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COUNTY COUNCIL OF NORTHUMBERLAND.

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# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH  
for the Year 1909.

WITH SUMMARY OF REPORTS OF DISTRICT  
MEDICAL OFFICERS OF HEALTH AND  
STATISTICAL INFORMATION.

NEWCASTLE-UPON-TYNE:

R. WARD AND SONS, WARD'S BUILDINGS, HIGH BRIDGE.

1910.

A/281



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NORTHUMBERLAND COUNTY COUNCIL.

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REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH  
FOR THE YEAR ENDING 31st DECEMBER, 1909.

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

GENTLEMEN :—

I beg to present my annual report dealing with the year 1909. In it will be found, as in former years, references to the annual reports of the district medical officers of health and to some of the more important requirements of the several sanitary districts from a health point of view; reference is also made to the various outbreaks of infectious disease, to hospital accommodation, vital statistics, legislation as it relates to local government and public health; to the administration of the Housing of the Working Classes Acts, the Factory and Workshop Acts, the Sale of Food and Drugs Acts, the Rivers Pollution Prevention Acts, the Education (Administrative Provisions) Act, the Children Act, the Midwives Act and of the various adoptive Acts; to water supplies, sewerage and sewage disposal, and to the inquiries held by Inspectors of the Local Government Board etc., etc.

No changes occurred among district medical officers of health during the year under review.

Reports were received from each of the medical officers of health in the Administrative County.

Thirty-one of these reports were printed; one (that of the rural district of Bellingham) was typewritten; one (that for the urban district of Seghill) was in manuscript form.

It is much to be regretted that the two sanitary authorities last named still fail to print and circulate the annual report of their medical officers of health; these reports contain valuable information relating to the sanitary conditions and requirements of the districts to which they relate and a copy should unquestionably be available for any ratepayer at all interested in public health matters.

No reports were received in January, and twenty during the first quarter of the year, but the last one received did not arrive until June 4th. As has previously been pointed out on several occasions no calculations can be made as to county rates, etc., until *all* the annual reports are received.



The directions given by the Local Government Board are as follows :—

The report "should be made as soon as possible after the expiration of the year to which it relates. The medical officer of health ought not in general to have any difficulty in doing this within a month or six weeks ; but if from any special circumstances the report cannot be completed within six weeks it should be understood that the delay must not be indefinite, and that the report should be in the hands of his council and of the Board within at most three months from the end of the year."

Some of the annual reports received from the district medical officers were full and comprehensive and, besides including the ordinary statistical information required by the Local Government Board, contained references to housing accommodation, sewerage and drainage, cowsheds and slaughter houses, and several other matters having an important bearing on public health, and also supplied a list of the various *sanitary improvements effected* during the year, and the *further requirements* of the district from a public health point of view. Others were disappointing owing to the paucity of information given. A reference to the Memoranda of the Local Government Board, issued to urban and rural district medical officers of health in March 1891, December 1907 and November 1908, will indicate the subjects upon which the Board desire information, many of which are entirely ignored in some of the annual reports received.

The reason sometimes given for the above-named omissions is that the sanitary authority is well aware of the existing conditions, and that, since some of these have been allowed to continue year after year without measures being adopted towards securing any improvement, it is useless for the medical officer of health to include, year by year, in his annual report, all the well-known requirements of the district. It is important, however, to remember that the particulars required "are for the information of the Board and of the County Council, as well as of the council of the district, and that a statement of the local circumstances and a history of local sanitary questions which may seem "superfluous for the latter, may often be needed by the former bodies."

The Local Government Board require information on each of the following subjects :—

House accommodation, especially for the working classes ; its adequacy and fitness for habitation ; sufficiency of open space about houses and cleanliness of surroundings.

Water supply of the district as a whole or as to its several parts ; its source, sufficiency, wholesomeness and freedom from risks of pollution.

Cowsheds : their conditions and surroundings ; action taken to ensure abatement of insanitary conditions likely to affect, prejudicially, the character and wholesomeness of the milk produced within the district.

The sanitary condition of slaughter houses or other places where foods are prepared, stored, or exposed for sale. The methods adopted for ensuring the inspection of meat. Action under Section 117 of the Public Health Act 1875. The number of carcasses or parts of carcasses condemned, and the action under the Sale of Food and Drugs Acts taken or needed.

Sewerage and drainage : its sufficiency in all parts of the district. Condition of sewers and house drains. Methods of sewage disposal. Localities where improvements are needed.

Pollution of rivers and streams in the district : the sources and nature of such pollution and action taken to check it.

Excrement disposal : system in vogue : defects if any.

Removal and disposal of house refuse, whether by sanitary authority, contractors or occupiers ; frequency and method.



Nuisances : proceedings for their abatement : any remaining unabated.

Bye-laws as to houses let in lodgings, offensive trades, etc. Number of premises coming under each set of bye-laws and action taken. Any need of amendment or further bye-laws.

Schools, especially public elementary schools; sanitary condition of, including water supply; action taken in relation to the health of the scholars and for preventing the spread of infectious disease.

Methods of dealing with infectious diseases: notification; isolation hospital accommodation, its sufficiency and efficiency; disinfection.

Tuberculosis: Methods of control of; whether any system of notification of Pulmonary Tuberculosis, compulsory or voluntary, is in operation. Number of cases notified; what action is taken in respect of known cases and of deaths. Amount of hospital accommodation for cases of Pulmonary Tuberculosis in infirmaries and elsewhere for advanced and for earlier cases of the disease.

It is stated in the Board's Memorandum that "*it is expected that each of the preceding points will be mentioned in the annual reports and the extent of action or the absence of action on each of them definitely stated.*"

The Board also considers that reference should be made to the administration of the Midwives Act, the Notification of Births Act 1907 and to the conditions conducing to a high or low infantile death rate in any particular locality.

Factories and Workshops.—Medical officers are required to state what action has been taken to remedy any defective conditions met with under each heading; whether Sec. 22 of the Public Health Acts (Amendment) Act 1890 is in force in the district, and if so, what standard of sufficiency and suitability of sanitary accommodation is adopted for factories and workshops, also whether all underground bakehouses comply with the requirements of the district council in all respects and to make special reference to the sanitary condition of all bakehouses.

Tables provided by the Local Government Board. These, when accurately filled up, contain statistical information of considerable interest and value, and form an important part of the medical officer's annual report. In the majority of cases, these tables were included with the report but, in those relating to two rural districts only two of the five tables were included and, in the case of reports from four urban and four rural districts, the tables, though sent to the Local Government Board and the County Council on separate sheets, were not printed with the reports, and were not, therefore, available for the general public.

Also from the Statutory Rules and Orders issued by the Board on September 2, 1910, and from the Housing (inspection of district) Regulations of September 3, 1910, it is evident that the Board expect, from district medical officers, much fuller information than formerly as to the general housing and other conditions in their respective districts. Particulars are now required to be given, *in tabular form*, as regards

- a. the number of dwelling houses inspected;
- b. the number of dwelling houses which, on inspection, were considered to be unfit for human habitation;
- c. the number of representations made to the local authority requiring closing orders;
- d. the number of closing orders made;
- e. the number of dwelling houses in which defects were remedied without closing orders being made;
- f. the number of dwelling houses put into a fit state for human habitation after closing orders had been made;
- g. the general character of the defects found to exist.



## SPECIAL REPORTS.

It is still necessary to point out that in every case in which a medical officer of health sends a special report to the Local Government Board he is required to send a copy of such report to the county council; also that school closure requires a special report to be sent to the Local Government Board and to the county council. Appended are copies of Articles 15 and 16 of the Order of the Local Government Board for 1891, relating to these special reports, and also articles 13 and 14 of a memorandum dated July 1897, having reference to the closure of public elementary schools.

"(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 as he gives information to Us of an outbreak of infectious disease or transmits to Us a copy of his annual report or of any special 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.

"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."

Very few medical officers of health carry out the Board's direction as above, viz., at the same time as they give information to the Board of an outbreak of infectious disease, give the like information to the county council of the county within which his district may be situated, and very few when reporting to the sanitary authority advising the closure of a school send copies of such reports to the Board and to the county council as required by Art. 18 (Secs. 15 and 16) of the General Order of the Local Government Board of March 23rd, 1891.

## SANITARY LEGISLATION.

The principal Acts passed during 1909 which have any direct bearing upon public health or are associated with Local Education Authorities are the Housing, Town Planning, etc., Act, the Local Education Authorities' (Medical Treatment) Act and the Education (Administrative Provisions) Act.

The Housing, Town Planning, etc. Act is in four parts, and is contained in seventy-six sections. Within the scope of this report, it is only possible to refer very briefly to the main features of the Act. This Act has for its object the provision for making town planning



schemes, the amendment of the law relating to the housing of the working classes, the establishment of Public Health and Housing Committees by County Councils and the appointment, conditions of appointment and definition of the duties of County Medical Officers of Health for every county.

Part I. deals with the housing of the working classes and aims at removing some of the difficulties experienced in carrying out the Housing of the Working Classes Act, 1890; thus, under Sec. 1, Part III. of the Act of 1890 is no longer adoptive, but is in force in every sanitary district.

Local authorities can, under an Order confirmed by the Local Government Board, purchase land compulsorily for the purposes of the Act without making any additional allowance as compensation for compulsory purchase. Provision is made for extending loans procured from the Public Works Loan Commissioners to, in some cases, eighty years. When it appears to the Local Government Board, on the complaint of a County Council, Parish Council, Parish Meeting or otherwise, that a local authority is in default under Parts I., II. or III. of the principal Act the Board may hold an inquiry and make an Order for the necessary work to be carried out. These Orders refer, amongst other matters, to improvement schemes for dealing with unhealthy areas and reconstructive schemes relating to unhealthy dwellings. The Local Government Board may also confer on County Councils the powers of a Local Authority, under Part II. of the principal Act and have also power to revoke unreasonable bye-laws. County Councils are empowered, under certain conditions, to take over the powers of a rural district council under Part III. of the Act of 1890.

The erection of back to back houses is prohibited.

Sections 14 and 15 provide an implied condition in any contract by a landlord for letting houses (below certain specified rentals) that the house is and shall be kept in all respects reasonably fit for human habitation.

The method of procedure in respect of closing or demolition Orders or of improvement and reconstruction schemes is strengthened and simplified.

Part II. relates to Town Planning, and gives very extensive powers to the Local Government Board.

Part III. deals with the appointment and duties of County Medical Officers, and with the establishment of Public Health and Housing Committees by every County Council.

Every County Council is required to appoint a County Medical Officer who, if appointed after the passing of the Act, must devote his whole time to the duties of his office, and has the same powers of entry as the district Medical Officer of Health.

An obligation is placed upon the Clerk of every Rural District Council to forward to the County Medical Officer of Health a copy of any representation, complaint or information, a copy of which it is the duty of the district council to forward to the county council under Sec. 45 of the Housing of the Working Classes Act 1890. (Under the last-mentioned Act, every rural district council must send to the county council a copy of any representation, complaint or information received from or by the district medical officer of health, or from any inhabitant householders, as regards any dwelling house being unfit for human habitation, or respecting an obstructive building).

District medical officers of health are also required to give to the county medical officer of health any information which the latter may reasonably require from them for the purpose of his duties prescribed by the Local Government Board.



THE LOCAL EDUCATION AUTHORITIES' (MEDICAL TREATMENT) ACT, 1909.

Under this Act, Local Education Authorities are empowered to recover the cost of the medical treatment of children attending public elementary schools.

EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1909.

This Act empowers the council of any county, borough or urban district to acquire, with the consent of the Board of Education, any land held by the council, as Local Education Authority, for any of the purposes of the council (if approved by the Local Government Board) otherwise than in their capacity as Local Education Authority.

I have again to thank the district medical officers of health, the surveyors and sanitary inspectors for much valuable assistance given me on many occasions.

I am, gentlemen,

Your obedient servant,

J. W. HEMBROUGH.

## THE ADMINISTRATIVE COUNTY.

### AREA.

The area of the County is 1,278,600 acres, divided as follows:—Boroughs, 7,882 acres; urban districts, 46,775 acres; rural districts, 1,223,943 acres.

### POPULATION.

The population of Northumberland (exclusive of the county boroughs of Newcastle-on-Tyne and Tynemouth), estimated to the middle of 1909, was 372,749, being an increase of 67,992 on the 1901 census population of the districts which now constitute the administrative county, and an increase of 9,963 on the population estimated to the middle of 1908.

The greatest estimated increase in population since 1908 was in the Urban District of Ashington (2,000).

### CHANGES IN AREA AND POPULATION.

An Order made by the County Council for the extension of the Urban District of Ashington by the inclusion of a part (about 165 acres in area) of the Parish of North Seaton was confirmed by the Local Government Board during the year under review. No alteration in the area or population of the Administrative County was, however, occasioned by the above change.

### BOROUGHES, URBAN AND RURAL DISTRICTS, AND PORT SANITARY AUTHORITY.

The County up to the end of 1909 was divided for the purpose of sanitary administration into 31 districts, three of which were municipal boroughs, sixteen urban districts, and twelve rural districts. There are also the Blyth, Tweed, and Tyne Port Sanitary Authorities.

### BOROUGHES.

Berwick-on-Tweed, Morpeth and Wallsend.

The population of the boroughs was estimated to be 49,100 in the middle of 1909.

### URBAN DISTRICTS.

Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Weetslade, Whitley and Monkseaton and Willington Quay.

The population of the urban districts (estimated to the middle of 1909) was 183,703.

### RURAL DISTRICTS.

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

The population of the rural districts (estimated to the middle of 1909) was 139,946.

### DENSITY OF POPULATION.

The average number of persons per acre was, for the county 0·29, for the boroughs and urban districts 4·27, and for the rural districts 0·11.

This, however, was subject to great variation; thus in the urban district of Willington Quay the average population to the acre was 30·09, while in the



urban district of Rothbury it was only 1·34. In the rural districts the highest average per acre was in Tynemouth No. 2 (2·19), and the lowest in Bellingham (0·024).

The area and population of each sanitary district in the Administrative County will be found in a table at the end of this report.

#### BIRTHS.

The births registered during 1909 numbered 10,599, giving a birth rate for the county of 28·43. In 1908 the rate was 29·46.

Of the total births, 7,000 occurred in the boroughs and urban districts, and 3,599 in the rural districts. The birth rate for the former was 30·06 per 1,000 (31·83 in 1908), and for the latter 25·71 (25·61 in 1908).

The birth rate in the administrative county has declined by 1·03 per 1,000 population as compared with the previous year, and was 2·10 lower than the average for the past ten years.

In urban districts in the county a decrease of 1·77 was recorded in comparison with the preceding year, and of 2·89 when compared with the average of the ten years 1900-1909; in rural districts the birth rate exceeded that for the previous year by 0·10, but was lower by 0·23 than the average rate for the past ten years.

In England and Wales the birth rate was 0·9 lower in 1909 than in the previous year, and 1·9 lower than during the ten years 1900-1909.

