rate by 0·17, respiratory death rate by 0·66, and infant mortality rate shows the large increase of 46·62 per 1,000 births.

Of the total number of deaths (145), 66 were males and 79 females; 36 were children under 12 months, and 49 persons of 65 years and upwards, 18 deaths were due to diseases of the nervous system, 13 to diseases of the respiratory organs, 11 to phthisis, and 19 to heart disease. There were 21 deaths from zymotic diseases classified as follows:—Scarlatina 1, diphtheria 1, typhoid fever 1, whooping cough 2, and diarrhoea 16.

There were 180 cases of infectious disease notified (being a decrease of 21 over the year 1897), as follows:—Whooping cough 96, scarlet fever 44, measles 23, erysipelas 8, smallpox 4, puerperal fever 2, diphtheria 2, and enteric fever 1.

The Medical Officer of Health *again* calls attention to the unsanitary condition of the slaughter-houses, and says:—"During last summer, you could have seen weekly, animals killed within three feet of a large midden, and hung up to set in a stable within 6 or 8 feet of the same midden, both stable and midden teeming with myriads of injurious germs, thus rendering the meat prejudicial to public health, especially to children. These are important factors in your infantile mortality; these causes are preventible. All the slaughter-houses are unsatisfactory and unsanitary; your attention has been drawn to them by me for years."

Improvements. Over 1,560 yards of new sewers have been laid, and a number relaid. Over 1,000 yards of water main extension have been laid. New sewage disposal works have been erected at Tyne Green sewage outfall. A large number of new houses (91) have been built and occupied. An isolation hospital has been built upon an eligible site. St. Mary's Chare, Hall Stile Bank, and part of Priestpople Street have been repaved; three private streets have been levelled and paved. A number of privies have been abolished, and stables, sculleries, warehouses, &c., have been erected.

Requirements. A steam disinfecter, a public slaughter-house, model lodging-houses, public wash-houses, and artisans' dwellings.

*If the deaths of 11 strangers in the Workhouse are deducted the death rate is reduced to 22·33.

MORPETH.

Medical Officer of Health—F. W. SKRIMSHIRE, M.R.C.S., L.S.A.

Area, 323 acres; Estimated population, 5,514; Birth rate, 32·10; Death rate, *21·76; Zymotic death rate, 1·08; Infant mortality rate (per 1,000 births), 186·44; Phthisis death rate, †3·08; Death rate from respiratory diseases, ‡5·25.

The birth rate has decreased by 0·03, and the death rate has increased by 0·65; the zymotic and respiratory death rates have increased by 0·72 and 2·68 respectively. The infant mortality rate shows the enormous increase of 95·02 (per 1,000 births).

Of the total number of deaths (120), 21 occurred in the Workhouse; phthisis caused 17, respiratory diseases 29, and heart disease 9 deaths. There were 6 deaths from zymotic diseases, namely:—Scarlatina 1, and diarrhoea 5; 14 cases of infectious diseases were notified:—Scarlatina 7, diphtheria 1, typhoid fever 2, and erysipelas 4.

Improvements. The new waterworks at Tranwell are now completed. The old grandstand on Morpeth Common has been converted into an Isolation Hospital. A new sewage scheme is being prepared. During the year 18 new buildings have been erected, and 35 nuisances have been abated. In part of Cottingwood Lane and Well Way the sewers have been relaid. New surface water drains are being put in at Cottingwood Lane, Bridge Street, and Stanley Terrace. New water mains have been laid to the North Field Estate, also to a back street on the Thorp Estate, and to the new Isolation Hospital. A number of footpaths have been paved. The boys' conveniences at St. James' National Schools have been rebuilt.

Requirements. An ambulance carriage and steam disinfecter at the new hospital. Public slaughter houses.

*17·95 if 21 deaths occurring in the workhouse are deducted.

† 2·72 if 2 deaths occurring in the workhouse are deducted.

‡ 5·07 if 1 death occurring in the workhouse is deducted.

NEWBIGGIN-BY-THE-SEA.

Medical Officer of Health—J. CUNNINGHAM, L.R.C.P., L.R.C.S., L.M.

Area, 337 acres; Estimated population, 2,446; Birth rate, 28·20; Death rate, *14·30; zymotic death rate, 0·40; Infant mortality rate (per 1,000 births), 188·40; Phthisis death rate, 0·81; Death rate from respiratory diseases, 1·22.

The birth, death, zymotic, phthisis and respiratory death rates all show a decrease over the previous year; the death rate having decreased by 2·76 per 1,000. The infant mortality rate shows an increase of 2·40 per 1,000 births, and the Medical Officer of Health calls attention to the fact that a number of these deaths might be prevented, if only mothers would exercise more judgment in the feeding of their children. The district was particularly free from infectious disease, only one case (scarlet fever) being notified during the year.

Of the total number of deaths (35), 13 were of children under 12 months, and six were of persons of 60 years and upwards; three deaths were strangers drowned at Newbiggin. There were two deaths from phthisis, both between 15 and 25 years of age.

During the year the Medical Officer of Health, accompanied by the Inspector of Nuisances, has made a monthly inspection of the village, paying special attention to ashpits, drains, sewers, cow byres, bakehouses, and slaughter-houses.

Regarding the water supply, the Medical Officer of Health reports that there is an abundant supply of excellent water obtainable, owing to a new well having been sunk at Woodhorn Lane End. The station well is still in a very bad condition, owing to it never having been cleaned out.

Improvements. All piggeries have been removed from the east end of the village. The main sewer of the village has been flushed from time to time.

Requirements. A more abundant and satisfactory water supply. The adoption of regulations under the Cow Sheds, Dairies and Milk Shops Order. The revision of the ancient bye-laws. The provision of an isolation hospital and disinfectant. The annual report of the Medical Officer of Health should be printed.

*13·08 after deducting the deaths of three strangers.

NEWBURN.

Medical Officer of Health—A. W. MESSER, M.B., C.M., B.Sc.

Area, 4,803 acres; Estimated population, 9,636. Birth rate, 42·96; Death rate, 15·25; Zymotic death rate, 3·21. Infant mortality rate (per 1,000 births), 140·09; Phthisis death rate, 1·34; Death rate from respiratory diseases, 2·28.

The birth rate shows an increase of 3·98, and is now higher than it has ever been before; the death rate has decreased by 1·32; the zymotic and phthisis death rates show a slight increase, while the infant mortality rate and the respiratory death rate, have slightly decreased.

Of the total number of deaths (147), 58 were of children under one year, and 18 of persons over 65 years of age. Phthisis caused 13, heart disease 9, and respiratory diseases 22 deaths. There were 31 deaths from zymotic diseases, classified as follows:—Scarlatina 5, typhoid fever 1, measles 1, and diarrhoea 24. The number of cases of infectious disease notified was 121:—Scarlatina 85, enteric fever 19, puerperal fever 1, and erysipelas 16.

The Medical Officer of Health directs attention to the number of deaths of children under one year, and adds "the only way to reduce it is by those responsible acquiring some little knowledge of the important subjects of the feeding, clothing, and general care of infants."

The Medical Officer of Health speaking of enteric fever, says:—"In Throckley, and Lemington, typhoid fever is almost perennial, and I have stated several times what I believe to be the cause of its persistence in these districts, and its being practically confined to certain well defined areas. I can only repeat that I believe it is entirely due to an impregnation of the soil, surrounding the dwellings, with the typhoid organism; and the only method of getting rid of it efficiently, would be to go in for a systematic paving of the streets and cementing yards."

Improvements. The dwellings of the working classes are gradually improving, though many are still quite unfit for habitation. The big sewage scheme is nearing completion; more control has been obtained over dairies, cowsheds, and slaughter-houses than formerly.

Requirements. An isolation hospital. The Medical Officer of Health, speaking of the scarlatina epidemic, says:—"We could trace to its origin and see exactly how it was spreading, and yet were absolutely powerless to do anything to stop it." A steam disinfecter. Bye-laws, in so far as they are applicable to this district, should be adopted. Steps should immediately be taken to check the constant outbreaks of typhoid fever by thorough cleansing of all polluted receptacles for refuse and by paving streets and cementing yards as already mentioned.

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Phthisis Death rate.	Respiratory Death rate.	Infant Mortality Rate per 1,000 births.
Newbuurn ...	2000	30	15·00	5·00	1·00	2·00	—
Newburn Hall ...	2523	38	15·06	3·95	2·37	2·77	—
Throckley ...	1646	20	12·15	1·21	1·82	3·03	—
Walbottle ...	1653	26	15·72	0·60	1·20	1·51	—
East Denton ...	1109	19	17·13	4·50	Nil.	1·80	—
West Denton ...	461	10	26·03	6·50	Nil.	Nil.	—
Sugley ...	244	4	16·39	Nil.	Nil.	8·15	—

ROTHBURY.

Medical Officer of Health—F. BARROW, M.R.C.S., L.S.A.

Area, 948 acres; Estimated population, 1,200; Birth rate, 27·50; Death rate, *21·66; Zymotic death rate, nil; Infant mortality rate (per 1,000 births), 60·60; Phthisis death rate, 2·50; Death rate from respiratory diseases, 2·50.

The birth rate has decreased by 5·00, and the death rate increased by 2·50 per 1,000, as compared with the previous year. The zymotic and phthisis death rates are the same, viz., nil and 2·50 per 1,000 respectively. The respiratory death rate shows a slight increase, but the infant mortality rate shows the marked decrease of 67·40 per 1,000 births.

Of the total number of deaths (26) occurring during the year, 2 were children under 12 months, and 13 were persons 65 years and upwards. There were no deaths from zymotic diseases; phthisis caused 3 deaths.

There were no cases of scarlet or typhoid fever notified, and only a few cases of measles. Diarrhoea was a little prevalent during September.

Improvements. Slaughter-houses and lodging-houses were better kept than previously. The nuisance caused by keeping pigs too near Mr. Clark's house has been abated. An isolation hospital has been erected near Whitton Burn, to accommodate 4 patients and a nurse. This hospital is intended to serve both the Urban and Rural districts. The Infectious Diseases Notification Act is now definitely in operation.

Requirements. A disinfecter should be obtained for the isolation hospital. The sanitary arrangements at the railway station need further improvements. The completion and enforcing of bye-laws.

*20·83 after deducting the death of 1 stranger at the workhouse.

SEGHILL.

Medical Officer of Health—R. ANDERSON, M.D.

Area, 1,425 acres; Estimated population, 2,300; Birth rate, 28·69; Death rate, 19·13; Zymotic death rate, nil; Infant mortality rate (per 1,000 births) 227·27; Phthisis death rate, 2·60; Death rate from respiratory diseases, 0·86.

The birth rate shows an increase of 6·52, and the death rate an increase of 6·96 per 1,000 over those for the previous year. The death rate from zymotic and respiratory diseases remain the same, and the phthisis death rate has increased by 1·17 per 1,000. The infant mortality rate shows the alarming increase of 70·41 per 1,000 births. Of the total number of deaths (44) 25 were males, and 19 females; of these numbers 15 were children under 1 year, and 7 persons of 65 years of age and upwards. Phthisis caused 6 deaths, heart disease 8, and respiratory diseases 2. There were no cases of zymotic disease notified during the year. A few mild cases of measles appeared at Seghill and Blaketown; these cases all occurred within a period of three months and never became epidemic. It is worthy of note that this is the third consecutive year, in which no deaths from zymotic diseases have occurred.

Improvements. A hospital for infectious diseases, to accommodate 8 patients, has been erected and furnished by the Seghill Coal Company.

A great amount of sanitary work has been carried out, viz., the erection of proper ash closets in connection with every house in the district, thus doing away with the old-fashioned unsanitary large open ashpits. Back doors have been provided for many houses which formerly had only one entrance.

Requirements. The framing of bye-laws, a steam disinfecter.

The Report of the Medical Officer of Health should be printed.

TYNEMOUTH.

Medical Officer of Health—J. E. GOFTON, L.R.C.P., M.R.C.S.

Area, 4,317 acres; Estimated population, 51,990; Birth rate, 30·85; Death rate, 17·00; Zymotic death rate, 1·44; Infant mortality rate (per 1,000 births), 160·84; Phthisis death rate, 1·57; Death rate from respiratory diseases, 2·30.

The birth rate has increased by 1·31; the general death rate, the zymotic phthisis, and infant mortality rates have all slightly decreased; the respiratory death rate shows the slight increase of 0·06.

The Medical Officer of Health sub-divides his district as follows:—

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Phthisis Death rate.	Respiratory Death rate.	Infant Mortality rate per 1,000 births.
Township of Tyne-mouth	21400	383	17·89	1·26	1·44	2·05	152·97
Village of Tynemouth.	3972	39	9·82	0·25	1·76	1·51	93·75
Township of Culler-coats... ..	2025	37	18·27	1·48	1·97	2·46	215·38
Township of North Shields	5575	160	28·70	2·15	1·79	3·76	254·05
Township of Chirton...	15086	230	15·24	1·92	0·99	1·92	149·37
Township of Preston...	3282	35	10·66	0·60	0·60	1·21	113·92
Workhouse	623	—	—	—	—	—	86·95
Infirmary	27	—	—	—	—	—	—

There were 884 deaths distributed in the several localities as follows:—

Localities.	Number of Deaths.	Workhouse.	Infirm.	County Asylum.	Deduct deaths among visitors.	Corrected number of deaths.
Tynemouth Township ...	332	39	4	9	1	383
Tynemouth Village ...	39	—	—	—	—	39
Cullercoats Township ...	36	1	—	—	—	37
North Shields Township ...	127	28	1	5	1	160
Chirton Township ...	216	11	2	2	1	230
Preston Township ...	34	1	—	—	—	35
Borough of Tynemouth ...	784	80	7	16	3	884

This sub-division of a sanitary district into localities, and the information given in such tables as the above, are of very great value; and while they entail on the Medical Officer of Health far more labour than is perhaps generally appreciated, they make it possible and easy to draw a comparison between the several portions of a district in which different conditions may, or may not obtain.

Of the total number of deaths (884), 258 were children under one year, and 207 persons of 65 years and upwards. The deaths from zymotic diseases were as follows:—Scarlet fever 1, diphtheria 1, typhoid fever 3, measles 13, whooping cough 11, diarrhoea 46; in addition to these puerperal fever caused 1, and erysipelas 4 deaths. Phthisis caused 77 deaths, heart disease 72, and respiratory diseases 109.

The number of cases of infectious disease notified was 181, viz.:—Smallpox 3, scarlet fever 80, diphtheria 7, membranous croup 3, enteric fever 33, puerperal fever 3, and erysipelas 58; of these cases 19 were removed from their homes for treatment in the isolation hospital.

The Medical Officer of Health again calls attention to the large number of deaths from consumption (77), there being one more death from this cause than were brought about by the whole seven zymotic diseases, and adds "Consumption is not hereditary, but is an infectious disease, and the infection is chiefly transmitted through two channels—the lungs, and the stomach."

Improvements. A number of unsanitary dwellings have been closed, in all 24 tenements, containing 44 rooms, in the occupation of 84 persons. Over 2,000 notices have been served by the Inspector, and 2,499 nuisances have been rectified during the year. There has again been great improvement in the general sanitary condition of the district. Over 1,400 lots of infected bedding have been stoved, or destroyed. The Bill giving power to obtain water from the River Font has been passed. The waterworks passed into the hands of the Corporation on October 19th.

Requirements. An isolation hospital for infectious diseases other than smallpox. At present, the district is largely dependent for the isolation of infectious diseases, upon the goodwill and ability of the Wallsend and Willington Quay Local Authorities to receive cases, this hospital is most urgently needed. The Medical Officer of Health has, over and over again emphasised the necessity of increased facilities for the isolation of infectious diseases, and has pointed out the fact, that many applicants for admission to hospital, have of necessity been refused through lack of room, and thus left in their already crowded houses, to spread disease in a densely populated district. If a serious epidemic of infectious disease should break out, the Sanitary Authority, elected for the express purpose of safeguarding the public health, is utterly unable to

isolate even a moderate number of cases, and will bitterly regret, their having for years turned a deaf ear to the warnings of their Medical Officer, which have been pressed home in the plainest and most emphatic terms.

The insanitary condition of Whitley Quarry (from which place part of the water supply is obtained) requires immediate attention.