The following table shows the comparative rates:—

		Birth Rate.	Increase since 1908.	Decrease since 1908.
Administrative County	...	28·43	—	1·03
Urban districts	...	30·06	—	1·77
Rural districts	...	25·71	0·10	—
England and Wales	...	25·60	—	0·90

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

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Newbiggin-by-the-Sea	41·04	Tynemouth No. 2	33·42
Earsdon	38·09	Tynemouth No. 1	28·04
Ashington	37·27	Morpeth	27·91

The three lowest were returned from the districts in the undermentioned table:—

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Whitley and Monkseaton	16·07	Belford	17·17
Rothbury	20·76	Rothbury	20·08
Gosforth	22·90	Haltwhistle	21·21

During the year under consideration the birth rate showed an increase in 10 urban and in 5 rural districts; in 9 urban and in 7 rural districts the rate showed a decrease. In 13 urban and 5 rural districts the birth rate exceeded, and in 6 urban and 7 rural districts was below, the rate for England and Wales.



The following table shows the birth rates during the last ten years :—

Year.	Number of births per 1,000 living during the years 1900-1909.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1900 ...	31·24	34·03	25·56	28·9
1901 ...	33·22	36·29	26·73	28·5
1902 ...	32·76	35·45	27·04	28·6
1903 ...	32·58	35·52	26·27	28·4
1904 ...	29·42	30·89	26·21	27·9
1905 ...	30·41	32·89	26·62	27·2
1906 ...	29·09	31·39	25·47	27·0
1907 ...	28·25	30·44	24·75	26·3
1908 ...	29·46	31·83	25·61	26·5
1909 ...	28·43	30·06	25·71	25·6
Mean ...	30·53	32·95	25·98	27·5

#### DEATHS.

The number of deaths registered during 1909 was 4,994. Of these, 3,196 occurred in urban, and 1,798 in rural districts.

Details of the deaths and death rates in the several districts are given in the table at the end of this report.

The county rate was 13·39, as compared with 14·82 in 1908 and 13·51 in 1907; that of the boroughs and urban districts was 13·72, as compared with 15·37 in 1908, and 13·58 in 1907; the rural death rate was 12·84, as against 13·91 in 1908, and 13·40 in 1907.

The death rate for England and Wales was 14·5, as against 14·7 in the previous year.

The approximate urban death rate for England and Wales was 14·47, and the approximate rural death rate 14·50.

The following table shows the comparative rates :—

	Death Rate.	Increase since 1908.	Decrease since 1908.
Administrative County ...	13·39	—	1·43
Urban districts ...	13·72	—	1·65
Rural districts ...	12·84	—	1·07
England and Wales ...	14·50	—	0·20

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.
Morpeth ...	17·95	Hexham ...	13·75
Blyth ...	17·67	Tynemouth, No. 1 ...	13·64
Alnwick ...	16·17	Norham and Islandshires	13·37

while the three lowest were recorded as under :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Whitley and Monkseaton...	7·25	Castle Ward ...	10·59
Gosforth ...	8·70	Haltwhistle ...	10·60
Amble ...	9·16	Morpeth ...	10·82



During the year under consideration the death rate showed an increase in 3 boroughs and urban districts, and in 2 rural districts; in 16 boroughs and urban districts, and in 10 rural districts the rate showed a decrease. In 4 urban districts the death rate exceeded, and in 15 urban and in all the rural districts was below, the rate for England and Wales.

The general death rate, the infant mortality rate (deaths under one year per 1,000 births), and the death rate under five years were all higher in the urban than in the rural districts.

The following table shows the death rates for the last 10 years:—

Year.	Number of deaths per 1,000 living during the years 1900-1909.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1900...	17.53	18.69	15.16	18.3
1901...	18.72	19.82	16.39	16.9
1902 ..	16.63	17.32	15.17	16.3
1903...	16.81	17.54	15.24	15.4
1904...	17.12	17.60	15.99	16.2
1905...	15.01	15.67	14.00	15.2
1906...	14.52	15.16	13.51	15.4
1907...	13.51	13.58	13.40	15.0
1908...	14.82	15.37	13.91	14.7
1909...	13.39	13.72	12.84	14.5
Mean ...	15.92	16.57	14.58	15.8

In the diagram on page 11 the curves indicate variations in the birth rate and general death rate during the years 1893 to 1909 inclusive.

#### INFANT MORTALITY (UNDER ONE YEAR).

The number of deaths of children under 1 year was, in the boroughs and urban districts 849; in the rural districts 285; total 1,134.

The following table shows the comparative rates of infant mortality (deaths under 1 year per 1,000 births):—

	Number of Deaths.	Death rate per 1,000 births.	Increase since 1908.	Decrease since 1908.
Administrative County ...	1,134	106.99	.....	39.42
Urban districts ...	849	121.28	.....	33.61
Rural districts ...	285	79.18	.....	50.74
England and Wales ...	99,511	109.00	.....	12.00

In 3 of the urban districts the infant mortality rate was higher, and in 15 lower, than in 1908; in 1 district no change occurred.

In 2 of the rural districts the infant mortality rate was higher, and in 10 lower, than in 1908.

In 10 urban and in 1 rural district the infant mortality rate exceeded, and in 9 urban and 11 rural districts was less than, the rate for England and Wales.

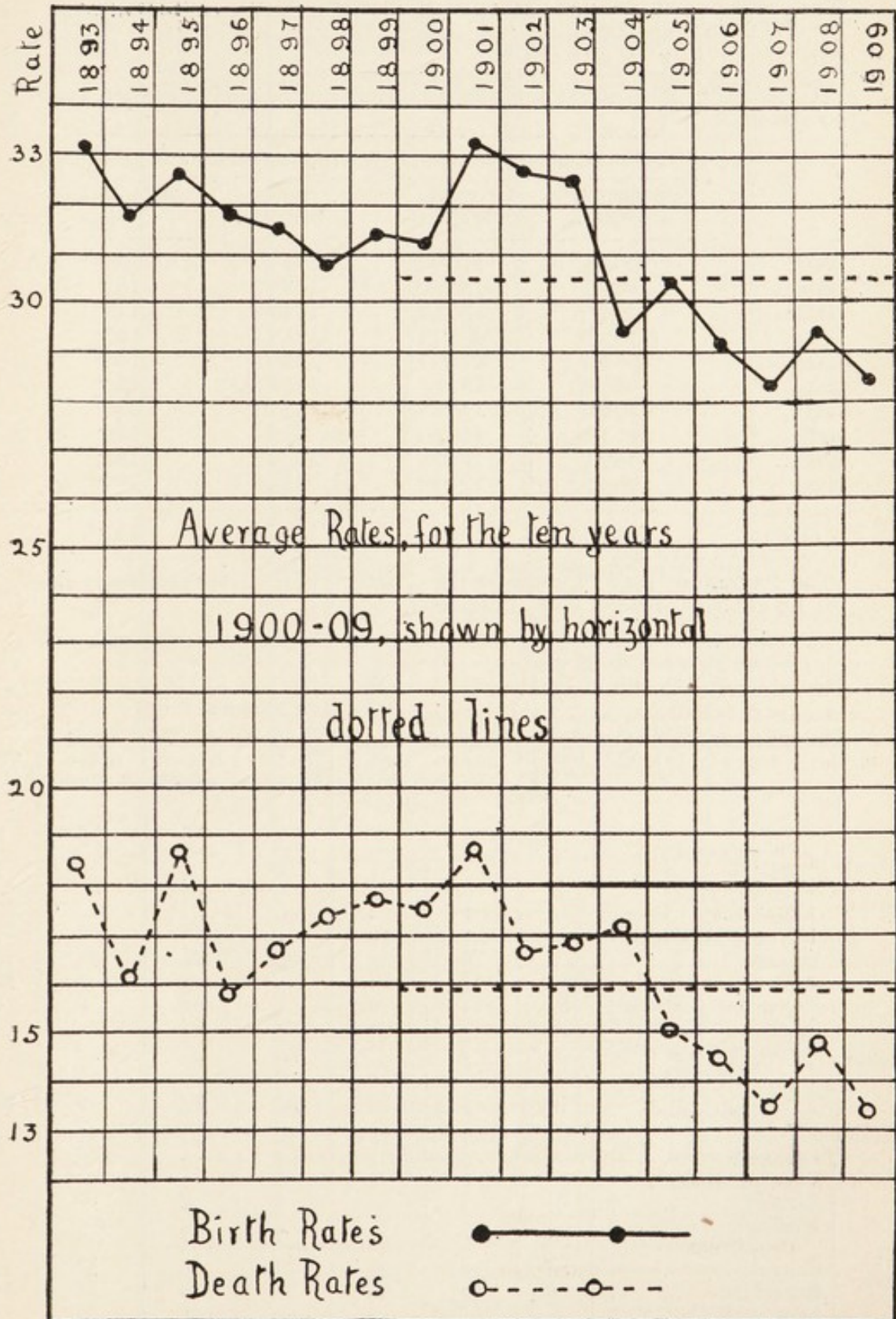
The three highest infant mortality rates per 1,000 births were recorded in the following districts:—

Urban Districts.	Infant Mortality Rate (per 1000 births.)	Rural Districts.	Infant Mortality Rate (per 1000 births.)
Blyth ...	160.20	Tynemouth No. 1 ...	119.40
Weetslade ...	148.64	Tynemouth No. 2 ...	108.20
Cramlington ...	146.06	Hexham ...	104.90



## ADMINISTRATIVE COUNTY.

Birth rates and death rates per 1,000 population, 1893-1909.





The three lowest were returned from :—

Urban Districts.	Infant Mortality Rate (per 1000 births).	Rural Districts.	Infant Mortality Rate (per 1000 births).
Rothbury ... ..	Nil.	Rothbury ... ..	41·66
Whitley and Monkseaton	65·04	Glendale ... ..	54·72
Berwick ... ..	73·09	Belford ... ..	64·91

The following table shows the infant mortality rates during the ten years 1900-1909 :—

Year.	Number of infant deaths per 1,000 births during the years 1900-1909.			
	Administrative County.	Urban Districts.	Rural Districts.	England and Wales.
1900... ..	160·31	170·92	131·56	154·
1901 . . .	183·57	187·49	172·36	151·
1902... ..	126·90	136·04	101·39	133·
1903... ..	145·43	153·11	123·11	132·
1904... ..	168·69	179·17	141·73	145·
1905... ..	133·57	145·06	111·83	128·
1906... ..	136·28	146·27	116·94	133·
1907... ..	102·93	120·89	97·24	118·
1908... ..	146·41	154·89	129·92	121·
1909... ..	106·99	121·28	79·18	109·
Mean ...	143·53	153·48	120·11	131·5

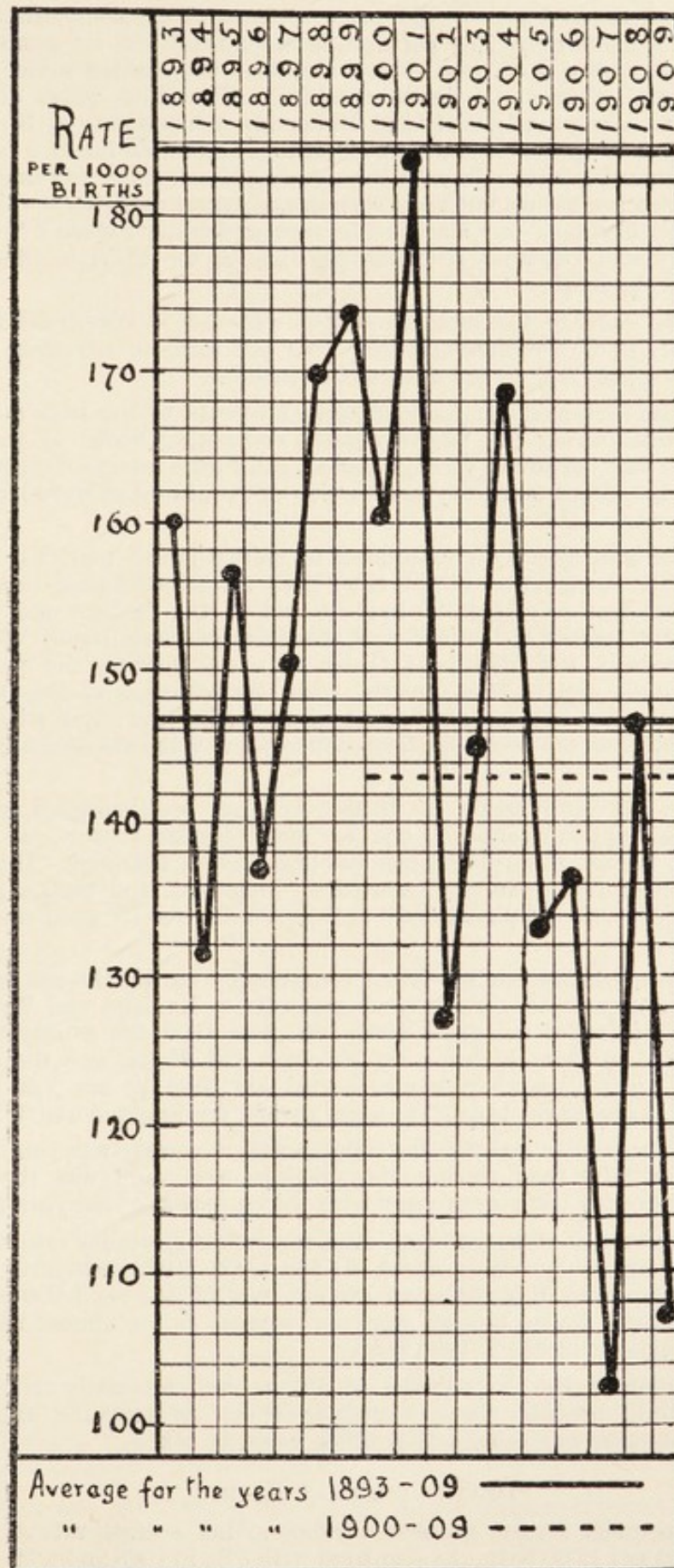
The diagram on page 13 indicates the variations in the infant mortality rate (per 1,000 births) for the years 1893-1909.

The following table shows the ages at which the deaths under one year occurred and the causes of death.

Cause of Death.		AGE PERIODS.						Total.
		Under 1 week	1 week & under 1 month	1 and under 3 months	3 and under 6 months	6 and under 9 months	9 and under 12 months	
Common Infectious Diseases.	Small-pox ... ..	—	—	—	—	—	—	—
	Chicken-pox ... ..	—	—	—	—	—	—	—
	Measles ... ..	—	—	1	1	6	7	15
	Scarlet Fever ... ..	—	—	—	—	—	—	—
	Diphtheria: Croup ... ..	—	1	—	—	—	—	1
Diarrhoeal Diseases.	Whooping Cough ... ..	—	1	10	1	7	6	25
	Premature Birth ... ..	2	8	32	52	25	19	138
	Congenital Defects ... ..	151	41	14	1	—	2	209
Wasting Diseases.	Injury at Birth ... ..	24	11	6	1	—	2	44
	Want of Breast Milk ... ..	6	3	—	—	—	—	9
	—Starvation ... ..	—	2	—	—	—	—	2
Tuberculous Diseases.	Atrophy, Debility, Marasmus ... ..	74	49	57	36	12	9	235
	Erysipelas ... ..	—	—	5	16	17	11	49
	Venereal Disease ... ..	—	—	1	1	—	—	2
	Rickets ... ..	—	1	2	1	—	—	4
	Meningitis (not Tuberculous) ... ..	—	—	—	1	2	—	3
Other Causes.	Convulsions ... ..	—	—	4	7	7	4	22
	Bronchitis ... ..	26	14	26	24	12	13	115
	Laryngitis ... ..	2	10	26	33	15	15	101
	Pneumonia ... ..	—	—	—	—	2	1	3
	Suffocation, overlying ... ..	2	3	13	20	29	24	91
	Other causes ... ..	—	—	1	1	—	—	2
		20	13	10	7	5	9	64
		307	157	208	203	139	120	1,134



ADMINISTRATIVE COUNTY.  
 Infant mortality rates 1893-1909.