WALKER.

Medical Officer of Health—F. N. GRINLING, M.R.C.S. Eng., L.R.C.P., Lond.

Area, 1,200 acres; Estimated population, 1898, 13,000; Birth rate, 35·30; Death rate, *19·92; Zymotic death rate, †2·92; Infant mortality rate (per 1,000 births), ‡185·18; Phthisis death rate, 1·61; death rate from respiratory diseases, 3·00.

The birth rate has decreased by 2·12 per 1,000, and the phthisis death rate has also slightly decreased. The general death rate, and the mortality from zymotic and respiratory diseases, have all increased. The infant mortality rate is also higher by 28·61 per 1,000 births.

Of the total number of deaths (308), 5 were of strangers not belonging to the district, and 49 occurred in the city hospital, none of which belonged to the district. There were 86 deaths under 1 year, and 29 over 65 years. Phthisis caused 21 deaths, heart disease 18, respiratory diseases 39, and zymotic diseases 38.

During the year 124 cases of infectious diseases were notified, as follows:—Scarlatina 79, typhoid fever 17, diphtheria 5, puerperal fever 3, erysipelas 20.

During the past year Dr. F. N. Grinling has been appointed Medical Officer of Health, in the place of Dr. A. Frazer Hurst, who has resigned.

Improvements. Many new houses have been built and many more are in course of erection.

Requirements. Stringent enforcing of bye-laws, especially those relating to building, as emphasised by the Medical Officer of Health. In view of the enormous increase in the population occurring in this district, the provision of an isolation hospital and disinfectors will probably become a necessity. The Urban District Council at present send cases of infectious disease into the city hospital at Walker Gate, but this arrangement is by courtesy, and not by right, and only on condition that there are beds to spare, after the City of Newcastle's requirements are supplied.

*19·33 after deducting 5 deaths of strangers in the district and 23·69 after adding 49 deaths occurring in the City Hospital.

† 6·46 after adding 46 deaths occurring in the City Hospital.

‡187·36 after adding 1 death in City Hospital.

WALLSEND.

Medical Officer of Health—THOMAS WILSON, L.R.C.P., M.R.C.S.

Area, 1,202 acres; Estimated population, 18,000; Birth rate, 32·33; Death rate, *16·22; Zymotic death rate, 2·27; Infant mortality rate (per 1,000 births), 202·74; Phthisis death rate, 1·05; Death rate from respiratory diseases, 3·00.

The death rate shows an increase of 3·60 over that for the previous year, while the birth rate has decreased by 0·42. The zymotic, phthisis, and respiratory death rates, all show a small increase over those recorded in 1897. The infant mortality rate shows the alarming increase of 59·61 per 1,000 births.

Of the total number of births (582), 305 were boys, and 277 girls. The excess of births over deaths is 310.

Of the deaths that occurred, 118 were under 12 months, while 19 were over 65 years of age. Between the ages of one and five, there were 175 deaths (more than one-half of the total number), 55 of which were returned

as marasmus, gastro-enteritis, debility, and convulsions. The Medical Officer of Health again calls attention to the high infant mortality, and regrets that no advance is being made in the matter of rearing infants.

There were 41 deaths from zymotic diseases, classified as follows:—Scarlatina 3, diphtheria 2, membranous croup 1, measles 12, whooping cough 13, and diarrhoea 10.

Scarlet fever and measles have been very prevalent, the former being of a mild type; only 21 cases were sent to the isolation hospital. Phthisis caused 19 deaths, or three more than in the previous year. The water supply has been exceedingly good during the whole year. The Medical Officer of Health complains that owing to not having a better set of bye-laws, houses are now being built on wet and undrained land; nearly 300 houses were built during the year, and building operations continue to proceed at the same rate.

Improvements. About 300 houses of a modern type have been erected, but inasmuch as they are built upon wet and undrained land, and are practically without damp courses, it is questionable whether they should be described as "improvements."

126 nuisances have been abated, and 20 ashpits converted into box-closets.

Requirements. Revised and more stringently enforced by-laws, as pointed out by the Medical Officer of Health. Several new houses are being built, with a damp course consisting of a thin piece of tarred felt, practically with no damp course whatever, thus wantonly paving the way for permanently damp, and therefore unhealthy dwellings. A steam disinfectant is required for this populous and rapidly increasing neighbourhood.

*If the deaths of 12 persons not belonging to the district are deducted, the death rate is reduced to 15.55.

WEETSLADE.

Medical Officer of Health—ALLAN WALKER, M.B., C.M.

Area, 2,257 acres; Estimated population, 5,000; Birth rate, 45.80; Death rate, 22.40; Zymotic death rate, 1.80; Infant mortality rate (per 1,000 births), 205.24; Phthisis death rate, 1.40; Death rate from respiratory diseases, 2.00.

The birth rate has decreased during the past year by 0.40, while the general death rate, the zymotic and phthisis death rates and the infant mortality rate have all increased; the general death rate by 4.20, and the infant mortality rate by 54.24 (per 1,000 births).

The total number of deaths during the year was 112, classified as follows; under one year 47, over 65 years 27. There were 9 deaths from zymotic diseases, namely:—Smallpox 1, typhoid fever 1, continued fever 1, whooping cough 2, and diarrhoea 4.

Phthisis caused 7 deaths, heart disease 6, and respiratory diseases 10. The number of cases of infectious diseases notified was 39, viz.:—Erysipelas 10, continued fever 5, typhoid fever 5, scarlet fever 11, smallpox 8.

The Medical Officer of Health sub-divides his district as follows:—

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Phthisis Death rate.	Respiratory Death rate.	Infant Mortality rate per 1,000 births.
Dudley	—	46	—	—	—	—	—
Seaton Burn	—	25	—	—	—	—	—
Wideopen	—	6	—	—	—	—	—
Hazelrigg	—	12	—	—	—	—	—
Annitsford	—	23	—	—	—	—	—

Improvements. The Rows at Dudley Colliery are still being improved. Good houses have been erected at Annitsford and Dudley. The ash-pits in the district have been better kept. The drainage at Blagdon Street, Seaton Burn, has been completed, and a new water supply for Seaton Burn will soon be available. The irrigation ground at Seaton Burn is kept in better order than formerly.

Requirements. The sanitary conditions of Wideopen require attention. The Rows at Seaton Burn are in a neglected condition, as are the roads at the back of Angerton, and Coquet Terraces, Dudley. The irrigation ground at Annitsford is not kept in as good order as it should be. Many ash-pits should be cemented, and so facilitate the cleaning. An isolation hospital and steam disinfectant are urgently required.

WHITLEY AND MONKSEATON.

Medical Officer of Health, P. ALEXANDER, L.R.C.P., L.R.C.S., L.M.

Area, 1,540 acres; Estimated population, 6,885; Birth rate, 16.55; Death rate, *11.47; zymotic death rate, 0.87; Infant mortality rate (per 1,000 births) 184.21; Phthisis death rate, 0.72; Death rate from respiratory diseases, 2.46.

The birth rate has decreased by 0.51 during the year, while the general death rate and the infant mortality rate have increased, the former by 1.22 per 1,000 and the latter by as much as 71.97 per 1,000 births. The phthisis death rate has decreased by 0.32, and the zymotic death rate has increased by 0.01.

Of the total number of deaths (79), 21 were children under 1 year, and 21 persons of 65 years and upwards. Phthisis caused 5 deaths, heart disease 9, respiratory diseases 17, zymotic diseases 6, and cancer 4. There were only 3 cases of infectious disease notified during the year, namely:—Scarlet fever 2, and enteric fever 1. Measles was prevalent, but the cases were generally of a mild type, and resulted in no deaths; whooping cough was in the district for the greater part of the year; diarrhoea was also prevalent, and in many cases assumed the choleraic type, both adults and children being seized.

The water supply was well maintained during the greater part of the year, but during the dry months it was found necessary to shut off the supply during the night time. The quality of the water was at times very unsatisfactory, being muddy, and having an offensive odour, rendering it quite unfit for domestic purposes.

Improvements. Building operations have been carried on rapidly, 339 houses having been completed during the year, while 137 were in course of erection. The quality of the water was improved later in the year, the North Shields Water Company having exercised more care with the mains. The lighting of the main streets continues to be improved. The sewers have been frequently flushed. The Council wisely adopted the method of watering the streets with salt water. Over 1 mile of new sewers and 2 miles of branch drains have been laid; all were tested, and those found to be defective were put right, under the supervision of the Sanitary Inspector.

Requirements. Better attention to the removal of ashes and refuse; a larger staff of men and horses are necessary to overtake the extra work caused by the enormous increase in the number of houses and population. The roads (both front and back) of many of the new streets should be properly paved, as in wet weather they are practically impassable. An isolation hospital and disinfectant are needed in this increasing district. The quality and quantity of the water supplied for domestic use are very unsatisfactory, and attention to these is a matter of urgency. The practice of shutting off the water supply at night is a dangerous one, and need never occur if a sufficient quantity were provided.

*13 of the deaths were those of temporary residents, which, if deducted, reduce the death rate to 9.58.

WILLINGTON QUAY.

Medical Officer of Health—C. T. U. BABST, L.R.C.P., L.R.C.S.

Area, 336 acres; Estimated population, 8,485; Birth rate, 33·82; Death rate, 20·40; Zymotic death rate, 2·35; Infant mortality rate (per 1,000 births), 209·05; Phthisis death rate, 1·76; Death rate from respiratory diseases, 3·53.

Of the above rates, all show an increase over those for the previous year, except the phthisis death rate, which has decreased by 0·14. The general death rate shows an increase of 3·33, and the infant mortality rate an increase of 61·05 over 1897; the general death rate is 3·3 above the average of other large English towns. There were 92 deaths of children under 5 years of age (more than half of the total number of deaths). The Medical Officer of Health, commenting upon the high infant mortality, says "The principal causes of the excessive mortality among children were respiratory diseases, debility, convulsions, whooping cough, and diarrhoea; nearly the whole of these diseases are preventible, and are due to (1) improper feeding of infants; (2) improper and insufficient clothing, and undue exposure to cold; (3) great carelessness on the part of parents in the case of infectious diseases, which by most are considered as necessary and unavoidable evils." Of the total number of deaths (173), 24 occurred above 65 years, and 20 were caused by zymotic diseases, as follows:—Whooping cough 7, typhoid fever 2, membranous croup 2, measles 3, and diarrhoea 6.

There were 15 deaths from phthisis. The following cases of infectious disease were notified:—Scarlet fever 17 (a decrease of 29 upon the previous year), typhoid fever 4, diphtheria 1. Diarrhoea, influenza, and whooping cough were prevalent.

Improvements. At Rosehill Road ash closets and yards have been rebuilt. At Headlam Street, Hodgson Street, and Palmer's Terrace, old ashpits have been converted into proper ash closets. At Nelson Street and Potter Street, several yards have been improved, and additional closets built. The block of houses at the corner of Stephenson Street have been attended to, and are now satisfactory. A large number of notices were sent out to owners of houses in Bewicke Street, George Street, and Norman Terrace, &c., to remedy sanitary defects; most of these have been satisfactorily attended to. In the old Howdon district, the back street between Tyne View Terrace and Main Street has been paved, the level of back Dock Street has been raised to the level of the front street, and the yard behind the old Globe property, has been cemented, and a number of good ash closets constructed.

Requirements. Many of the new houses have only 1 bedroon, and this without any fireplace; such construction should be prohibited. All large ashpits should be removed and small ash closets substituted. Waste paper and rubbish, should be collected and burnt. The houses in Keelman's Row are in a most unsanitary and uninhabitable condition: the rooms are damp and unwholesome, and there is no proper yard accommodation, neither are there any sinks, the inhabitants using the gullies in the street to carry away their slopwater. Willington Gut is still in a most unsatisfactory condition, and was a great nuisance during the hot weather in August and September. Some of the rooms at the top of Ravensworth Street are still damp. Several houses at the west end of Western Road are in an unsanitary condition. At Palmer's Terrace, the yards are too small. The ballast from the hill behind Stephenson Street, has been a great nuisance, and on several occasions when slips have occurred, the ballast has fallen into the adjoining yards. A retaining wall is urgently required in this situation. A great many of the old houses in Chapel Street, Brunton Street, Main Street, and Dock Street, are to a greater or less extent unsuitable for habitation; many of the rooms are damp, owing to faulty roofs and walls, others have faulty floors and ceilings, while some are insufficiently lighted. Many improvements are required in the old Howdon district.

Regulations under the Cowsheds, Dairies, and Milkshops Order, should be adopted.

RURAL DISTRICTS.

ALNWICK.

Medical Officer of Health—SCOTT PURVES, M.D.

Area, 89,950 acres; Estimated population, 12,176; Birth rate, 24·63; Death rate, *15·76; Zymotic death rate, 0·98; Infant mortality rate (per 1,000 births), 120·00; Phthisis death rate, 1·23; Death rate from respiratory diseases, 2·13.

The birth rate shows a decrease of 2·06 over that for the previous year, and although the death rate has increased by 2·05, the infant mortality shows a marked decrease (12·30), and the senile mortality (over 65 years of age) a great increase. Of the total number of deaths (192), 103 were males, and 89 females; 36 were children under 1 year, and 73 (an increase of 26) were persons of 65 years and upwards. The greatest number of deaths (30) in one month occurred in March, and the least number (8) in September.

There were 58 cases of infectious disease notified (an increase of 25 over the previous year). Scarlet fever 28, typhoid fever 15, erysipelas 10, diphtheria 4, puerperal fever 1. Diphtheria occurred at Christon Bank farm (3 cases with one death), and Stamford Crossing (1 case).

The Medical Officer of Health sub-divides his district as follows:—

Localities.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1,000 births.
Warkworth	6229	10	16·05	0·96	2·24	1·76	130·67
Embleton	5257	82	15·59	0·76	2·09	0·76	108·10
Alnwick	690	10	14·49	2·89	1·44	Nil	76·92

Improvements. At Christon Bank farm, and at Stamford crossing, defective drains have been remedied. Application has been made to the Local Government Board for sanction to borrow the sum of £950, for works to increase the water supply at Alnmouth. A new open reservoir is about to be constructed for Newton-on-the-Moor. A sewer near Rose Cottage at Embleton, has been taken up and relaid. The upper part of Glanton main sewer at Whittingham Lane, has been extended with sanitary pipes over the line of the stone built conduit, which was close to Rose and Dovecote Cottages, and emitted foul air near them. A nuisance opposite Glanton post office has been rectified by the provision of a trapped metal storm water gully. At Mouldshaugh a drain has been repaired, and a sink fixed for the cottages. At Proctor Steads, the drains from the buildings have been diverted from the roadside, thereby removing a nuisance at the roadside ditch. Sewage scheme No. 6 for Togston Hall and cottages has been completed. The Broomhill Coal Company have made an improvement at Togston Terrace, by diverting the surface water and sewage at North Broomhill, in the Morpeth Union. At Warkworth Castle, drainage has been provided for the cow byres. The old stone sewer near the cross at Warkworth has been cleaned out. A start has been made with the Warkworth main sewerage scheme. New sewers are in course of erection at Bridge Street, and Castle Street, Warkworth; a new contoured intercepting main sewer is being relaid from Boold's Whirl, around the village as far as Brewery Lane Foot. Drainage has been laid for the cottages at West Link Hall. Repairs have been carried out at the fishyards, Craster. New spouting and sinks have been provided at Lovaine Terrace, Alnmouth. The cleansing and improving of the sewer ditch at Scot's Gap, near Boulmer Moor, has been completed. At Eastfield the farm house and cottages have been spouted. Embleton Glebe farm house has been greatly improved. The use of the rubbish shoot over the river bank

at Felton, has been discontinued, and a new tip provided. At Friar's Well Buildings, in Hulne Park, the three cottages have been provided with a complete new block of outoffices, consisting of privies, ashpits, coal houses, and piggeries. The Glanton rubbish shoot has been improved. At Learchild Moor house, a sink and drain have been laid, and the well built around with masonry, to prevent pollution. At Lemmington Bank Top an old cottage has been condemned. Improvements have also been carried out at Norwick, Ratcheugh, Crag, Rock, Silver Moor, Warkworth, and many more places.