From the above table it follows that 27 per cent. of the infant deaths occurred during the first week of life, 13·9 per cent. between the first week and the end of the first month, 18·3 per cent. between the completion of the first and the third months, 17·9 per cent. between three and six months, and 22·8 per cent. between six and twelve months. The deaths under twelve months are 22·7 of the total deaths recorded. The chief causes of infant mortality were Atrophy, Debility and Marasmus, Prematurity of Birth, and Diarrhoeal diseases, which diseases and conditions accounted for 51·3 per cent. of the total infant deaths. Twenty-three per cent. were due to immaturity, which included premature birth and certain congenital conditions which prevent the child having a fair start in life, such as debility caused by poverty, intemperance, and unhealthy surroundings exerting an injurious effect upon the health of the mother.

Twelve per cent. of the infantile deaths were due to Diarrhoeal diseases, 4·3 per cent. to Tuberculous diseases, 16·9 per cent. to affections of the Respiratory organs, and 10 per cent. to Convulsions.

Allusion has been made in previous annual reports to the high mortality rate of infants during the twelve months succeeding birth, to the chief causes of the waste of life at this age period, and to the increased importance of reducing the infant mortality rate in view of the almost universal lowering of the birth rate.

Among the measures most calculated to reduce infant mortality may be mentioned the instruction of the elder girls attending public elementary schools in the first principles of hygiene and in the feeding and general management of infants, the enforcing of more stringent regulations under the Dairies, Cowsheds, and Milkshops Order in every district, the procuring of a clean milk supply from healthy cows, the adoption of the Notification of Births Act and the notification of all births (including still births) within 36 hours to the medical officer of health, and the assistance given by health visitors.

Wherever the Notification of Births Act has been adopted, with its corollary, the appointment of one or more health visitors, a marked reduction in the infant mortality rate has immediately followed. If a health visitor possesses the necessary knowledge, judgment, and tact, a genuine interest in her work and physical strength, her influence for good can hardly be measured.

The infant mortality rate has fallen considerably during the last ten years both in the administrative county and generally in England and Wales, but with the exception of the years 1902, 1907, and 1909, the county rate has been higher than that obtaining for England and Wales, and the average county rate during the above-named period has been 12 per 1,000 births higher than the average, during the same period, for England and Wales.

The infant mortality rate for the administrative county was considerably lower during 1909 than during the previous year, and was the lowest recorded during the last eleven years with the exception of the year 1907.

When, however, it is remembered that the infant mortality rate is always considerably higher (probably about 30 per 1,000 births) wherever women are largely employed in factories, an average rate of 143 per 1,000 births in Northumberland, where factory work by women is an almost negligible quantity, is not creditable to the County.

The adoption of the Notification of Births Act, especially in populous districts, would probably have a greater effect in reducing the infant mortality rate than any other action which could be taken.

#### DEATHS UNDER 5 YEARS.

The deaths under 5 years numbered 1,699, giving a death rate at this age period of 4·55 per 1,000 living, as compared with 5·81 in 1908 and 4·59 in 1907.



The following table shows the death rates for the ten years 1900 to 1909 inclusive:—

Year.	Administrative County.	Urban Districts.	Rural Districts.
1900 ... ..	7.0	8.2	4.5
1901 ... ..	8.1	9.1	5.8
1902 ... ..	5.9	6.9	3.8
1903 ... ..	6.6	7.6	4.3
1904 ... ..	6.9	7.7	5.2
1905 ... ..	5.6	6.6	4.1
1906 ... ..	5.6	6.6	3.9
1907 ... ..	4.6	5.3	3.3
1908 ... ..	5.8	6.7	4.3
1909 ... ..	4.5	5.3	3.3
Mean ... ..	6.1	7.1	4.2

#### DEATHS AT 65 YEARS AND UPWARDS.

The number of deaths at this age period was 1,254, giving a death rate of 3.36 per 1,000 living.

Of these 669 took place in the urban, and 585 in the rural districts.

The following table shows the death rates for the ten years 1900 to 1909 inclusive:—

Year.	Administrative County.	Urban Districts.	Rural Districts.
1900 ... ..	3.8	3.3	4.9
1901 ... ..	3.5	3.1	4.2
1902 ... ..	3.5	3.0	4.5
1903 ... ..	3.3	2.9	4.2
1904 ... ..	3.5	3.1	4.2
1905 ... ..	3.5	3.1	4.3
1906 ... ..	3.7	3.2	4.4
1907 ... ..	3.7	3.0	4.6
1908 ... ..	3.4	3.1	4.0
1909 ... ..	3.3	2.8	4.2
Mean ... ..	3.5	3.1	4.3

#### INFECTIOUS DISEASES.

The cases of notifiable infectious disease in the Administrative County numbered 2,582. Of the above, 1,405 were notified in boroughs and urban districts and 1,177 in rural districts.

The attack rate per 1,000 of population in the Administrative County was 6.92, in the boroughs and urban districts 6.03, and in the rural districts 8.41.



The accompanying table indicates the nature and distribution of the cases notified:—

Sanitary districts.	Notifiable Diseases.									Total number notified.
	Small-pox.	Cholera.	Diphtheria.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing and Continued Fever.	Puerperal Fever.	
MUNICIPAL BOROUGHs—										
Berwick-on-Tweed ... ..	—	—	41	4	27	—	1	—	2	75
Morpeth ... ..	—	—	3	1	9	—	4	—	—	17
Wallsend ... ..	—	—	81	18	108	—	9	—	—	216
URBAN DISTRICTS—										
Alnwick ... ..	—	—	20	—	21	—	1	—	—	42
Amble ... ..	—	—	24	2	27	—	1	—	—	54
Ashington ... ..	—	—	39	18	46	—	21	4	1	129
Bedlingtonshire ... ..	—	—	17	10	30	—	12	2	1	72
Blyth ... ..	—	—	48	19	82	—	9	5	1	164
Cramlington ... ..	—	—	12	7	69	—	11	—	1	100
Earsdon ... ..	—	—	11	12	42	—	1	—	3	69
Gosforth ... ..	—	—	35	13	24	—	2	—	—	74
Hexham ... ..	—	—	10	3	8	—	—	—	—	21
Newbiggin-by-the-Sea ..	—	—	2	1	1	—	—	—	—	4
Newburn ... ..	—	—	54	15	84	—	6	—	—	159
Rothbury ... ..	—	—	4	4	1	—	—	—	—	9
Seghill ... ..	—	—	—	—	8	—	—	—	—	8
Weetslade ... ..	—	—	15	4	60	—	4	—	1	84
Whitley and Monkseaton ...	—	—	16	7	56	—	5	—	—	84
Willington Quay ... ..	—	—	13	3	8	—	—	—	—	24
RURAL DISTRICTS—										
Alnwick ... ..	—	—	39	12	61	—	2	—	—	114
Belford ... ..	—	—	3	8	5	—	—	—	—	16
Bellingham ... ..	—	—	2	5	17	—	—	—	—	24
Castle Ward ... ..	—	—	34	9	16	—	4	—	1	64
Glendale ... ..	—	—	7	5	26	—	—	—	—	38
Haltwhistle ... ..	—	—	8	2	35	—	1	—	—	46
Hexham ... ..	—	—	115	36	119	—	9	—	—	279
Morpeth ... ..	—	—	65	20	134	—	13	—	—	232
Norham & Islandshire ...	—	—	20	3	12	—	1	—	—	36
Rothbury ... ..	—	—	8	4	9	—	—	—	—	21
Tynemouth No. 1 ... ..	—	—	16	16	109	—	6	1	2	150
Tynemouth No. 2 ... ..	—	—	33	24	91	—	9	—	—	157
Totals ... ..	—	—	795	285	1345	—	132	12	13	2582

#### ZYMOTIC DISEASES.

The zymotic diseases which are generally notifiable are Small-pox, Scarlatina, Diphtheria, and Fevers (Typhus, Enteric, Continued, and Relapsing). The seven principal zymotic diseases, upon which the zymotic death rate is calculated, are the four just mentioned, and in addition Measles, Whooping Cough and Diarrhoea.

Three hundred and eighty-four deaths were caused by the seven principal zymotic diseases, being a decrease of 83 compared with the number registered in 1908. Of these deaths 293 took place in the urban, and 91 in the rural districts.

The three zymotic diseases which caused the greatest mortality were:—

Diseases.	Numbers in 1909.	Numbers in 1908.	Numbers in 1907.
Diarrhoea ... ..	164	217	88
Measles ... ..	69	20	105
Whooping Cough ... ..	69	136	68

As Diarrhoea, Whooping Cough and Measles are not generally notifiable, no information can be given as to the number of cases which occurred.

The following table shows the districts, urban and rural, in which the zymotic death rate was highest :—

Urban.	Death Rate.	Rural.	Death Rate.
Ashington ... ..	2·18	Tynemouth No. 2 ...	1·38
Wallsend ... ..	1·86	Norham and Islandshires...	0·99
Blyth ... ..	1·64	Hexham ... ..	0·85

The lowest death rates from zymotic disease are shown in the next table :—

Urban.	Death Rate.	Rural.	Death Rate.
Seghill ... ..	Nil.	Belford ... ..	} Nil.
Whitley and Monkseaton...	0·06	Rothbury ... ..	
Gosforth ... ..	0·45	Bellingham ... ..	
		Glendale ... ..	

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

	Death Rate.	Increase since 1908.	Decrease since 1908.
Administrative County ...	1·03	—	0·25
Urban districts ... ..	1·25	—	0·19
Rural districts ... ..	0·65	—	0·37
England and Wales ... ..	1·12	—	0·17

During the year under consideration the zymotic death rate showed an increase in 3 urban and 3 rural districts; in 16 urban and 9 rural districts the rate showed a decrease.

Table showing death rates per 1,000 from each of the 7 principal zymotic diseases for the 5 years ending 1909 :—

Diseases.	1905.	1906.	1907.	1908.	1909.	Increase 1908-1909.	Decrease 1908-1909.
Smallpox ... ..	0·01	0·002	Nil.	Nil.	Nil.	—	—
Scarlatina ... ..	0·10	0·06	0·045	0·008	0·045	0·037	—
Diphtheria ... ..	0·16	0·23	0·210	0·162	0·123	—	0·039
Fevers ... ..	0·09	0·11	0·030	0·088	0·051	—	0·037
Measles ... ..	0·25	0·18	0·290	0·050	0·185	0·135	—
Whooping Cough ...	0·11	0·32	0·190	0·370	0·185	—	0·185
Diarrhoea ... ..	0·48	0·60	0·240	0·590	0·439	—	0·151



## Cases of zymotic diseases notified from each district :—

District.	Number of cases notified.	Number of persons per 1000, attacked by zymotic diseases notified.*	Mortality rate per 1000 from zymotic diseases notified or ascertained.	Mortality rates.	
				Increase since 1908.	Decrease since 1908.
URBAN.					
Alnwick ... ..	42	6·2	0·88	—	0·14
Amble ... ..	52	8·6	0·50	—	0·16
Ashington ... ..	110	5·0	2·18	1·18	—
Bedlingtonshire ...	61	2·4	1·52	—	0·14
Berwick-on-Tweed, boro' of	69	5·1	0·59	—	0·97
Blyth ... ..	144	5·1	1·64	—	0·03
Cramlington ... ..	92	1·3	1·47	—	0·29
Earsdon ... ..	54	5·1	1·33	—	2·29
Gosforth ... ..	61	3·9	0·45	—	0·41
Hexham ... ..	18	2·1	0·12	—	0·35
Morpeth, boro' of ...	16	2·4	0·44	—	1·66
Newbiggin-by-the-Sea ...	3	1·0	1·04	—	0·11
Newburn ... ..	144	8·9	1·30	—	1·17
Rothbury ... ..	5	3·2	0·76	0·76	—
Seghill ... ..	8	3·1	—	—	0·90
Wallsend, boro' of ...	198	6·8	1·86	1·01	—
Weetslade ... ..	79	11·7	1·04	—	0·06
Whitley & Monkseaton.	77	5·0	0·06	—	0·35
Willington Quay ...	21	2·2	1·48	—	0·68
RURAL.					
Alnwick ... ..	102	7·9	0·70	—	0·08
Belford ... ..	8	1·5	—	—	0·19
Bellingham ... ..	19	3·1	0·16	—	0·50
Castle Ward ... ..	54	4·3	0·55	0·06	—
Glendale ... ..	33	3·7	0·22	—	0·23
Haltwhistle ... ..	44	4·5	0·30	—	0·84
Hexham ... ..	243	8·6	0·85	0·25	—
Morpeth ... ..	212	11·6	0·60	—	1·34
Norham & Islandshire ...	33	5·4	0·99	0·66	—
Rothbury ... ..	17	3·5	—	—	0·20
Tynemouth No. 1 ...	132	11·0	0·50	—	1·04
Tynemouth No. 2 ...	133	8·3	1·38	—	0·73

\* Exclusive of Measles, Whooping cough and Diarrhœa, the attack rate for which cannot be ascertained, owing to those diseases not being generally notified.

## CHOLERA.

No cases of Cholera occurred during the year.

## PLAGUE.

No cases were recognised in any part of the county.

## SMALL-POX.

No cases were notified during the year under review. One case was reported in each of the two previous years.



## CHICKEN-POX.

Chicken-pox was reported from nineteen (ten urban and nine rural) sanitary districts; the chief interest in connection with the disease is its resemblance to a very modified type of Small-pox.

This disease was the cause of school closure in the following districts for the times specified:—

In the Bedlingtonshire Urban District, Bedlington Colliery Infants (also for measles) 6 weeks; in the Earsdon Urban District, Murton Council (also for mumps) 5 weeks; in the Glendale Rural District, Chatton (4 weeks); in the Hexham Rural District, Acomb (3 weeks), Ninebanks (3 weeks).

## SCARLATINA.

Thirteen hundred and forty-five cases of Scarlatina were notified during the year (711 in the urban, and 634 in the rural districts), causing 17 deaths. The mortality from this cause in 1908 was 3, and in 1907 the deaths numbered 16. Fifteen of the deaths occurred in urban and 2 in rural districts.

The following table gives the comparative death rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·045	0·037	—
Urban districts ... ..	0·064	0·051	—
Rural districts ... ..	0·014	0·014	—
England and Wales ... ..	0·090	0·010	—

In urban districts the greatest number of cases occurred in Wallsend (108), Newburn (84), Blyth (82) and Cramlington (69).

In rural districts the greatest number of cases occurred in Morpeth (134), Hexham (119), Tynemouth No. 1 (109) and Tynemouth No. 2 (91).

The periods of the year during which Scarlet fever was most prevalent were the months of March, April, September, October, November and December.