Requirements. An isolation hospital and disinfecter. Better accommodation in, and greater attention to the cow sheds, of which, says the sanitary inspector, "as a rule each has a large overflowing midden, the contents of some of which would have to be conveyed through dwelling houses, on account of the absence of back roads."

* 15.27 after deducting the deaths of 6 strangers.

BELFORD.

Medical Officer of Health—J. G. MACASKIE, L.R.C.P., L.R.C.S., D.P.H.

Area, 38,586 acres; Estimated population, 4,741; Birth rate, 25.73; Death rate, 18.13; Zymotic death rate, 1.05; Infant mortality rate (per 1,000 births), 139.34; Phthisis death rate, 0.84; Death rate from respiratory diseases, 1.89.

The birth rate has decreased by 1.57, and the death rate increased by 0.42; the zymotic and respiratory death rates have increased by 0.64 and 0.23 respectively; the phthisis death rate has decreased by 0.41, and the infant mortality rate increased by 25.34 (per 1,000 births).

There were 86 deaths, 17 of which were under 1 year, and 32 were persons 65 years and upwards; two of these latter deaths occurring in the work-house. There were 6 deaths from infectious diseases, viz.:—erysipelas 1, membranous croup 1, whooping cough 1, measles 2, and diarrhoea 2. Phthisis caused 4 deaths, heart disease 15, influenza 5, and cancer 4. There were 15 cases of infectious diseases notified as follows:—Erysipelas 8, scarlet fever 5, typhoid fever 1, and membranous croup 1. Measles have been very prevalent, and the schools at North Sunderland, Bamburgh, and Newham, had to be closed. Circulars dealing briefly with important points in connection with the management of persons affected have been printed and circulated. Mumps were epidemic in the Bamburgh district.

Improvements. New drains and gullies have been provided at the cottages opposite to the police Station, North Sunderland, also at New Mousen farm cottages, Spindleston farmhouse, and Easington farm cottages. Defective gullies have been renewed at Adderson Low Mill, Detchant farm cottages, Bamburgh Castle cottages, North Sunderland, and Fleetham farm cottages. Piggeries have been properly paved with concrete, and the drainage of some improved at Adderstone Low Mill, Detchant farm cottages, Detchant Buildings farm cottages, and two cottages at Newham. Insanitary privies, ashpits, and buildings, have been demolished, and new offices, &c., built at Newham, and the whole block of property on the west side of High Street, Belford, also at Seahouses. New spouting for damp cottages has been provided at Kettleburn Cottages, and Adderstone Mains Farm Cottages. At Belford and Adderstone Mains new roofs have been put to houses. Damp walls and floors have been rectified at Kettleburn cottages, house at Seahouses, New Mousen farm cottages, Slater's cottage, Belford, and a cottage at Newstead. New water supplies have been provided at Bamburgh, and Spindleston farmhouse and cottages.

Requirements. An isolation hospital and steam disinfecter; more frequent emptying and cleansing of ashpits in several localities.

BELLINGHAM.

Medical Officer of Health, J. P. ELLIOT, L.R.C.P., L.R.C.S., L.M.

Area, 238,201 acres; Estimated population, 6,000; Birth rate, 23·83; Death rate, *14·83; Zymotic death rate, 0·16; Infant mortality rate (per 1,000 births) 174·82; Phthisis death rate, 1·50; Death rate from respiratory diseases, 1·50.

The death rate shows a decrease of 2·83, and the birth rate an increase of 1·17. The phthisis, zymotic, and respiratory death rates, all show a decrease as compared with the previous year. The infant mortality rate shows an increase of 79·24 (per 1,000 births).

Of the total number of deaths (89), 25 occurred under 12 months, and 34 at 65 years and upwards. Diphtheria caused 1 death, and phthisis 9. There were only 4 cases of zymotic diseases notified, resulting in 1 death. One case of scarlet fever occurred at Wellhaugh, in Falston Parish, while 3 cases of diphtheria occurred at Wark (the cause being ascribed to the irregular flushing of the sewers), 2 of these cases occurred at the schoolmaster's house, and consequently the school was closed for a time.

The Medical Officer of Health reports that in his opinion this has been the healthiest year for the last 20 years.

Improvements. A settling tank and filter bed have been constructed at Catcleugh. The sanitary condition of several houses have been improved.

Requirements. Attention to the numerous complaints from Woodhead, Burdonside, Redheugh, Dunterley, Buteland, Reeds mouth, Rochester, Woodburn, and Yellow houses, about the uninhabitable condition of many houses, some being damp, others without sinks, drains, privies, and ashpits. The proprietors of these houses have been approached, but make no attempt to remedy the existing evils. New sewage schemes at Stannersburn, Donkleywood, Ridsdale and Otterburn. Water supplies are required at Otterburn, East and West Woodburn, Birtley, and Lanehead. Several farmhouses in the township of Shillington, require a better water supply. Storage for a more abundant supply of water at Bellingham. Scavenging should be carried out at Bellingham by the sanitary authority. An isolation hospital and disinfecter. The Medical Officer, speaking of the necessity of a hospital adds "I am firmly of the opinion that we shall have frequent visitations of smallpox, on account of the laxity of the vaccination act."

The Medical Officer of Health sub-divides his district as follows.

Localities.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant Mortality rate per 1000 births.
Bellingham	1319	21	15·99	Nil	0·75	1·51	250·00
Corsenside	672	11	16·36	Nil	1·48	1·48	83·33
Wark	782	15	19·18	1·27	1·27	2·55	400·00
Kirkharle	190	2	10·52	Nil	Nil	5·26	166·66
Kirkwhelpington ...	374	2	5·34	Nil	Nil	Nil	90·90
Birtley	438	8	18·26	Nil	Nil	4·56	285·71
Elsdon and Otterburn.	885	17	19·27	Nil	3·38	1·12	121·21
Falstone	641	9	14·04	Nil	4·67	Nil	333·33
Thorneyburn	267	Nil	Nil	Nil	Nil	Nil	Nil
Greystead	255	1	3·92	Nil	Nil	Nil	166·66
Throckrington	177	Nil	Nil	Nil	Nil	Nil	Nil

* 14·33 after deducting 3 deaths in public institutions.

CASTLE WARD.

Medical Officer of Health—G. H. FITZGERALD, M.D.

Area, 85,219 acres; Estimated population, 9,463; Birth rate, 23·14; Death rate, 15·53; Zymotic death rate, 1·48; Infant mortality rate (per 1,000 births), 223·74; Phthisis death rate, 0·84; Death rate from respiratory diseases, 2·43.

The death rate shows a decrease of 2·17 over that for the previous year; the birth, phthisis, and respiratory death rates also show a small decrease, while the zymotic death rate has increased by 0·43. The infant mortality rate shows the alarming increase of 101·38 over that for the preceeding year.

Of the total number of deaths (147), 49 were children under 1 year of age, and 42 of persons over 65 years. Smallpox caused 1 death, membranous croup 2, enteric fever 5, measles 1, whooping cough 2, and diarrhoea 3.

The Medical Officer divides his district into 10 localities. In the following table are set out for each locality, the population, general death rate, the zymotic, respiratory, and phthisis death rates, and the infant mortality rate.

Localities.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1,000 births.
Heddon-on-the-Wall...	1345	16	11·89	1·48	3·71	0·74	235·2
Newburn ...	621	5	8·05	Nil	1·61	Nil	263·1
Stamfordham ...	802	12	14·96	1·24	Nil	Nil	176·4
Matfen and Ovingham	527	8	15·18	1·89	Nil	1·89	111·1
Kirkwhelpington and Kirkheaton ...	113	4	35·39	Nil	Nil	Nil	Nil.
Gosforth North ...	1470	23	15·64	1·36	2·72	0·68	No information.
Stannington ...	1013	10	9·87	Nil	2·96	0·98	
Whalton and Bolam...	1113	13	11·68	Nil	2·69	Nil	
Ponteland and Dinnington ...	2403	45	18·72	2·91	2·49	1·24	
Workhouse ...	54	11	203·70	18·51	18·51	18·51	

There was an outbreak of smallpox at Matfen Burnside (6 cases), resulting in one death. It was met with most commendable promptitude and judgment, by the Sanitary Authority and their officials, who were fortunately, enabled to isolate all the first cases, and thereby obviate a widespread, epidemic. The want of an ambulance and disinfecter was however greatly felt.

Measles was prevalent at Stannington, and Heddon, and scarlet fever occurred at Newburn, North Gosforth, and Ponteland. There were 2 cases of membranous croup, and 13 cases of enteric fever; 10 of the latter occurred at Dinnington Colliery.

Improvements. As usual, there are many sanitary improvements to note in this district during the year under consideration. Improvements in water supplies have been carried out at Glorum farm, West Coldcoats dairy farm, Moorey Spot farm and cottages, Carr Grange farm and cottages, Venture cottage, Dinnington, and a scheme for a supply for Dinnington and district has been presented by the sanitary inspector. Extensions or improvements in sewerage and drainage have been effected at Gosforth gardens, Capheaton, Clickemin Cottage, Heddon-on-the-Wall, Close House and lodge, Heddon school, Heddon Town farm, Blayney Row and Moore Court, Matfen Hall Matfen Low Hall, Matfen west farm, Shiney Row, Matfen; Standing Stone Royal farmhouse, Matfen Burnside, and Kearsley; while at Seven cottages

Clifton, Black Heddon Hall, and Harlow Hill, sewage which formerly polluted a burn, or ran along a ditch by the roadside, has been carried on to land. Spouting and other methods for remedying dampness in houses have been adopted at Gosforth gardens, Capheaton, Close House lodge, and Matten Burnside. Disinfectants are regularly procurable from 12 different places in this extensive sanitary district. Preliminary steps were taken towards obtaining a site for an isolation hospital and also for procuring a disinfectant, and ambulance, but unfortunately matters have not advanced beyond this stage.

Requirements. An isolation hospital, disinfectant, and ambulance. A satisfactory water supply for Ponteland, and for Dinnington and district. An efficient sewerage scheme for Ponteland, Dinnington, and Stamfordham. Eleven houses in Shiney Row, and 2 in Quarry Row, Kenton, all of which are unfit for human habitation, and for which a closing order has been obtained, are still occupied, and should be closed. The ashpits at Dinnington Colliery, should be cleaned out more frequently, and more regularly. Sewage discharging into a ditch, on roadside near Bolam tile sheds, should be diverted.

GLENDALE.

Medical Officer of Health—ROBERT WALKER, M.D.

Area, 147,698 acres. Estimated population, 10,156.

Birth rate, 19.59; Death rate, 13.48; Zymotic death rate, 0.49; Infant mortality (per 1,000 births), 90.45; Phthisis death rate, 2.06; Death rate from respiratory diseases, 0.59.

All the above rates, except the respiratory death rate, show an increase over those for the previous year. The birth rate has increased by 1.48; the death rate by 0.98; the zymotic death rate by 0.40; the phthisis death rate by 1.08; and the infant mortality rate by 14.37 (per 1,000 births).

Of the total number of deaths (137), 18 were children under 1 year of age, and 56 persons of 65 years and upwards. There were 5 deaths from zymotic diseases (scarlet fever 4 and measles 1), 21 from phthisis, 13 from heart disease, and 6 from respiratory diseases. There were 199 births registered, being an increase of 18 over the previous year.

The Medical Officer of Health sub-divides his district into three localities as follows:—

Locality.	Population.	Deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1000 births.
Wooler	5100	64	12.54	0.98	0.58	2.54	62.50
Ford	5033	70	13.90	Nil	0.59	1.58	126.43
Union Workhouse ...	23	3	130.43	Nil	Nil	Nil	Nil

From the above table it will be seen that the infant mortality rate for Wooler has decreased by 35 per 1,000 births, and that of Ford has increased by 72 per 1,000 births.

There were 129 cases of scarlet fever, and 15 cases of erysipelas notified.

The Medical Officer of Health says "Had there been a hospital available, when the first cases of scarlet fever appeared, at the beginning of the epidemic, I have no doubt it would have been possible to arrest the spread of the disease at once." He also again calls attention to the danger incurred, owing to the want of greater cleanliness in the cowsheds and places for storing milk and milk vessels; and points out the necessity of keeping the latter, as well as the former, more regularly and thoroughly cleaned. He also points out that

a sufficient quantity of milk cannot be obtained in the district, it being often impossible to obtain a supply for children and invalids. The experiment of having a district nurse has been a great success, and her services are much appreciated by the medical men of the district.

Improvements. The council have decided to have a steam disinfecter, and also an equifex sprayer, a machine by which formaldehyde, or other disinfecting liquid, may be applied for disinfecting rooms and houses generally. At Wooler new houses have been completed, new roads and streets made, sewers constructed, and gas pipes laid. The Cottage Hotel has been improved and enlarged; defective sewers have been relaid; a laundry is being built. New or improved water supplies have been obtained for Chillingham, Horton, Shedlaw, Flodden, Lilburn Steads, Lilburn Tower School, Middleton Hall, Westwood Hall, Westwood Hill, and Way-to-Wooler.

At Hay Farm, where there was much overcrowding in damp houses, the cottages have been rebuilt, and greatly improved; plans have been prepared for remodelling the cottages at Ford Hill. The sewerage at Wark has been greatly improved; and new sewers have been laid at Ford and Sunnillaws. Improvements in drainage have been carried out at Middleton Hall, and Hilton House. New privies and ashpits have been built at Kirknewton, and Sandyhouse, and new piggeries at Ford West Field.

Requirements. An isolation hospital and disinfecter. New sewerage scheme, and public slaughter house for Wooler; also the abolition of all privy ashpits, in their present form, at this place. Regulations under the Dairies, Cowsheds, and Milkshops Order, are urgently needed in this district.

HALTWHISTLE.

Medical Officer of Health—R. BOUSTEAD, L.R.C.P., L.R.C.S., D.P.H., L.M.

Area, 96,333 acres; Estimated population, 8,276; Birth rate, 27·18; Death rate, 12·08; Zymotic death rate, 0·72; Infant mortality rate (per 1,000 births), 53·33; Phthisis death rate, 0·84; Death rate from respiratory diseases, 1·32.

All the above rates show a decrease over those for the previous year, the most marked being the infant mortality, which has decreased by 49·23 per 1,000 births.

Of the 225 births, (99 males and 124 females) 15 were illegitimate, a percentage of 6·66. The death rate remains low; there were 100 deaths registered (52 males and 48 females) being a decrease of 12 as compared with the previous year.

There were 20 cases of scarlet fever, of a mild type, affecting 10 houses, and resulting in no deaths. Whooping cough was very prevalent over the whole district, and resulted in 2 deaths. There were 2 deaths from membranous croup, and 2 from influenza.

Regarding the water supply, the Medical Officer of Health says, "The water supply to the town is very good and plentiful, and affords an ample supply for flushing purposes." The supply for the Gilsland district is still under consideration, and is very much required.

The Medical Officer divides his district into 15 localities, and sets out in several valuable and interesting tables, the number of births, legitimate and illegitimate, for each locality; also the nature and number of all cases of infectious disease notified, from each sub-division, and the age period at which each of these were attacked; and also the cause of every death registered for each locality and for the whole district, and the age period at which, each death occurred.

Improvements. The privies and ashpits have received a little better attention. Twenty two new houses have been erected. The sanitary Inspector has attended to 194 nuisances, &c.

Requirements. Isolation hospital and disinfectors. A better water supply for Gilsland. The cleansing of privies and ashpits more frequently, and with greater regularity. The Medical Officer's report should be printed.

HEXHAM.

Medical Officer of Health, R. BOUSTEAD, L.R.C.P., L.R.C.S., D.Ph., L.M.

Area, 200,977 acres; Estimated population, 28,485; Birth rate, 23.66; Death rate, 15.48; Zymotic death rate, 1.82; Infant mortality rate (per 1,000 births), 151.33; Phthisis death rate, 0.31; Death rate from respiratory diseases, 1.82.

The death rate shows an increase of 1.20 and the birth rate a decrease of 4.26 over those for the previous year. The zymotic and respiratory death rates have both slightly increased, and the phthisis death rate slightly decreased. The infant mortality rate has increased by 26.65 per 1,000 births.