The subjoined table gives, for the years 1900–1909, the number of persons per 1,000 living attacked by Scarlet fever, and the percentage of deaths of cases notified:—

Year.	Urban Districts.		Rural Districts.		Administrative County	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified.
1900	4·49	4·3	4·61	3·0	4·53	3·9
1901	5·41	3·9	5·94	2·2	5·58	3·4
1902	9·85	3·1	7·24	1·4	9·02	2·7
1903	4·36	7·2	21·42	1·4	9·78	3·1
1904	5·24	2·7	8·04	4·0	6·12	3·2
1905	3·37	3·0	4·60	2·3	3·85	2·7
1906	2·71	3·4	2·76	1·0	2·73	2·5
1907	1·74	2·3	3·08	1·7	2·22	2·0
1908	1·35	0·9	1·74	Nil.	1·50	0·5
1909	3·05	2·1	4·53	0·3	3·60	1·2
Mean.	4·34	3·6	6·30	1·8	5·03	2·8

The above-named disease was responsible for the closure of schools in the undermentioned districts for the times specified:—

In the Earsdon Urban District, Taylor Memorial (3 weeks); in the Alnwick Rural District, Newton-on-the-Moor (6 weeks); in the Norham and Islandshire Rural District, Crookham (7 weeks); in the Rothbury Rural District, Elsdon (5 weeks), Longframlington (4 weeks).



## MEASLES.

Sixty-nine deaths occurred from Measles, 63 of which were in the urban, and 6 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·18	0·13	—
Urban districts ... ..	0·27	0·23	—
Rural districts ... ..	0·04	—	0·01
England and Wales ... ..	0·35	0·13	—

It was found necessary to resort to school closure on account of the above-named disease in the undermentioned districts for the times specified:—

In the Ashington Urban District, Hirst (4 weeks); in the Bedlingtonshire Urban District, Cambois C. Infants (6 weeks), Bedlington Colliery Infants (also for chicken-pox) 6 weeks; in the Hexham Urban District, Hexham C. (4 weeks), and Hexham R.C. (4 weeks); in the Newbiggin Urban District, Newbiggin Schools (2 weeks); in the Newburn Urban District, Throckley (2 weeks); in the Willington Quay Urban District, Addison Potter Infants (3 weeks); St. Aidan's R.C. Infants (4 weeks); in the Alnwick Rural District, Glanton C. (3½ weeks); in the Glendale Rural District, Milfield (7 weeks), Wark (4 weeks), Wooler C.E. (5 weeks), Wooler Presbyterian (5 weeks); in the Castle Ward Rural District, Whalton P. (4 weeks); in the Hexham Rural District, Eltringham (3 weeks), Horsley (3 weeks), Mickley C. (5 weeks), Whittington (1 week), Chollerton (3 weeks), Haydon Bridge (3 weeks), Sandhoe (3 weeks), Halton Shields (3 weeks); in the Morpeth Rural District, Ellington (6 weeks), Tritlington (3 weeks), Hartburn (3 weeks), Meldon (2 weeks), Bothal C. of E. (1 week); in the Norham and Islandshire Rural District, Duddo (4 weeks), Holy Island (5 weeks), and in Tynemouth No. 2 Rural District, Bigges Main (1 week).

## MUMPS.

It was considered desirable to close schools on account of this disease in the following districts for the periods named:—

In the Earsdon Urban District, Holystone Council (2 weeks), Murton Council (also for chicken-pox) 5 weeks; in the Alnwick Rural District, Shilbottle (1 week), and in the Rothbury Rural District, Holystone C. of E. (4 weeks).

## INFLUENZA.

The above-mentioned disease was the cause of school closure in the following districts:—

In the Castle Ward Rural District, Belsay Council (1 week); in the Hexham Rural District, Simonburn (2 weeks).

## TYPHUS FEVER.

No cases of this disease were reported in the county during the year under consideration.

## ENTERIC FEVER.

One hundred and thirty-two cases of Enteric fever were notified during the year, resulting in 17 deaths. (The mortality from this cause in 1908 was 28; and in 1907, 14.) Of these deaths 13 occurred in the urban, and 4 in the rural districts.



The following table shows the comparative rates :—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·045	—	0·025
Urban districts ... ..	0·055	—	0·035
Rural districts ... ..	0·028	—	0·022
England and Wales ... ..	*	—	—

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

Of the 132 cases notified or ascertained during the year, 87 occurred in the urban and 45 in the rural districts.

The number of cases notified per 1,000 living was 0·35. In the boroughs and urban districts the greatest number of cases occurred in Ashington (21), Bedlingtonshire (12), and Cramlington (11).

In the rural districts the greatest number of cases occurred in Morpeth (13), Hexham (9) and Tynemouth No. 2 (9).

The periods of the year during which Enteric fever was most prevalent were the months of April (13 cases), August (17 cases), September (27 cases), October (13 cases), and November (16 cases).

The subjoined table gives, for the years 1900–1909, the number of persons per 1,000 attacked by Enteric fever, and the percentage of deaths occurring among the cases notified :—

Year.	Urban Districts.		Rural Districts.		Administrative County.	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified
1900	0·82	21·5	0·56	19·4	0·75	21·0
1901	1·96	17·7	1·37	19·1	1·79	18·1
1902	0·65	16·2	0·63	33·7	0·64	21·7
1903	0·51	23·9	0·43	25·0	0·48	24·2
1904	0·56	16·8	0·45	11·6	0·50	15·4
1905	0·76	16·8	0·47	6·3	0·64	13·8
1906	0·70	20·1	0·49	10·4	0·62	17·1
1907	0·33	15·2	0·22	9·6	0·29	13·5
1908	0·63	14·6	0·49	10·1	0·58	13·2
1909	0·37	14·9	0·32	8·8	0·35	12·8
Mean.	0·74	18·1	0·54	16·7	0·67	17·7

#### DIPHTHERIA AND MEMBRANOUS CROUP.

Seven hundred and ninety-five cases were notified during the year (445 cases from urban, and 350 from rural districts.)

The diseases (one or both of them) were notified or ascertained from the following 30 districts (30 districts in 1908) :—

*Boroughs.*—Berwick-on-Tweed, Morpeth, and Wallsend.

*Urban districts.*—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Weetslade, Whitley and Monkseaton, and Willington Quay.

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



Forty-six deaths occurred from the above diseases during the year; 29 deaths were registered in the urban, and 17 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·123	—	0·039
Urban districts ... ..	0·124	—	0·036
Rural districts ... ..	0·121	—	0·045
England and Wales ... ..	0·140	—	0·010

The subjoined table gives, for the years 1900–1909, the number of persons per 1,000 living attacked by Diphtheria and Membranous Croup, and the percentage of deaths among cases notified:—

Year.	Urban Districts.		Rural Districts.		Administrative County.	
	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified	Attack rate per 1,000 living.	No. of deaths per cent. of cases notified
1900	0·62	20·8	0·55	14·0	0·60	18·8
1901	0·53	22·0	0·79	14·2	0·61	18·7
1902	0·41	20·7	2·23	11·6	0·91	14·1
1903	0·43	26·6	2·45	18·0	1·07	20·4
1904	0·54	16·1	1·22	15·6	0·75	15·9
1905	0·68	22·3	1·33	16·3	0·93	18·9
1906	1·64	17·6	1·41	9·9	1·55	14·8
1907	2·42	9·4	1·87	9·8	2·20	9·5
1908	2·16	7·4	2·86	5·8	2·43	6·6
1909	1·91	6·5	2·50	4·8	2·13	5·7
Mean.	1·07	13·4	1·74	10·9	1·31	12·2

School closure was found necessary on account of the above-named disease in the undermentioned districts for the times specified:—

In the Willington Quay Urban District, Stephenson Council (3½ days); in the Alnwick Rural District, Longhoughton (1½ weeks); in the Halt-whistle Rural District, Beltingham (3 weeks), and in the Hexham Rural District, Haydon Bridge (5 weeks).

#### WHOOPING COUGH.

Sixty-nine deaths were caused by Whooping cough, 56 of which took place in the urban, and 13 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·185	—	0·185
Urban districts ... ..	0·240	—	0·170
Rural districts ... ..	0·092	—	0·208
England and Wales ... ..	0·200	—	0·070

Recourse to school closure owing to the above-named disease was considered necessary in the undermentioned districts for the times specified:—

In the Glendale Rural District, Hazelrigg (1 week); in the Hexham Rural District, Sinderhope (4 weeks), Corbridge Infants (4 weeks), Haydon Bridge Infants (3 weeks); in the Norham and Islandshires Rural District, Holy Island (2 weeks), Cornhill C. of E. (2 weeks), and in the Rothbury Rural District, Alnham (8 weeks) and Netherton, North Side (2 weeks).



## PUERPERAL FEVER.

This disease caused 12 deaths during the year, as compared with 7 in 1908. Nine of these deaths occurred in the urban and 3 in rural districts.

The following table indicates the comparative rates:—

	Death Rate. per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·032	0·010	—
Urban districts ... ..	0·038	0·021	—
Rural districts ... ..	0·021	0·013	—

## ERYSIPELAS.

Erysipelas caused 6 deaths during the year; 5 in the urban, and 1 in the rural districts.

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

	Death Rate per 1,000.	Increase since 1903.	Decrease since 1908.
Administrative County ... ..	0·016	0·005	—
Urban districts ... ..	0·021	0·008	—
Rural districts ... ..	0·007	—	—

## DIARRHŒA.

The number of deaths from this cause was 164, as compared with 217 in 1908, and 88 in 1907. Of these deaths 116 occurred in urban, and 48 in rural districts:—

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	0·44	—	0·15
Urban districts ... ..	0·49	—	0·21
Rural districts ... ..	0·34	—	0·08
England and Wales ... ..	0·28	—	0·22

## TUBERCULOSIS.

The following table shows the deaths and death rates arising from all forms of Tuberculosis in the county for the years 1900–1909:—

Year.	Phthisis.		Other tubercular diseases.		Total deaths from Tuberculosis.	
	Deaths.	Death Rate per 100,000 living.	Deaths.	Death Rate per 100,000 living.	Deaths.	Death Rate per 100,000 living.
1900 ...	537	138	244	62	781	200
1901 ...	495	125	280	71	775	198
1902 ...	498	125	240	60	738	185
1903 ...	485	119	323	79	808	198
1904 ...	490	117	317	76	807	193
1905 ...	344	102	239	71	583	173
1906 ...	362	104	208	60	570	164
1907 ...	355	100	197	55	552	155
1908 ...	344	95	220	60	564	155
1909 ...	377	101	207	55	584	157

Of the 584 deaths caused by Tuberculosis 388 occurred in boroughs and urban districts (population 232,803), and 196 in rural districts (population 139,946).



## PHTHISIS.

Three hundred and seventy-seven deaths were caused by this disease in the administrative county during the year, distributed as follows:—246 in the boroughs and urban districts (with a population of 232,803), and 131 in rural districts (with a population of 139,946). The number of deaths in 1908 was 344 and in 1907, 355.

The comparative rates are shown in the following table:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	1·01	0·06	—
Urban districts ... ..	1·05	0·08	—
Rural districts ... ..	0·93	0·02	—
England and Wales ... ..	*	—	—

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

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

Urban Districts.	Phthisis Death Rate.	Rural Districts.	Phthisis Death Rate.
Alnwick ... ..	2·05	Bellingham ... ..	1·33
Morpeth ... ..	1·79	Norham & Islandshire	1·32
Hexham ... ..	1·41	Hexham ... ..	1·17

The three lowest were recorded as under:—

Urban Districts.	Phthisis Death Rate.	Rural Districts.	Phthisis Death Rate.
Newbiggin ... ..	Nil.	Alnwick ... ..	0·47
Rothbury ... ..		Haltwhistle ... ..	0·51
Seghill ... ..		Tynemouth No. 2 ...	0·56
Amble ... ..	0·33		
Whitley and Monkseaton	0·39		

The diagram on page 25 indicates the variations in the death rates from Phthisis and from all tubercular diseases for the years 1893-1900 and 1900-1909 respectively.

The only provision in the county for Sanatorium treatment of Tuberculosis is at Barrasford and at Stannington. At Barrasford there is accommodation for fifty patients over 16 years old suffering from Phthisis, and at Stannington fifty Phthisical patients, under 16 years old, can be admitted. At the latter institution there will also, in a short time, be thirty beds for children under 16 years of age suffering from Tubercular disease other than Phthisis. The average number of deaths from Phthisis during the last five years in \*Newcastle has been 385 and in the administrative county 356. Since probably three times the above number are suffering from Phthisis, i.e. more than 2,000 patients per annum in all, it is evident that the provision for Sanatorium treatment is very inadequate.

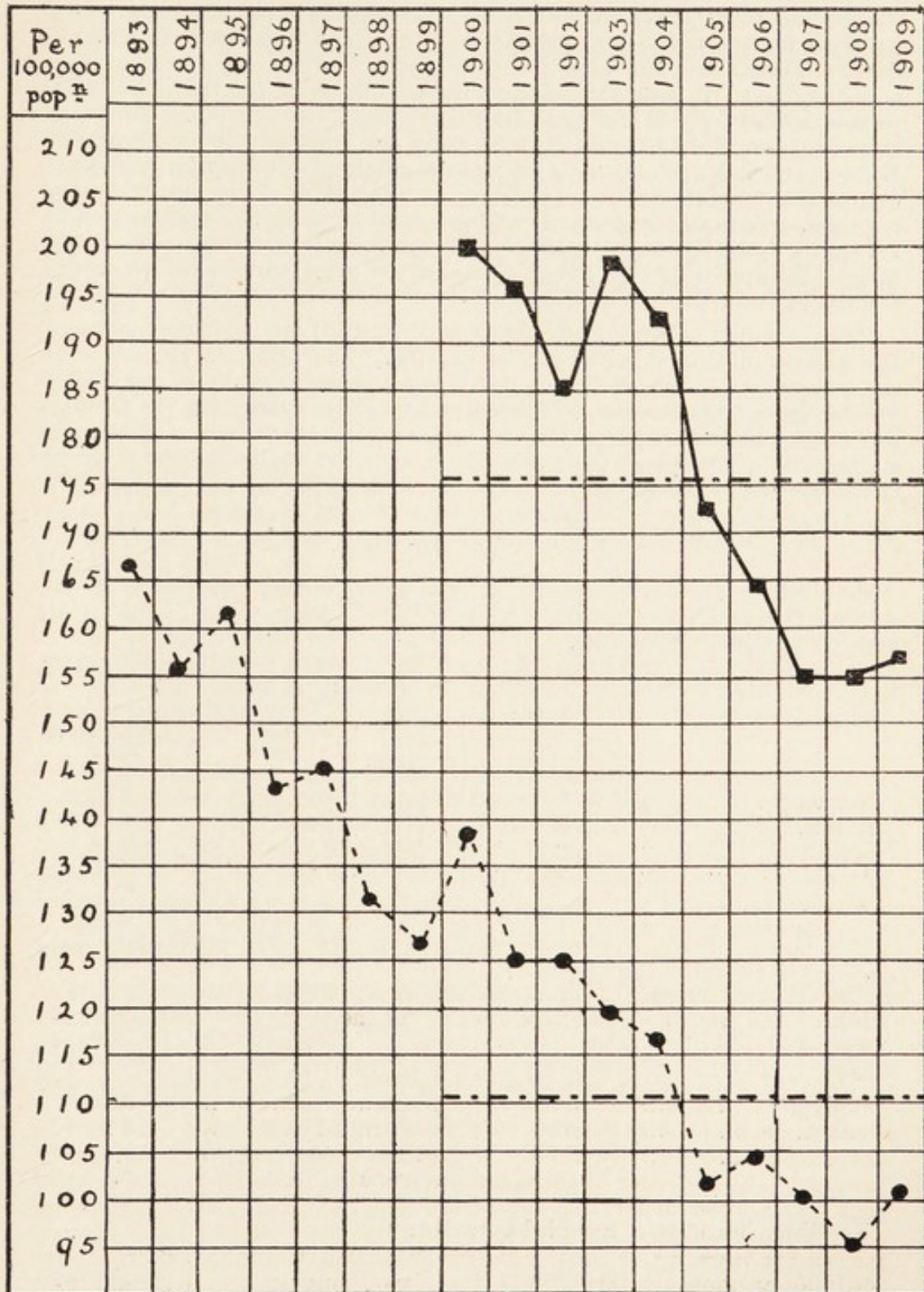
Though the deaths from Consumption in the administrative county during the last few years have averaged 100 per 100,000, which is more than all the

\* The Newcastle Corporation have no sanatorium for the treatment of Phthisical patients, but at present take twenty beds in the sanatorium at Barrasford.