Of the total number of deaths (441), 102 were of children under 12 months old, and 126 of persons of 65 years and upwards. Phthisis caused 9, respiratory diseases 52, diarrhoea 24, and heart disease 48 deaths. There were 52 deaths from zymotic diseases, classified as follows:—Scarlatina 6, diphtheria 10, membranous croup 1, enteric fever 4, continued fever 1, measles 2, whooping cough 4, and diarrhoea 24. The cases of infectious diseases notified, numbered 535, of which 376 were scarlet fever, 58 diphtheria, 21 enteric fever, and 70 erysipelas; this number is an increase of 253 over that for 1897, and an increase of 360 over that for 1896. Of the total number of births, 356 were males, and 318 females; 38 of these births being illegitimate.

Owing to the scarlet fever epidemic—which was most prevalent at West Wylam, Prudhoe, Low Prudhoe, and Mickley Square, the latter place particularly—the schools at Low Prudhoe, Mickley, and Eltringham, were closed. The Medical Officer of Health, speaking of this epidemic says, "There is no doubt whatever that the disease has been very much spread, by the utter disregard which the people have, in going in and out of each others houses, where the disease is; and another undoubted source of infection is attending funerals, and the tea drinking afterwards."

Owing to the prevalence of measles, the schools at Allenheads, Humshaugh, and Bingfield were all closed. There were 4 cases of smallpox notified, 3 of which were removed to the workhouse hospital.

The Medical Officer of Health sub-divides his district into four localities, and sets out in several valuable and interesting tables, the population and the number of births, legitimate and illegitimate, for each locality; also the nature and number of all cases of infectious disease, notified from each sub-division; the age period at which each of these was attacked, and also the cause of every death registered, for each locality, as well as for the whole district, and the age period at which each death occurred.

Improvements. There were 67 new houses erected during the year. New or improved water supplies have been obtained for Hedley-on-the-Hill, North farm Horsley, Toft's farm, East Mill Hills farm, and Plunderheath cottages (Haydon Bridge), Slaley, station and cottages and school and cottages (Riding Mill). A scheme for procuring a new water supply for Acomb, at a cost of over £1,100 has been approved, and there is in prospect a new water supply for New Ridley, Painshawfield estate, and High and Low Mickley, and a new sewerage scheme for Leyburn Terrace, Halfway houses, and Beaumont cottages. Some of the sewers at Allendale, Corbridge, Haydon Bridge, and Stocksfield, have been relaid. More than 350 notices have been issued by the Sanitary Inspector, with the view of improving the drainage of houses, cowsheds, and stables; providing out offices, remedying dampness, the cleansing of privies, ashpits, and urinals, protecting water courses from pollution, and the removal of nuisances of various kind.

Requirements. An isolation hospital and steam disinfectory; the need of a hospital was much felt during last year, when there were so many cases of scarlet fever (376), smallpox (4), and diphtheria (10), to deal with. There is a great demand for suitable artisan's dwellings. Haydon Bridge urgently requires a new water supply, as do also Wheat Hill, Wood Hall, and Edge House.

MORPETH.

Medical Officer of Health—W. CLARKSON, L.R.C.P., L.R.C.S.

Area, 74,750 acres; Estimated population, 16,500; Birth rate, 26·36; Death rate, 12·24; Zymotic death rate, 1·09; Infant mortality rate (per 1,000 births), 124·13; Phthisis death rate, 0·96; Death rate from respiratory diseases, 0·78.

The birth and death rates show a slight increase, by 1·66 and 1·36 respectively. The infant mortality rate has decreased by 18·87, and the phthisis, respiratory, and zymotic death rates, have all increased very slightly, by 0·01, 0·15, and 0·27 respectively. There were 435 births (216 males and 219 females), and 202 deaths (110 males and 92 females) registered during the year. Of the latter, 54 were under 12 months, and 47 were in persons 65 years of age and upwards. There were 18 deaths from zymotic diseases as follows:—Scarlet fever 1, diphtheria 1, membranous croup 2, enteric fever 2, measles 2, whooping cough 4, and diarrhoea 6. Phthisis was accountable for 16 deaths, heart disease for 30 deaths, and respiratory diseases for 13 deaths.

The Medical Officer of Health divides his district into "colliery" and "agricultural."

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Phthisis death rate.	Respiratory death rate.	Infant mortality rate per 1,000 births.
Colliery	13,000	163	12·53	1·00	0·76	0·92	119·89
Agricultural	3,500	39	11·14	0·85	1·71	0·28	147·05

There were 26 cases of scarlet fever notified (resulting in 1 death), and 5 cases of diphtheria (resulting in 1 death). In the colliery localities 14 cases of typhoid fever were notified; the disease proving fatal in 2 cases. The Medical Officer of Health, commenting upon this outbreak of typhoid, says:—"Another year's experience corroborates the opinion formerly expressed, that most of these so-called fevers owe their origin and development to an atmosphere polluted with foul emanations from large uncemented and uncovered middens; of the former there were hundreds of cases, necessitating school closure in several places. There were 6 deaths from diarrhoea, all occurring to children under 10 months old.

Improvements. Speaking generally, sanitary matters are receiving increased attention, and one feature of the past year has been that the officials at more than one colliery, have become responsible for the removal of domestic refuse, instead of contracting with farmers to do so, as in former years. Improvements have also been carried out in several slaughter houses, dairies, and cowsheds. A nuisance caused by a stream polluted by untreated sewage has been abated. In 12 cases drainage has been improved. New, or improvements to old, water supplies have been obtained, in several places. Fifty new houses were erected, and several old ones have been spouted.

Requirements. By laws, more especially in relation to new buildings, are urgently required. At Chevington Crescent (about 50 miners houses) there are many cases of overcrowding. The floors and walls of all schools should

be washed more frequently than at present. *An isolation hospital and disinfector, are required.* Many large, and in other ways badly designed, privy ashpits require reconstruction.

NORHAM AND ISLANDSHIRE.

Medical Officer of Health—J. Paxton, Jr., L.R.C.P., L.R.C.S.

Area 46,067 acres; Estimated population 6,366; Birth rate 22·93; Death rate 18·85; Zymotic death rate 0·62; Infant mortality rate (per 1,000 births) 136·91; Phthisis death rate 1·09; Death rate from respiratory diseases 3·14.

The birth rate has decreased by 1·89, and the death rate has increased by 2·67, the Medical Officer of Health points out that this increase is chiefly caused by the deaths of persons of 65 years and upwards, there being 25 more deaths at this age period than during the previous year. The phthisis death rate has decreased by 0·16, while the zymotic and respiratory death rates, have increased by 0·47 and 1·10 respectively. The infant mortality rate has decreased by 15·09 (per 1,000 births). Of the total number of deaths (120), 20 were under 12 months, and 62 were persons of 65 years of age and upwards. There were 4 deaths from zymotic diseases, 7 from phthisis, 20 from respiratory diseases, and 19 from heart disease. There was one case of diphtheria notified, from Scremerston.

The Medical Officer of Health has again divided his district into 2 localities—Norham and Islandshire, and Ord. The following table shews the death rates from different causes in each sub-division.

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1000 births.
Norham & Islandshire	5814	113	19·43	0·51	3·09	1·20	135·33
Ord	552	7	12·68	1·81	0·34	Nil	153·84

Improvements. An amply water supply has been brought, from a distance, to Cheswick Buildings. The water supply at Horncliffe Village has been improved, and the storage capacity increased. The drainage of Scremerston Vicarage has been improved, and new drainage has been carried out at Mount Carmel Farm, cottages at Emerick, and at the Victoria Hotel, Norham. A new 6 inch drain has been laid at the south side of Norham main street. Many improvements have been carried out at Horncliffe Village; overcrowding has been rectified; many cottages have been spouted, and additional outhouses are to be built.

Requirements. An isolation hospital and disinfector.

ROTHBURY.

Medical Officer of Health—F. BARROW, M.R.C.S., L.S.A.

Area, 166,959 acres; Estimated population, 4,780; birth rate, 24·05; Death rate, *18·41; Zymotic death rate, 0·20; Infant mortality rate (per 1,000 births), 95·65; Phthisis death rate, 1·67; Death rate from respiratory diseases, 3·13.