## ADMINISTRATIVE COUNTY.

Death rates from Phthisis 1893 to 1909 and from all Tubercular diseases 1900-1909.



Tuberculosis ————●———●——— Phthisis ●- - - -●- - - -  
 Average Rates for ten years 1900-09 - - - - -



deaths arising from Scarlet Fever, Diphtheria, Enteric Fever, Measles, and Whooping Cough, which only averaged 72 per 100,000 during the same period, it appears that the general public evince but little interest in the reduction of the mortality from this disease. Millions have been spent in the suppression of Pleuro Pneumonia, Foot and Mouth disease and Swine Fever, and in providing hospitals for the isolation of patients suffering from Small-pox, Diphtheria, Scarlet Fever, &c., but very little provision is made for the education and treatment of patients suffering from Phthisis or for the isolation of persons in an advanced and more infectious stage. Both the institutions in this county to which allusion has been made are practically wanting in any Endowment Fund, consequently all patients admitted must pay for the actual cost of their maintenance and, in addition, their share of the establishment expenses. A moderate endowment fund would enable the Committees to reduce the weekly charge for maintenance and treatment and enable many more consumptive persons to make use of the great advantages which are secured by residence in a sanatorium.

The difficulties of dealing effectually with Phthisis are no doubt enormous, the greatest difficulty being that of expense. The principal requirements are compulsory notification, in many cases better housing conditions, sanatorium accommodation, assistance in necessitous cases for the families during the absence of the father or mother in a sanatorium, a pure milk supply, and education of the public as regards the conditions which favour and reduce the development and spread of the disease.

#### RESPIRATORY DISEASES.

Respiratory diseases (exclusive of Phthisis), caused 624 deaths in the Administrative County during the year, 425 taking place in the urban and 199 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Increase since 1908.	Decrease since 1908.
Administrative County ... ..	1·67	—	0·17
Urban districts ... ..	1·82	—	0·11
Rural districts ... ..	1·42	—	0·28

The three highest respiratory death rates per 1,000 population were recorded in the following districts:—

Urban Districts.	Respiratory Death Rate.	Rural Districts.	Respiratory Death Rate.
Newbiggin ... ..	3·82	Belford ... ..	2·28
Blyth ... ..	2·99	Tynemouth No. 2 ... ..	1·76
Morpeth ... ..	2·69	Hexham ... ..	1·74
		Tynemouth No. 1 ... ..	

The three lowest were recorded as under:—

Urban Districts.	Respiratory Death Rate.	Rural Districts.	Respiratory Death Rate.
Rothbury ... ..	Nil.	Rothbury ... ..	0·62
Whitley & Monkseaton ... ..	0·32	Morpeth ... ..	0·82
Hexham ... ..	0·94	Castle Ward ... ..	1·03



### FACTORY AND WORKSHOP ACT, 1901.

The number of factories and workshops is given in 26 of the annual reports; in 5 it is not given.

In 2 urban districts it is stated that there are no workshops!

The number of defects found, and whether remedied or not, is given in 21 cases only.

In one report the only information given is that the workshops, &c., were visited and found satisfactory.

In two cases only is the information given as to whether Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force and in only one is there any statement as to the standard of sanitary accommodation adopted.

In one report only are particulars given of homeworkers, and reference to the existence, or non-existence, of underground bakehouses is only found in two annual reports.

### NOTIFICATION OF BIRTHS ACT.

In only two districts was this Act in force up to the end of the year under review. In each of the annual reports relating to these districts, the medical officer reported on the measures taken for the repression of infant mortality, on the appointment of health visitors, on the work done by them during the year and on the benefit which resulted by adopting this Act. In other districts medical officers have strongly recommended the adoption of the Act by the sanitary authority, but, up to the end of the year, without any action having been taken.

### MIDWIVES ACT, 1902.

The county council continued to carry out the obligations of the local supervising authority through the Midwives Committee. The supervision of midwives was carried out, as during the previous year, under the direction of the executive officer of the Midwives Committee, by Miss White, the Inspector of midwives.

Most of the trained midwives practising in the Administrative county were working under local nursing organisations, the majority of which were affiliated to the Northumberland County Nursing Association, and a few were practising on their own account. The names of ten trained midwives were added to the roll during the year; of these, seven were trained in general and maternity nursing through scholarships granted by the Education Committee of the county council, and three received their training through funds provided by the County Nursing Association.

The trained midwives practising in the county increased from 81, during the year 1908, to 84 in 1909, and the untrained women on the roll decreased from 21 in the former year to 20 in the latter; thus there was a decrease of one untrained, and an increase of three trained midwives, making a total of 104 at the end, as compared with 102 at the commencement of the year 1909.

Notices of intention to practise were received from all certified midwives practising in the administrative county.

Two thousand two hundred and three confinements were attended by the 84 trained midwives (an increase of 362 compared with the previous year) and 550 (34 less than during 1908) by the 20 untrained midwives. The total of 2,753 confinements attended by midwives is equivalent to nearly 26 per cent. of all the births registered in the county, therefore about 74 per cent. of the total confinements were attended by medical practitioners or uncertified women.

Still-births occurring in the practice of midwives numbered 71: of these 12 (2.1 per cent.) were in the practice of untrained, and 59 (2.6 per cent.) occurred in the practice of trained midwives.



In surprisingly few (10) cases was it necessary to send for medical help, and although no satisfactory provision had been made generally for the payment of medical practitioners sent for to assist midwives, no great difficulty appears to have been experienced in obtaining their help when needed.

As far as is known, no case of Puerperal Fever occurred during the year in the practice of midwives, and no mother or newly-born child died without a medical practitioner being in attendance.

One midwife (untrained) was reported to the Central Midwives Board for misconduct, with the result that her name was removed from the roll.

Four hundred and forty visits of inspection were paid by the inspector of midwives, who reported that in more than 90 per cent. of the confinements attended by midwives the mothers were able to suckle their infants, and that all the midwives working in the county were honestly doing their best to observe the rules of the Central Midwives Board and to obey the instructions of the local supervising authority,

The amendments in the Midwives Act, and in the rules of the Central Midwives Board, mentioned in the annual report for 1908, continue to appear very desirable, e.g.:—

that local supervising authorities should have power to suspend a midwife temporarily for misconduct, and not solely as at present for the purpose of preventing the spread of disease;

that midwives should be required to enter in their case books particulars of every confinement attended by them to its termination, even if a medical practitioner had been engaged and sent for;

that the possession of a certificate by a woman whose name is not on the roll should be a punishable offence;

that a penalty should be attached for wilfully making any false entry in a midwife's case book;

that more satisfactory provision should be made for the payment of medical practitioners summoned to attend a woman or newly-born child under the care of a midwife;

that a clear definition of the terms "to practise as a midwife," "acts as a midwife," and "under the direction of a qualified medical practitioner" should be given.

#### PUBLIC HEALTH ACTS AMENDMENT ACT 1890.

This Act has been adopted, wholly or in part, by the three borough councils, by eleven urban and eight rural district councils. It forbids the erection of buildings for human habitation on polluted sites and makes provision for the preservation of sewers from obstruction or injury by chemical or other refuse. It gives amended powers as regards bye-laws with reference to the building of houses, the construction of floors, hearths and staircases, the height of rooms intended for human habitation, the paving of yards and open spaces in connection with houses, the provision of adequate approaches to houses for the purpose of removing refuse, 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 streams by solid refuse or injurious matter and the registration and regulation of common lodging houses, etc. It provides for making bye-laws relating to closets and drainage applicable to old as well as new houses. It also gives the sanitary authority power to sweep and clean any private court or passage leading to the back of several buildings separately occupied not effectively swept and kept clean by the occupiers, and to recover the expenses from the latter, to specify the period for which a licence granted for a slaughter house shall remain in force, and to revoke the licence if the occupier is convicted for exposing for sale, or having in his possession, unwholesome meat.



### THE PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.

This is an adoptive Act and may be adopted wholly or in part by both urban and rural sanitary authorities, with the consent of, and under orders issued by, the Local Government Board.

Under this Act local authorities are able to obtain *inter alia*, greatly increased powers in sanitary matters and to adopt numerous clauses relating to buildings, streets, sewers, milk supplies, common lodging houses, slaughter houses and recreation grounds, which in the past were only obtainable by promoting costly local Acts.

Among the above-mentioned provisions are some which are particularly applicable to housing and other conditions in this county and which, if put in force, would be of inestimable value to any local authority desirous of remedying the many unsatisfactory conditions which exist. Special mention may be made of—

*Sec. 25*, under which the paving and drainage of the yards of all dwelling houses may be required where such conditions are absent or unsatisfactory, and the work may be done by the local authority at the cost of the owner in case the latter does not comply with the local authority's requisitions;

*Sec. 35*, which extends the definition of "nuisance" for the purposes of the Public Health Act, 1875, so as to include insufficiency or defective conditions of spouting, etc., which are the cause of dampness in buildings;

*Sec. 39*, which gives increased powers for securing the abolition of privy ash-pits and substitution by water-closets, also the provision of additional sanitary accommodation in buildings where it is insufficient;

*Sec. 45*, giving the officers of the local authority power to test drains and to require alterations in cases where they are found to be defective;

*Sec. 46*, under which disused wells, cesspools, ash-pits, etc., may be filled up or removed, and

*Sec. 49*, under which additional powers are given for securing provisions for the effectual drainage of waste water and power to provide sinks where such action appears desirable.

The clauses dealing with infectious diseases give the medical officer of the local authority the power to exclude children from school attendance when suffering from infectious disease *and also when they have been exposed to infection* and it is an offence to allow such children to resume school attendance until certified by the medical officer that, in his opinion, such children may attend without undue risk of communicating the disease to others (*Sec. 57*).

Under the provisions of *Sec. 61* a local authority may, on the certificate of the medical officer of health enforce the isolation of "contacts," a most desirable precautionary measure in the case of Small-pox and one which, previously, could not be legally enforced.

The clauses relating to common lodging houses give a local authority the power to limit the registration of lodging house keepers to terms not exceeding one year but subject to renewal, and also power to cancel registration when a keeper is convicted of any offence under the Public Health Acts or the bye-laws made thereunder.

In nine urban districts, parts or sections of the above Act have now been adopted. No advantage has been taken in ten urban districts nor in any rural district of the increased powers given under this Act.

### PRIVATE STREET WORKS ACT, 1892.

This Act has been adopted in six urban districts, and in four rural districts the Local Government Board have invested the local authority with powers under the Act as regards specified streets.



## INFECTIOUS DISEASES (PREVENTION) ACT 1890.

This Act may be adopted either as regards all or any of its sections by any extra-metropolitan sanitary authority. The councils of twelve urban and five rural districts in the administrative county have adopted the above Act, and are thus enabled to deal in a more satisfactory manner than formerly with the disinfection of infected houses and clothing, and provide temporary shelter for families who have to vacate their houses in order that disinfection may be properly carried out; to deal with milk supplies liable to spread infectious diseases; to enforce the prompt interment of bodies of persons having died from infectious disease; to detain, in hospital, 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. The Act also forbids the throwing of infected rubbish, etc., into any receptacle for refuse, without previous disinfection.

## EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1907.

The scheme set on foot during the summer of 1908 for the medical inspection of children attending public elementary schools was carried out during the second half of that year, and also during the year under consideration. Full details of the work accomplished, up to the end of the year appear in the annual report of the school medical officer.

## CHILDREN ACT, 1908.

This Act, which came into force on April 1st. 1909, is divided into six parts.

PART I. deals with infant life protection and requires notice to be given to the local authority by any person who undertakes, for reward, the nursing of any infant under seven years for periods exceeding forty eight hours. Power is also given to local authorities (*i.e.* poor law guardians, except in the case of the county and city of London) to appoint infant protection visitors who are given right of entry to premises where infants are received and power to remove the latter in cases where such premises are overcrowded, dangerous or insanitary. It is, further, an offence for any person receiving such infant to insure its life and for an insurance company etc., to knowingly issue a policy on the life of any infant given out to nurse.

PART II. deals with the prevention of cruelty to children and young persons. Under Sec. 12 (1), the following constitutes an "offence of cruelty," *i.e.*, any person (over sixteen) having custody of a child, who neglects or causes such child to be neglected in a manner likely to cause such child unnecessary suffering or injury to his health (including injury to or loss of sight or hearing or limb or organ of the body or any mental derangement) shall, on conviction, be liable to a fine or imprisonment.

NOTE.—Any person legally liable to maintain a child or young person shall be deemed to have neglected him in a manner likely to cause injury to his health if he fails to provide adequate food, clothing, medical aid, or lodging for the child or young person, or if, being unable otherwise to provide such food, clothing, medical aid or lodging, he fails to take steps to procure the same to be provided under the Acts relating to the relief of the poor (sec. 12 (1)).

Other offences are, the "overlying of children under three years in cases where the person in bed with the child was under the influence of drink, the exposure of children to the risk of burning by allowing a child under seven years to be in any room containing an open fireplace not sufficiently protected, *e.g.* by a fire guard.

PART III. deals with juvenile smoking and makes it an offence punishable by fine, to sell cigarettes, cigarette papers, tobacco, tobacco mixtures or tobacco leaf to any person under the age of sixteen, whether for his own use or not. Power is also given to police constables, and park



keepers in uniform, to seize and search for cigarettes, etc., in the possession of young persons found smoking in any public place.

PART IV. deals with reformatory and industrial schools and contains many important provisions including in Section 58 an enumeration of the circumstances under which proceedings may be taken with a view to securing orders for sending children to such schools.

PART V. deals with juvenile offences and provides for the establishment of juvenile courts of summary jurisdiction.

PART VI. contains miscellaneous and general provisions amongst which may be mentioned (1) the prohibition of vagrants from habitually taking children of school age with them in their wanderings and thus preventing them from receiving efficient elementary education, (2) the offence of giving any intoxicating liquor to a child under five years except under medical direction or in case of illness, (3) the exclusion of children under fourteen years from bars of licensed premises, (4) the provisions relating to safety in the case of buildings where children's entertainments are held, (5) the powers given to local education authorities to examine and cleanse the person or clothing of verminous children attending any public elementary school on the default, after notice, of the parent or guardian, and, if the latter allow the child to get into such a condition again, to take summary proceedings against such parent or guardian.

#### SALE OF FOOD AND DRUGS ACTS.

The samples taken for analysis under the Sale of Food and Drugs Acts during the year, the result of the analyses and the percentage of samples of each article adulterated are shown in the following table:—

No. of Samples taken.	Description of Article.	Result of Analysis.	Percentage of Samples Adulterated.	Prosecutions.	Convictions.
79	Milk ... ..	18 Adulterated ... ..	22·7	13	9
53	Whisky ... ..	5 " ... ..	9·4	3	2
23	Butter ... ..	2 " 1 doubtful	8·6	2	2
9	White Pepper...	Genuine ... ..	—	—	—
9	Jams ... ..	1 Adulterated ... ..	11·1	—	—
7	Gin ... ..	Genuine ... ..	—	—	—
7	Vinegar ... ..	" ... ..	—	—	—
5	Coffee ... ..	1 Adulterated ... ..	20·0	—	—
5	Ground Ginger ...	Genuine ... ..	—	—	—
4	Cream ... ..	" 3 doubtful	—	—	—
4	Rice ... ..	Genuine ... ..	—	—	—
4	Lard ... ..	" ... ..	—	—	—
4	Brandy... ..	" ... ..	—	—	—
3	Olive Oil ... ..	" ... ..	—	—	—
3	Arrowroot ... ..	" ... ..	—	—	—
3	Rum ... ..	1 Adulterated ... ..	33·3	1	1
3	Sauces (Condiments)...	Genuine ... ..	—	—	—
3	Corn Flour ... ..	" ... ..	—	—	—
2	Skimmed Milk ...	1 Adulterated ... ..	50·0	—	—
2	Camphorated Oil ...	Genuine ... ..	—	—	—
2	Sugar ... ..	" ... ..	—	—	—
2	Ground Cassia ...	" ... ..	—	—	—
1	Cheese ... ..	" ... ..	—	—	—
1	Baking Powder ...	" ... ..	—	—	—
1	Cream of Tartar ...	" ... ..	—	—	—
1	Milk Chocolate ...	" ... ..	—	—	—
1	Preserved Fruit ...	" ... ..	—	—	—
1	Haricot Beans ...	" ... ..	—	—	—
1	Tapioca ... ..	" ... ..	—	—	—
243	Total Samples taken...	29 Adulterated, 4 doubtful	11·9	19	14



## DAIRIES, COWSHEDS AND MILKSHOPS.

In twenty-nine of the annual reports (seventeen for boroughs and urban districts, and twelve for rural districts) some mention was made of the condition of the above or of the steps taken to secure the observance of statutory and other provisions which apply to these premises. In eleven of the reports it is recorded that various improvements were effected in connection with insufficient or defective drainage, overcrowding, lime-washing, etc. and dirty utensils; several insanitary cowsheds were closed. In only two annual reports was allusion made to the need for structural alterations to cowsheds and only one medical officer reported insufficient water supply for these premises, although numerous examples exist in the administrative county of cowsheds in which one or more of the conditions alluded to are far from satisfactory.

In one district the whole of the dairy cows were subjected to inspection, and three animals found to be suffering from Tuberculosis were destroyed. In another district the owner of two animals similarly effected undertook to isolate them and promised that the milk would not be used for human food. The milk supply from one dairy was temporarily suspended under the order of the local authority, in consequence of an outbreak of infectious disease on the premises.

The principal requirements to which allusion is made in the various reports are the necessity for improved drainage, paving of floors, lighting and more frequent limewashing. Reference is also made in several reports to the need for the periodical testing of dairy cows and the bacteriological examination of milk supplies with a view to the detection of tuberculous animals as the first step towards securing a milk supply free from the taint of Tuberculosis.

The importance of securing a pure and clean milk supply is recognised by all sanitarians but, apparently, not to any great extent, by the general public. Though most people must be aware of the amount of dirt (chiefly cow manure) which settles to the bottom of the vessel into which milk is received by householders, and though some are realising that a considerable proportion of milk cows are tuberculous, that they give tuberculous milk, and that such food is not the best nourishment, either for a young child or for an invalid, yet there is a general insistent demand for the supply of clean milk from healthy cows. Until such a demand is made, it is to be feared that many milk producers will continue to supply milk obtained under most unhygienic conditions, and that many young children and invalids will continue to be fed upon milk about one third of which, as far as can be ascertained, contains the germs of Tuberculosis.

To ensure a supply of clean milk, from healthy cows, various legislative measures have been proposed, but this desideratum could be obtained with comparative ease if producers would adopt the necessary precautions against the distribution of unwholesome milk, and the results would be the supply of *pure* milk to the public and the elimination of Tuberculosis from dairy cattle.

The necessary measures for securing the above results are, chiefly, improved ventilation and lighting of cowsheds, greater cleanliness of cows, of cowsheds and of milkers, of milking methods and milk distribution, submitting all milch cows to the Tuberculin test and the separation of all reactors from the herd. While a minimum cubic air space and, which is of still greater importance, a minimum floor space per cow is absolutely necessary, the *ventilation* of cowsheds is of still greater importance, since a shed providing say 600 cubic feet of air space and about sixty square feet of floor space per cow, with efficient ventilation, would be far healthier than one in which 1,000 cubic feet of air space are provided and every means of ventilation tightly closed. Most cowkeepers, however, are firmly impressed with the idea that cows must be kept very warm or their yield of milk will fall, and a large number of cows are, in



consequence, compelled to breathe and rebreathe an atmosphere which would not be tolerated in any second class horse stable. During the winter the cowshed with every opening to the external air tightly closed and sacking hung over the door is no uncommon sight, but it is a condition most conducive to the spread of Tuberculosis. In the midland and southern counties, herds of milch cows have been kept at grass night and day, during the whole winter, without any injury either to the yield or quality of their milk, and though the climate in the north is much more rigorous than in the southern counties, the above experiments prove that it is not necessary for milch cows to be kept in a heated atmosphere. Also, in Northumberland, a few cowsheds are to be found with riding roofs affording a permanent opening along the whole length of the ridge in addition to other openings, the former being never closed night or day, winter or summer, and at least two have been met with in which an open space of about 10 inches wide is left along the whole length of the shed, immediately below the wall plate behind the cows, this air space being never closed, even during the roughest weather. Adequate lighting is necessary, not only that cleanliness may be made possible, but for the general well-being of the cows.

When considering Tuberculosis, adequate lighting and ventilation are especially important, since the germ of Tuberculosis is rendered inert by free exposure to light and air. The objection most commonly made to increased cleanliness of cows, cowsheds and milking methods is that it increases expense. The slight extra cost could be very much more than met if milk producers would agree among themselves to deliver milk once a day only. The saving in expense would be very considerable, and additional time would be available for ensuring more cleanly conditions of milk production. It is as easy to take the quantity required for 24 hours as for 12 hours. If milk will not keep 24 hours after it is delivered to the householders, there is something wrong, either in the milking, the milk vessels, the distribution or the storage.

The elimination of Tuberculosis from dairy herds is a matter of great difficulty since, at present, no assistance is given, by the State, to the farmer who, for the benefit of the general public as well as for his own advantage, may wish to obtain a herd free from this disease. The necessary steps to bring about this end are, mainly, as follows:—

1. The periodical testing of the whole herd, with Tuberculin, and the isolation, in a separate building, of all animals which react.
2. Testing with Tuberculin, all fresh cows before their admission to milk containing the germs of Tuberculosis.
3. The removing of its calf, directly it is calved, from every cow that has reacted to the Tuberculin test, and rearing the calf upon milk free from Tuberculosis.

In the case of a milch cow reacting, she should be immediately dried off, since it has been abundantly proved, both in England and abroad, that a cow, in which no disease of the udder can be discovered, can give milk containing the germs of Tuberculosis.

If the above measures were universally carried out, the consumption of tuberculous milk would quickly cease, to the great advantage of the consumer and, instead of 30 to 50 per cent. of milch cows being tuberculous, Tuberculosis among cattle would be stamped out to the great advantage of the stock keepers.

The adoption of the above measures, in a considerable number of herds, has been carried out, both in Denmark and this country, with complete success, but their universal adoption is surrounded by many difficulties, *e.g.*, many stock keepers do not possess a separate building in which to isolate the reactors; additional cows must be purchased to replace those removed from the herd, and every dairy farmer has not the



spare capital with which to meet the additional expenditure required; in the case of a small dairy farmer keeping say three or four cows, it is quite possible that all might be found to be tuberculous, either in an incipient or in a more advanced stage.

In one urban district the model regulations of the Local Government Board under the Dairies, Cowsheds and Milkshops Orders were adopted and came into force during the year under review. Regulations under the above-mentioned Orders, but varying in many instances as regards stringency and detail, have been adopted in all the boroughs and urban districts, and in six rural districts. In six rural districts no regulations are in force.

#### RIVERS POLLUTION PREVENTION ACTS.

The Property and Sanitation Committee in February adopted the report of a sub-committee dealing with the administration of the Rivers Pollution Prevention Acts and resolved that the report "be laid before the County Council with an intimation that this Committee are of opinion that the report from paragraph 4 (4) to the end appears to indicate a satisfactory method of dealing with most of the questions affecting the nature and sources of pollution." This report was subsequently adopted by the County Council.

*River Tyne.*—Communications were received in September and November respectively from the Salmon and Trout Association and the Tyne Salmon Conservancy Board complaining of alleged injury to the fisheries by road dressings and by the discharge of crude or imperfectly treated sewage at many points. On consideration of the above complaints the Property and Sanitation Committee instructed the county medical officer to prepare a report on the pollutions of the rivers Tyne, North Tyne, South Tyne, and their tributaries.

*Borough of Morpeth.*—The medical officer of health in his annual report states that no instances of river pollution were now known to exist in the borough.

*Amble Urban District.*—Attention is drawn in the medical officer's report to the need for further action for preventing pollution of the Gut by sewage and also by waste from the Gas Works.

*Ashington Urban District.*—Pollution of the Haydon Letch and River Lyne, which has been the subject of several reports—1897, 1900, 1904, 1907, 1908—was again considered in consequence of complaints as to injury to stock having again been experienced. Two further reports were prepared by the county medical officer and a sub-committee was appointed to receive deputations from the Ashington Urban District Council, the Morpeth Rural District Council and the local farmers affected.

After duly considering the report of the sub-committee, the Committee resolved that the Ashington Urban District Council be requested to fence off the Letch in such a manner as will prevent cattle gaining access to it in fields on the New Moor and East Moor farms.

*Bedlingtonshire Urban District.*—The laying of a new sewer from Doctor Pit Rows to Bank Top was almost completed; this will result in the almost complete removal of the pollution of streams by sewage from the town of Bedlington.

A scheme for providing a joint sewer with outfall to tidal water was considered with a view to obviating the pollution of streams at Netherton and other townships; no definite course of action had, however, been decided upon at the end of the year and the gross pollution of Netherton Letch, Green Letch and the Willow Burn still continued.

*Cramlington Urban District.*—The gross pollution of the Horton Burn by sewage from over 300 houses at Shankhouse was still a matter requiring the attention of the local authority.



*Earsdon Urban District.*—New sewage disposal works, consisting of detritus tank, two open septic tanks and a continuous filter, were erected for the treatment of sewage from a large number of houses in the Seaton Terrace District. The treatment (sedimentation and land) to which the sewage from these houses was previously subjected was most unsatisfactory and gross pollution of the Seaton Burn resulted.

*Hexham Urban District.*—Measures were still required for dealing with the sewage from houses and manufactories which is discharged into the Cockshaw Burn. The extension and improvement of the Tyne Green sewage disposal works also required the attention of the local authority at the end of the year under review.

*Newburn Urban District.*—The county medical officer, in a report on the general sanitary condition of this urban district, alluded to the pollution of the River Tyne, the New Burn, Denton Burn, Winnings Burn and Dewley Burn; in some cases sewage was discharged into the streams mentioned, in others privies were erected on the bank and constructed so as to allow the contents to be discharged into and removed by the stream.

*Rothbury Urban District.*—The necessary preliminaries relating to a new scheme of sewerage and sewage disposal for this district were completed. The tenders for the work, estimated to cost over £5,000, were let, and the work was in progress at the end of the year.

*Seghill Urban District.*—The medical officer reported that the sewage disposal works continued to give satisfaction, and that no pollution of the Seaton Burn existed in this district.

*Weetslade Urban District.*—The county medical officer in October and November reported as to (1) the unsatisfactory condition of the Annitsford irrigation ground and the consequent gross pollution of Seaton Burn; (2) the nuisance caused by the pollution of a water course in Coach Lane by sewage from about sixty new houses at Hazelrigg; (3) the pollution of a ditch by the roadside at Wideopen by sewage from new houses on the main road between Gosforth and Seaton Burn.

The attention of the district council was called to the above conditions, and in reply the council stated that they had engaged an engineer who had prepared a scheme of sewerage and sewage disposal for the houses mentioned above and for others, and that application had been made to the Local Government Board for permission to borrow a sum of £3,146 in order to carry out the necessary works.

The gross pollution of Seaton Burn, owing to the continued unsatisfactory condition of the irrigation ground at Seaton Burn, was the object of several complaints, and the attention of the local authority was again directed to the matter by the medical officer. Little, if any, improvement had, however, been effected at the end of the year.

*Alnwick Rural District.*—Legal proceedings were taken against a person for depositing ashes and other refuse in the river at Warkworth, and the offender was fined.

*Hexham Rural District.*—The pollution of the Cockermere Burn, a tributary of the River Tyne, by sewage from practically the whole village of Ovington (over 100 houses, etc.) was alluded to by the county medical officer in presenting a report on the sewerage and drainage of this village.

The sanction of the Local Government Board was received for borrowing a sum of £5,505 for the purpose of carrying out sewerage and sewage disposal works for the Broomley and Stocksfield districts, and this scheme was being proceeded with at the end of the year.

Plans were prepared for sewerage and sewage disposal schemes for Acomb, and for Riding Mill and Broomhaugh; as regards the latter scheme, application was made to the Local Government Board for sanction to borrow money for carrying out the work.



Notwithstanding the many improvements which have been effected in this district as regards the treatment of sewage previous to its discharge into streams, further action is still needed, notably at North and South Wylam, Corbridge, Warden, Haydon Bridge, Wall, Humshaugh, Barrasford, etc.

*Morpeth Rural District.*—Many instances of pollution of water courses still exist in this district. Improvements were, however, carried out as follows:—At Red Row, the filter bed at the sewage disposal works was reconstructed and provided with two rotary distributors; at Mitford, a small sewage disposal installation was put down; at Pegswood, septic tanks were built and provision made for land filtration of the effluent; settling tanks and filter beds were also provided for the sewage from houses at Bus Row, Cement Row and Stores Row (Widdrington Colliery), Houndalee Cottages and North Steads.

*Norham and Islandshires Rural District.*—The local authority obtained the services of a firm of engineers to prepare a much needed scheme of sewerage and sewage disposal for the village of Norham, with a view to securing more sanitary conditions of the village and for obviating the pollution of the River Tweed, both of which requirements have been the subject of previous reports. This scheme was duly considered, but no alterations had been effected at the end of the year.

*Tynemouth Rural District No. 2.*—The sewage disposal works at Bigges Main having been completed, the action against the local authority was struck out subject to their payment of costs incurred.

#### LOANS.

Loans for sanitary and other public improvements applied for by the Northumberland County Council, and by the undermentioned boroughs, urban and rural district councils, were sanctioned by the Local Government Board during 1909.