The birth rate shows a slight increase over the previous year, and the death rate has increased by 6·72. The phthisis and respiratory death rates have both increased, and the zymotic death rate, and the infant mortality rate have both decreased. Nearly half the total number of deaths (88) were those of persons over 65 years of age.

Eleven deaths were those of children under 12 months. There was only 1 death from zymotic disease (measles). There were 2 cases of scarlet fever and 19 cases of measles reported.

Phthisis caused 8 deaths; bronchitis, pneumonia, and pleuresy, 15; heart disease, 17; and 2 deaths were due to injuries received. The Medical Officer of Health, speaking of influenza, says "That at least 18 deaths are more or less directly attributable to this disease, which is highly infectious."

The Medical Officer of Health again sub-divides his district into 10 localities and sets out in tables the population and number of births registered for each locality; also the number and nature of all cases of infectious disease notified from each sub-division, and the age period at which each was attacked. Also the principal causes of deaths occurring in each locality, and the age period at which they took place.

Localities.	Population.	Number of Deaths.	Death Rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality rate per 1,000 births.
Alnham	200	2	10·00	Nil	Nil	Nil	Nil
Alwinton	1000	19	19·00	Nil	5·00	1·00	105·21
Brinkburn	160	2	12·50	Nil	Nil	Nil	Nil
Cambo (part)	180	2	11·11	Nil	Nil	Nil	Nil
Elsdon	335	6	17·91	Nil	2·98	2·98	71·42
Longframlington	500	7	14·00	Nil	4·00	2·00	250·00
Longhorsley (part)	100	2	20·00	10·00	Nil	Nil	250·00
Netherwitton (part)	165	2	12·12	Nil	6·06	Nil	Nil
Rothbury	1300	29	22·30	Nil	3·07	2·30	81·08
Whittingham	840	17	20·23	Nil	2·38	2·38	111·11

Improvements. The water supply at Westfield House and Brinkburn Works has been protected. The Long Framlington water supply has been extended to New Moor House. Improvements in drainage have been effected at Netherton buildings, Brinkburn Works, Westfield House, Rothbury Craggs, and Harbottle. Attempts have been made to remedy dampness at Barrow Mill. Additional out offices have been provided at Long Framlington and Wingates. Overcrowding at Retton White House Lime Works cottages was remedied. An isolation hospital, capable of accommodating 4 patients and a nurse, has been built, with the intention of its serving both the Urban and Rural districts.

Requirements. The Infectious Diseases (Notification) Act should be adopted. Bye laws are urgently required. A disinfectant and ambulance to be used in connection with the isolation hospital. Removal of the nuisance arising from the Glanton sewage; a proper sewerage scheme for Netherton village; removal of the nuisance arising at the Harbottle sewer outlet. Drainage for some houses at Flotterton cottages, Harbottle, Woodhall, and Barrow Mill. Out offices require to be provided or to be remodelled at Netherton, Harbottle, Woodhall, Barrow Mill, Flotterton cottages, Healey Cote, Whitton, Wingates, Alwinton. A depot for refuse is required at Thropton.

*18·20 after deducting the deaths of one stranger and 17·79 after deducting 2 deaths from injuries.

TYNEMOUTH No. 1.

Medical Officer of Health—A. S. TAYLOR, L.R.C.P., L.R.C.S., L.M., L.F.P.S.

Area 7,929 acres; Estimated population 8,869; Birth rate 33·14; Death rate 16·34; Zymotic death rate 1·69; Infant mortality rate (per 1,000 births) 173·46; Phthisis death rate 1·69; Death rate from respiratory diseases 1·91.

The Birth rate has increased by 1·03, and the death rate decreased by 5·56; the zymotic, phthisis and respiratory death rates have all decreased (1·52, 0·48 and 0·26, respectively), while the infant mortality rate has increased by 5·61 per 1,000 births.

Of the total number of deaths (145), 51 were children under 1 year, and 26 persons of 65 years and upwards. Phthisis caused 15, respiratory diseases 17, heart disease 10, and zymotic diseases 15 deaths.

The following table indicates the sanitary district divided into localities, with the death rates—general, zymotic, phthisis, respiratory, and infant—belonging to each locality. In a second table are given the infectious diseases, the localities in which each occurred, and the months during which they were notified:—

Localities.	Population.	Births.	Number of deaths.	Death rate.	Zymotic death rate.	Phthisis death rate.	Respiratory death rate.	Infant mortality rate per 1,000 births.
Seaton Delaval	4,626	140	96	20.75	2.59	2.16	2.16	221.42
Hartley ...	1,362	49	15	11.01	0.73	Nil	0.73	163.28
Horton ...	2,391	69	27	11.29	0.83	2.09	1.67	101.44
Hartford West	84	2	0	Nil	Nil	Nil	Nil	Nil
Hartford East.	318	31	7	22.01	Nil	Nil	6.28	161.29
Bebside ...	88	3	0	Nil	Nil	Nil	Nil	Nil

During the year 105 cases of infectious disease have been notified, as follows:—Scarlatina 54, diphtheria 9, membranous croup 1, enteric fever 19, continued fever 1, and erysipelas 21. Measles have been more or less prevalent, but resulting in no deaths.

Requirements. An isolation hospital and disinfectors. Regulations under the Cowsheds, Dairies, and Milk Shops Order. More frequent scavenging in some districts.

TYNEMOUTH, No. 2.

Medical Officer of Health, PETER ALEXANDER, L.R.C.P., L.R.C.S., L.M.

Area, 7,184 acres; Estimated population, 10,885; Birth rate, 29.85; Death rate, 14.97; Zymotic death rate, 1.83; Infant mortality rate (per 1,000 births), 187.69; Phthisis death rate, 1.56; Death rate from respiratory diseases, 2.20.

Of the above rates, all have decreased except the infant mortality which has increased by 18.60 per 1,000 births. The respective decreases being birth rate 2.34, death rate 0.51, zymotic death rate 0.89, phthisis death rate 0.12, and respiratory death rate 1.27.

Of the total number of deaths (163) 61 were of children under one year, and 28 persons of 65 years and upwards. Phthisis caused 17, heart disease 15, respiratory diseases 24, and zymotic diseases 20 deaths; the latter are classified as follows:—Smallpox 1, enteric fever 1, continued fever 1, measles 1, and diarrhoea 16. There were 40 cases of infectious disease notified during the year, namely:—Smallpox 15, scarlet fever 13, enteric fever 2, continued fever 2, and erysipelas 8.

The smallpox cases were confined to a block of tenemented buildings known as Mean's Buildings, Burradon; the first case was that of a man who had attended Gosforth Races where he is supposed to have contracted the disease.

The district council had two hospital tents (containing 8 beds each) erected; 12 cases were removed to these temporary hospitals, and all completely recovered. Whooping cough was very prevalent in different parts of the district.

Though the season was a very dry one, the water supply was constant and of good quality.

The following table indicates the sanitary district divided into localities, with the death rates—general, zymotic, phthisis, respiratory, and infant—belonging to each locality. In a second table are given the infectious diseases, the localities in which each occurred, and the months during which they were notified.

Localities.	Population.	Number of births.	Number of deaths.	Death rate.	Zymotic death rate.	Phthisis death rate.	Respiratory death rate.	Infant mortality rate per 1000 births.
Longbenton (northern portion) ...	7169	231	123	17.16	1.81	1.95	2.20	199.13
Earsdon (Burradon township) ...	1156	36	18	15.57	2.59	0.86	0.86	138.88
Wallsend (Willington, Rosehill) ...	1511	58	22	14.55	2.64	1.32	5.28	172.41

Improvements. Ashpits and privies have had better attention. Cowsheds and dairies, have on the whole, been better kept.

Requirements. An isolation hospital and disinfectors are urgently needed. Privies and ashpits require better, and more regular attention, especially at West Moor Colliery. Abatement of the nuisance caused at Willington Bridge and Willington Quay by pollution of the gut by sewage from Willington Parish.

TABLE OF VITAL STATISTICS, &c., 1898.

a 9-84, after deducting the deaths of 18 temporary residents.
 f 11-27, after deducting the deaths of 9 strangers.
 g Two tests at Bedford.
 h 12-23, after deducting 7 deaths in public institutions.
 i 12-20, after deducting the death of 1 stranger, and 12 deaths from injuries.
 j Tests.