Purpose.	Period in years.	Amount.
NORTHUMBERLAND COUNTY COUNCIL:—		£
<i>General County Purposes—</i>		
East Heddon Estate.—Purchase of land for purpose of Small Holdings	80	22,850
Do. Purchase of buildings, etc., for do.	50	1,240
Do. Redemption of land tax ... ..	80	513
Whitehall Farm.—Purchase of land for do.	80	950
Maudlin Farm.—Adaptation for do.		
as follows:—Alterations ... ..	33	300
Roads and water supply ... ..	25	130
Fencing ... ..	13	120
Stakeford Bridge.—Purchase ... ..	13	5,000
		<hr/> 31,103
<i>Several loans for Educational Purposes—</i>		
Including purchase of premises, improvements and additions to schools, and furniture for schools ... ..	Varying from 10 to 30 yrs.	Aggregate 20,572



Authority.	Purpose.	Period in years.	Amount.
<b>MUNICIPAL BOROUGHES.</b>			£
Morpeth ... ..	Housing of the Working Classes Acts—erection of workmen's cottages ... ..	56 years	4,900
<b>URBAN DISTRICTS.</b>			
Alnwick ... ..	Housing of Working Classes — erection of houses ... ..	50 "	2,940
Blyth ... ..	Elementary education... Do.	30 "	770
	Alterations to and furnishing Crofton schools }	10 "	80
Cramlington ... ..	New cemetery (second loan) ... ..	25 "	100
Gosforth ... ..	Main drainage works and purchase of sewer rent charge ... ..	30 "	510
	Private improvement works... ..	5 "	1,870
	Allotment purposes ... ..	14 "	350
Hexham ... ..	Additions to offices ... ..	30 "	305
	Private street improvement ... ..	7 "	1,440
Whitley and Monk-seaton	Sewerage ... ..	30 "	1,500
	Street Improvement ... ..	60 "	1,060
	Do. ... ..	20 "	140
	Cemetery ... ..	60 "	3,356
<b>RURAL DISTRICTS.</b>			
Alnwick ... ..	Waterworks ... ..	30 "	200
Haltwhistle ... ..	Sewerage and sewage disposal. (Thirlwell)	30 "	1,510
	Water supply. (do.)	30 "	1,780
	do. (do.)	15 "	280
Hexham ... ..	Sewerage and sewage disposal. (Broomley)	30 "	5,505
	Waterworks, Haydon ...	10 "	800
	Do. do. ... ..	21 "	3,240
	Do. Wall ... ..	21 "	400
Tynemouth ... ..	Horton Township—sewerage works ...	30 "	600



## LOCAL GOVERNMENT BOARD INQUIRIES.

Date.	Sanitary District.	Subject.	Amount of Loan.
1909.			£
Jan. 28th	Rural district of Hexham (township of Haydon)	For sanction to borrow money for purposes of water supply for Haydon Bridge (including the execution of works in the township of Hexham West Quarter)	3,800
Mar. 31st	Rural district of Hexham (township of Wall)	For sanction to borrow money for works of water supply for the township of Wall	400
April 1st	Urban district of Weet-slade	For sanction to borrow money for purposes of sewerage and sewage disposal for the Wideopen portion of the urban district	3,900
April 2nd	Rural district of Morpeth	For sanction to borrow money for the construction of a bridge over the River Wansbeck at Low Angerton	300
Sept. 15th	Rural district of Tyne-mouth (No. 1)	For sanction to borrow money for works of water supply for New Delaval in the township of Horton	750
Dec. 14th	Rural district of Belford	For sanction to borrow money for works of water supply for the township of Beadnell and Swinhoe	1,250

## INQUIRIES HELD BY COMMITTEES OF THE COUNTY COUNCIL.

Date of Inquiry.	Subject matter of Inquiry.
1909.	
Jan. 19th.	Proposals for the transference, from the rural district of Morpeth to the urban district of Newbiggin-by-the-Sea, of the whole or part of a scheduled area in the parishes of North Seaton, Woodhorn and Woodhorn Desmène.
Mar. 19th.	Proposal for the conversion of the parishes of Eltringham, Mickley, Prudhoe and Prudhoe Castle, parts of the rural district of Hexham, into an urban district.

## BYE-LAWS.

The following bye-laws were sanctioned by the Local Government Board during the year 1909 :—

## Blyth Urban District :—

New Streets and Buildings.  
 Cleansing of Footways, Cesspools, etc.  
 Slaughter Houses.  
 Common Lodging Houses.  
 Prevention of Nuisances and Keeping of Animals.  
 Houses let in Lodgings.  
 Offensive Trades.

## Whitley and Monkseaton Urban District :—

Tents, Vans, Sheds, etc.



In several districts the need for action by the local authority in the framing and adoption of bye-laws was still apparent, *e.g.*, for the urban district of Seghill no bye-laws had been adopted; for the urban districts of Ashington and Earsdon the local authorities had not, at the end of the year, fulfilled their statutory obligation of framing bye-laws relating to slaughter houses; for the urban district of Cramlington, no building bye-laws had been adopted and the only bye-laws in force were those in connection with the cemetery; the building bye-laws for the urban district of Bedlingtonshire were still in great need of revision, the present bye-laws, which date back to 1862, being altogether unsuitable and inadequate for modern requirements.

Of the thirty-one local authorities in the administrative county at the end of the year, twenty-nine had framed and adopted bye-laws relating to New Streets and Buildings; eighteen to Slaughter Houses; fifteen to Common Lodging Houses; twenty-one to Prevention of Nuisances and the Keeping of Animals; seventeen to the Cleansing of Footways, Cesspools, etc.; two to Offensive Trades; three to Tents, Vans, Sheds, etc. and three to Houses let in Lodgings.

Allusion has been made, in previous annual reports, to the importance of all sanitary authorities, urban and rural, framing bye-laws applicable to their districts. Bye-laws greatly increase the powers of local authorities in preventing and in dealing with nuisances, especially in exercising necessary control over new streets and buildings, the conduct of offensive trades, the regulation of slaughter houses and the keeping of animals, etc., etc. The failure to adopt bye-laws or to remodel those which experience has shown to be totally inadequate for the prevention of nuisances and conditions which are opposed to the general well-being of the public does not redound to the credit of any sanitary authority. The chief advantage (!) claimed for the above-mentioned inaction is that builders are enabled to do "much more as they like" which, in many cases, has resulted in jerry-built houses, with most insanitary surroundings, conditions which materially add to the difficulties and worries of the sanitary authority, to say nothing of the injury caused to the health of the inhabitants. Another point of some importance in connection with bye-laws is that, in dealing with nuisances which are contraventions of the bye-laws, the owner or occupier is immediately liable to the penalty attaching to such contravention. In the absence of bye-laws, action must be taken, under the nuisance clauses of the Public Health Acts, which necessitates a delay of a month or more before the penalty on conviction can be recovered.

#### HOUSING CONDITIONS.

In many localities, the scarcity of houses continued to be acutely felt, and was the cause of much overcrowding. The cost of building, and of repairs to houses has no enormously increased during the last few years that private enterprise appears to have come to a standstill, it being next to impossible, in many districts, to provide, and keep in repair, houses for the weekly wage class at a price which will allow a moderate return for the money invested. Local authorities, however, have ample powers, under the Housing of the Working Classes Acts, to provide houses, but almost without exception have refrained from doing so for fear that any portion of the cost should become chargeable to the local rates. There is, in the administrative county, a very large number of houses which, in their present condition, are unfit for human habitation; some of these are capable of being made fit; for others the only remedy practicable is to demolish and rebuild. The "free house" system, which is almost universal in colliery districts is, to a considerable extent, responsible for the continuance of many houses of a most undesirable character. If a workman is living in a "rented" house, with structural and other defects, he is, usually, ready enough to com-



plain, but if he occupies a "free" house he, as a rule, makes no complaints, and expresses entire satisfaction with his house, even if it is damp, ill-ventilated, badly lighted, and anything but weather proof. The explanation of the above is that though those living in rented houses receive an allowance for rent from their employers, the allowance in many cases does not nearly cover the rent paid and, consequently, the workman living in a "rented house" must, usually, contribute two or three shillings a week towards his rent and, from a money point of view is, to the above extent, worse off than the tenant of a "free" house.

The inadequacy to a greater or less extent, of housing accommodation was alluded to by the medical officers of the boroughs of Berwick and Morpeth, and of the urban districts of Bedlingtonshire, Newbiggin-by-the-Sea and Newburn. Although the activity of building operations in several districts resulted in a considerable increase in the available housing accommodation this increase has, only in few instances, been sufficient to cope with the increasing demand. So long as this insufficiency exists the unenviable notoriety of this county as regards overcrowding will continue and the efforts of local authorities to improve the structural condition of existing houses will, to a considerable extent, be hindered. As the provisions of Part III. of the Housing of the Working Classes Act, 1890, are now (1910) in force in all districts every local authority has the power to provide houses in districts in which the housing accommodation is insufficient and where private enterprise has failed to meet the requirements.

In eleven of the annual reports, mention is made of the existence of houses in a dilapidated and generally defective condition, and it must be admitted that in many other districts the conditions of housing are far from satisfactory. Many houses still exist which are built back-to-back, (though not specially mentioned in the medical officers' reports) with no through ventilation, and in others, though not built back-to-back, through ventilation is almost or entirely absent; a large number of upstairs rooms (frequently the only bedroom accommodation provided) are still to be found in which no provision for efficient ventilation exists; many of these are unceiled and unprovided with an open fireplace; light is admitted by a small window at, or near, the floor level; the only access to these rooms is by a trap ladder and a hole through the ceiling of the lower room, the opening acting as a foul air shaft from the living room to the still further detriment of the unsatisfactory air conditions of the room above; in some localities the dampness of houses arising from the absence of damp courses, defective conditions of spouting, leaky roofs, the absence or defective condition of yard paving and the insufficiency of the drainage provided is very pronounced and cannot but prejudicially affect the health of the occupants. So long as the conditions alluded to above are allowed to continue the vigorous action of the local authorities concerned is urgently demanded and as the necessary legal powers are now available the continuance of these conditions can only be regarded as a reproach to the sanitary administration of any district.

#### DISINFECTION.

In only three of the annual reports from district medical officers of health is any reference made to the facilities available for efficient disinfection and only ten medical officers state whether disinfection is carried out by the Sanitary Authority during or after the occupancy of a room by a person suffering from Phthisis and after the occurrence of Scarlet fever, Diphtheria, &c.

As during the previous year, only four steam disinfectors were available in the administrative county. The medical officers of the River Blyth Port Sanitary Authority, of the urban district of Whitley and Monkseaton, and of the rural district of Tynemouth No. 1 allude to the necessity of a steam disinfectant being provided.



## SCAVENGING.

In only nineteen of the annual reports is reference made to the systems adopted and their efficiency for carrying out this work.

In comparatively few districts was the work undertaken by the sanitary authority; in some cases scavenging was undertaken by the colliery company, in others by neighbouring farmers, and in many cases it was let, as before, to contractors.

In two districts scavenging operations were more efficiently carried out by the substitution of covered for open carts, and the medical officer of another district advises the sanitary authority to effect a similar improvement. In two districts more frequent cleansing of ashpits etc., was instituted and in one district scavenging was carried out during the night instead of during the day. In one urban district, a portion of which was scavenged by contract, the local authority took the whole of the work into their own hands.

In the Tynemouth No. 2 District scavenging was undertaken for the sixth year for a considerable portion of the district by the Sanitary Authority. The great interest attached to this particular undertaking lies in the fact that strict accounts have been kept of the actual expense incurred in each sub-district, including repairs, renewals and maintenance, repayment of capital for initiating the work, depreciation, etc., and a comparison made with the cost of the work in each sub-division when let to contractors, the result being that though 556 additional premises were scavenged during 1909 and 132 privy ashpits had been replaced by 190 ash closets (the latter being emptied once a week instead of once a month as formerly) the work has year by year been more regularly and more thoroughly carried out by the Sanitary Authority than by contractors, also that year by year there has been a saving of expense in each sub-division; £735 in all has been saved in the six years during which the local authority has undertaken the work.

## WATER SUPPLIES.

The water mains of the Newcastle & Gateshead Water Company were extended in the following localities:—

*Gosforth Urban District.*—Nine hundred and ten yards of additional water mains.

*Newburn Urban District.*—One thousand, three hundred and forty eight yards.

*Weetslade Urban District.*—One thousand and ninety five yards.

*Hexham Rural District.*—Sixty two yards.

*Tynemouth Rural District No. 2.*—Eight hundred and twenty eight yards.

Extensions of water mains and improvements in distribution of water supplies were also effected in the urban districts of Bedlingtonshire, Blyth, Earsdon, Hexham and Whitley and Monkseaton.

Improvements to existing supplies or the provision of additional sources of supply were effected in several sanitary districts and are alluded to in the medical officers annual reports, *i.e.* the urban districts of Amble, Bedlingtonshire and Cramlington, and the rural districts of Alnwick, Bellingham, Castle Ward, Haltwhistle, Hexham (Allenheads, Corbridge, Wall and Haydon Bridge), Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

Owing to insufficiency or the unsuitable nature of the water supplies, improvements were required in the following districts:—the boroughs of Berwick (especially for Tweedmouth and Spittal) and Morpeth; the urban districts of Alnwick, Ashington, Blyth, Earsdon (Holywell village), Newbiggin and Whitley and Monkseaton, and the



rural districts of Alnwick (Acklington, Chester House, Warkworth etc), Bellingham (Plashetts and West Woodburn), Castle Ward (Ponteland), Glendale (Mindrum School, Turvelaws, West Flodden, Etal Rhodes, East and West Kirton etc), Haltwhistle (Bellister, Greenhead and Featherstone), Hexham (Corbridge, south side), Morpeth (Chevington Drift, Widdrington Steads, Longhirst, Hartburn and Middleton), Norham and Islandshires (Castle Heaton and New Heaton), Rothbury (Harbottle Schools, Blagdon Burn, Gusset and Hesleyhurst), Tynemouth No. 2 (Swiss Villa, Haslams Cottages and Coatham House).

#### SEWERAGE AND SEWAGE DISPOSAL.

The chief improvements effected during the year are as follows:—

*Borough of Wallsend.*—Several defective sewer manholes with sediment-pits were reconstructed and automatic flushing tanks were being provided in connection with all the main sewers.

*Alnwick Urban District.*—Alterations were made at the sewage disposal works with a view to increasing their efficiency.

A sewerage scheme for Canongate, estimated to cost £1,600, was considered and it was decided to carry out the work during the ensuing year (1910).

*Ashington Urban District.*—A new main sewer was constructed at Hirst and improvements and extensions of the existing sewers were carried out at Station Road (north side) and in the vicinity of the Miners Hall. A new outfall sewer was laid through Rollington Dene to meet the requirements of building operations on the Black Close Estate.

*Bedlingtonshire Urban District.*—The new sewer, from Doctor Pit to tidal waters at Bank Top, was nearing completion at the end of the year. Other sewers were constructed in districts where building operations were proceeding and several old defective sewers were relaid. In one or two cases open channel sewers were replaced by pipe sewers.

*Earsdon Urban District.*—New sewage disposal works were provided at Bates Cottages at a cost of £240. New sewers were constructed at West Holywell and Castle Farm. The old defective sewers at Duke Street, Percy Street, North and South View, Shiremoor and at Wallace Terrace, Holywell, were taken up and relaid.

*Gosforth Urban District.*—The sewer at the bottom of Church Road was relaid as also was a defective sewer in Jubilee Road. A new system of surface water drainage for this district was actively proceeded with during the year under review, at least one third of the work having been carried out; it was estimated that the whole scheme would be completed during the ensuing year (1910).

*Hexham Urban District.*—Two "Webb" Lamp sewer ventilators were fixed and were stated to have been "of much service" in improving the ventilation of sewers.

*Rothbury Urban District.*—Considerable progress was made with the new scheme for sewerage and sewage disposal works during the year under review.

*Whitley and Monkseaton Urban District.*—One thousand five hundred yards of new sewers were laid during the year, included in this being the construction of a new sewer at Front Street, Monkseaton; the provision for ventilating the sewer last mentioned was by means of "Webb" Lamp extractors.

*Willington Quay Urban District.*—A new sewer was constructed in George Street.



*Alnwick Rural District.*—A new sewerage scheme for Craster (North side) was completed; sewers at Eglington, Newton-on-the-Moor and Christon Bank were extended; the old and defective sewer at Garden Terrace, Alnmouth, was relaid, and a new sewer and septic tank was constructed at Powburn.

*Bellingham Rural District.*—The main sewer at Bellingham was improved and the main sewer at Pasture House was extended. A new system of sewage disposal was provided at Brandybank and the sewage disposal installation at Otterburn Towers was improved by the construction of a new "Stoddart" filter bed.

*Belford Rural District.*—An automatic flushing tank was built and connected to the North Bank sewer at Belford. A contact filter bed was provided for the purification of the sewage from Bellshill farm cottages previous to its discharge into the mill race.

*Castle Ward Rural District.*—The main outlet sewer for Dinnington Village was diverted from the Carr Cut to a new sewage disposal installation. At East Shaftoe a new sewer and septic tank were constructed, the effluent from the latter being distributed over land. A new drainage system and sewage disposal works (tank and filter bed) were provided at Whorlton Hall. A new sewer was provided at Whorlton in place of a defective stone sewer.

*Haltwhistle Rural District.*—A new sewerage scheme for the village of Gilsland was being carried out but was not completed at the end of the year. A few extensions of sewers were made at Haltwhistle to meet the requirements of building operations.

*Hexham Rural District.*—A defective sewer at Castle Way, Corbridge, 250 yards in length, was taken up and relaid; an open ditch by the side of the road at Coal Lane, Ovington, into which the sewage from a number of houses was discharged, was piped in and a long-standing nuisance thus remedied; an old stone conduit sewer at Wall was replaced by a modern twelve-inch sewer and a defective sewer at Wylam was improved and extended. The Broomley sewerage scheme was being proceeded with at the end of the year and plans were prepared for a scheme of sewerage and sewage disposal for Riding Mill and Broomhaugh, also for a separate scheme for the village of Acomb.

*Morpeth Rural District.*—The undermentioned improvements were carried out in this district:—The filter beds at the Red Row sewage disposal works were reconstructed. At Pegswood, new sewage disposal works consisting of septic tanks and provision for land filtration, were constructed. Settling tanks and filter beds were provided at Widdrington Colliery (for the treatment of sewage from houses at Bus Row, Cement Row and Stores Row), also at Houndalee Cottages and at North-Steads. A new sewer and small sewage disposal works were constructed at Mitford; an open sewer at North Broomhill was replaced by a covered sewer and a new sewer was laid for the Stobswood Wood Houses.

*Norham and Islandshires Rural District.*—The unsatisfactory condition of Norham as regards the sewerage system was considered by the council and it was decided to apply to the Local Government Board for powers to borrow a sum of £800 in order to carry out improvements which the council considered necessary.

*Tynemouth Rural District No. 2.*—Considerable extensions of the sewerage system at Longbenton were carried out, a total length of 1,200 yards of new sewers having been constructed. The sewerage and sewage disposal scheme for Bigges Main was completed and, as far as could be ascertained at the time, appeared to produce satisfactory results.



## ISOLATION HOSPITALS

The following sanitary districts had isolation hospital accommodation :—

*Boroughs.*—Berwick-on-Tweed, Morpeth and Wallsend.

*Urban Districts.*—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Whitley and Monkseaton, and Willington Quay.

*Rural Districts.*—Alnwick, Belford, Castle Ward, Glendale, Hexham, Morpeth, Norham and Islandshires, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The amount of hospital accommodation available for infectious disease was as shown in the subjoined table :—

	Popula- tion served.	Number and kind of hospitals provided.	Diseases to be treated.	No. of beds provided.
JOINT HOSPITAL DISTRICTS.				
<i>Earsdon Joint Hospital Dis- trict—</i>				
The urban district of Earsdon ...	55,822	Two, both iron and wood buildings :—	Infectious dis- eases other than Small- pox ...	40
do. do. Seghill ...		One at Scaffold Hill }		
do. do. Whitley and Monkseaton				
The rural district of Tynemouth				
<i>Gosforth, Newburn, and Castle Ward Joint Hospital District—</i>				
The urban district of Gosforth ...	35,837	Permanen building ...	Infectious dis- eases other other Small- pox ...	32
do. do. Newburn ...				
The rural district of Castle Ward (portion of)				
<i>Wallsend and Willington Quay Joint Hospital serving—</i>				
The borough of Wallsend ...	38,420	do. ...	do. ...	68
The urban district of Willington Quay ...				
The urban and rural districts of Alnwick ...	19,572	do. ...	do. ...	12
Urban district of Rothbury ...	6,080	do. ...	do. ...	12
Rural do. do. ...				
HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES.				
Borough of Berwick-on-Tweed ...	13,420	One temporary hospital	Infectious dis- eases other than Small- pox	8
do. Morpeth ...	6,650	Wooden huts ...	Small-pox ...	8
		Permanent building ...	Small-pox or other infec- tious diseases	22
Urban district of Alnwick ...	6,800	One permanent building	Infectious dis- eases other than Small- pox	8
do. do. Amble ...	6,000	Temporary hospital ...	Small-pox ...	4
do. do. Ashington ...	22,000	{ One iron building ...	do.	10
		{ Permanent building ...	Infectious dis- eases other than Small- pox	24



	Popula- tion served.	Number and kind of hospitals provided.	Diseases to be treated.	No. of beds provided.
<b>HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES—continued.</b>				
Urban district of Bedlingtonshire	25,630	One permanent hospital Iron and wood building	Small-pox ... Infectious diseases other than Small-pox ...	20 10
do. do. Cramlington ...	6,800	One iron and wood building	Small-pox or other infectious diseases	12
do. do. Gosforth ...	15,500	do.	Small-pox ... 1 for Small pox 1 for Infectious diseases other than Small-pox	8 20
Urban district of Hexham ...	8,500	Two iron and wood buildings		
do. do. Newbiggin-by-the-Sea ...	2,875	One wooden hospital ...	Small-pox ...	4
do. do. Newburn ...	16,124	One iron and wood hospital	do. ...	4
Rural do. Belford ...	5,262	Do. ...	do. ...	8
do. do. Castle Ward ...	12,558	Wooden hospital ...	do. ...	12
do. do. Glendale ...	8,770	Two cottages ...	do. ...	8
do. do. Hexham ...	28,142	One iron and wood hospital do. ...	do. ... Infectious diseases other than Small-pox	12 8
do. do. Morpeth ...	18,200	do. ...	Small-pox ...	12
do. do. Norham and Islandshires ...	6,054	do. ...	do. ...	10
RiverTynePort Sanitary Authority		Floating hospital		30
do. Blyth do. do. ...		Permanent building	Small-pox or other infectious diseases	24
<b>SANITARY AUTHORITIES HAVING NO HOSPITAL OF THEIR OWN BUT HAVING MADE ARRANGEMENTS FOR PATIENTS TO BE RECEIVED BY NEIGHBOURING SANITARY AUTHORITIES:—</b>				
Urban district of Blyth ...	28,011	Patients from this district are received into the hospital of the Blyth Port Sanitary Authority		
<b>SANITARY AUTHORITIES WITHOUT ANY HOSPITAL FOR INFECTIOUS DISEASES AND WITH NO ARRANGEMENTS WITH NEIGHBOURING SANITARY AUTHORITIES:—</b>				
Urban district of Weetslade ...	6,723			
Rural do. Bellingham ...	6,000			
do. do. Haltwhistle ...	9,709			

The number of cases treated in these institutions during the year was 450; distributed as follows:—*Boroughs*—Berwick, 33; Morpeth, 11; Wallsend, 124. *Urban Districts*—Alnwick, 13; Ashington, 21; Bedlingtonshire,



6; Blyth, 12; Earsdon, 19; Gosforth, 23; Hexham, 3; Newburn, 79; Rothbury, 1; Whitley and Monkseaton, 22; Willington Quay, 9. *Rural Districts*—Castle Ward, 8; Glendale, 3; Hexham, 27; Tynemouth No. 1, 9; Tynemouth No. 2, 32.

The population of the 28 sanitary districts possessing isolation hospitals, or having made arrangements for the use of isolation hospitals provided in neighbouring districts was 350,317 and the number of beds was 466 giving an average of one bed for every 752 persons. The population of the three sanitary districts (the urban district of Weetslade and the rural districts of Bellingham and Haltwhistle) having made no arrangements for the isolation of infectious diseases was 21,059.

#### BACTERIOLOGICAL INVESTIGATIONS.

The number of specimens sent for examination during the year was 1,865, as compared with 1,423 in 1908 and 1,100 in 1907.

Months.	Phthisis.			Enteric Fever.			Diphtheria.			Total Specimens Examined.		
	Positive.	Negative.	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.
January	6	23	29	2	7	9	78	57	135	86	87	173
February	13	21	34	3	5	8	109	133	242	125	159	284
March	10	30	40	3	4	7	93	110	203	106	144	250
April	11	22	33	2	4	6	58	65	123	71	91	162
May	10	19	29	1	3	4	40	66	106	51	88	139
June	7	16	23	—	2	2	38	36	74	45	54	99
July	12	18	30	—	3	3	45	46	91	57	67	124
August	9	18	27	10	3	13	32	63	95	51	84	135
September	9	7	16	11	2	13	38	48	86	58	57	115
October	15	17	32	1	6	7	37	45	82	53	68	121
November	9	14	23	4	4	8	43	49	92	56	67	123
December	8	16	24	3	3	6	60	50	110	71	69	140
Totals	119	221	340	40	46	86	671	768	1,439	830	1,035	1865

Greatly increased use of the facilities provided by the county council for bacteriological examination in cases of suspected Phthisis, Diphtheria and Enteric Fever was made, and several district councils provided anti-toxin for the treatment of patients suffering from Diphtheria. Many medical officers of health testified to the great assistance they had received from the above-named facilities.

Specimens from suspected cases of one or more of the above diseases were received, during the year, from every sanitary district in the administrative county.

One hundred and sixty-eight medical practitioners availed themselves of the facilities provided for the examination of specimens bacteriologically.



## PORT SANITARY AUTHORITIES.

## THE RIVER BLYTH PORT.

Medical Officer of Health, JOHN CROMIE, L.R.C.P., L.R.C.S. (Edin.)

*Inspection of Vessels.*—During the year the following vessels were inspected:—

British steamships	...	...	...	...	751
British sailing vessels	...	...	...	...	41
Foreign steamships	...	...	...	...	1,902
Foreign sailing vessels	...	...	...	...	71
Total	...	...	...	...	<u>2,765</u>

Of this total, 1,583 arrived from foreign ports, and 1,182 from British home ports.

In addition to the vessels above mentioned, 647 British and 98 foreign steam fishing vessels, as well as a large number of sailing boats engaged in the same trade, discharged their cargoes. No foods were imported and, therefore, no action under the Public Health (Regulations as to Foods) Act, 1907 was necessary.

Twenty-seven cases of sickness were reported, seven being from infectious diseases, viz.:—Dysentery, 4; Enteric fever, 2; Measles, 1.

Six cases were removed to the Port isolation hospital as follows:—Dysentery, 2; Enteric fever, 2; Measles, 1; Febricula, 1. All were discharged convalescent.

In twenty-eight instances structural defects were found by the Port Sanitary Inspector, and in two hundred and eleven cases, conditions as to cleanliness, etc., were not satisfactory; all the above defects were remedied before the respective vessels left the harbour. In eight cases the drinking water on board was found to be unfit for use.

Of the total sanitary defects found, 158 were on board foreign vessels and 89 on British vessels; the proportion of defects found to ships inspected was eight per cent. in the case of foreign vessels, and eleven per cent. in British vessels.

## RIVER TYNE PORT.

Medical Officer of Health, W. EDMUND HARKER, M.D., D.Hy.

*Inspection of Vessels.*

Description.	Number of vessels arriving.	Number Inspected.	Percentage of vessels inspected.
Foreign ...	1,766	1,742	98
Home Trade ...	4,627	4,431	95
Coastwise ...	7,442	4,097	55
Total ...	13,835	10,270	74

Of the 10,270 inspections made, 5,177 were of British steamers, 3,851 of foreign steamers, 980 of British sailing and fishing vessels, and 262 of foreign sailing vessels.



Of the vessels inspected 9,510 (92 per cent.) were found to be in a good sanitary condition; in 438 (4 per cent.) structural defects were found, and 322 (3 per cent.) were in a dirty condition.

*Cases of sickness reported of a more or less infectious nature.*

Nature of sickness.	On voyage.	On or after arrival.
Malarial Fever ... ..	26	6
Small-pox (actual or suspected) ...	13	2
Typhus Fever ... ..	1	—
Influenza ... ..	18	—
Enteric Fever ... ..	13	4
Cholera ... ..	2	—
Dysentery ... ..	4	1
Beri-beri ... ..	7	43
Diarrhœa (Choleraic, &c.) ...	39	6

No cases of Cholera or Plague occurred in the Port.

Forty-one vessels and several lots of clothing were disinfected; 412 beds were burnt and three lots of filthy and infected clothing were destroyed.

*Visits of Medical Officer on account of reported or suspected illness on board.*—Fifty-five vessels were boarded by the Medical Officer of Health under the above-named conditions, and a table, describing in detail the action taken in each case, was included in the annual report.

*Vessels arriving from Infected and Suspected Ports.*—One thousand seven hundred and eighty-three vessels were specially inspected by the officers of the Port Sanitary Authority on account of their having come, directly or indirectly, from foreign ports infected or suspected to be infected with Cholera, Yellow Fever, Plague, or Small-pox, an increase of eight hundred and forty-five over the number inspected during the previous year.

As regards 46 ships arriving from Cholera infected ports (or ports suspected to be infected) the water tanks were suitably dealt with by the Inspectors acting under the supervision of the Medical Officer of Health, and the water was changed.

*Floating Hospital.*—Fifty-five cases of infectious disease were removed to the Isolation Hospital as follows:—Beri-Beri, 43; Enteric Fever, 6 (including two suspected cases); Small-pox, 2; Measles, Dysentery, Diarrhœa and Malaria, one each.

*Emigrants.*—The number of emigrants passing through the Tyne Port during the year 1909, so far as is known, was as follows:—

For America by White Star Line from Liverpool ...	1,641
„ „ Cunard Line „ „ ...	2,271
„ „ American Line from Southampton ...	261
„ „ Allan Line from Liverpool ...	564
„ „ Anchor Line from Glasgow ...	340
„ „ Dominion Line from Liverpool ...	97
„ „ Canadian Pacific from Liverpool ...	1,384
	<hr/> 6,558

being an increase of 3,137 as compared with the previous year.



*General Sanitary Work.*—In addition to, or included in, the 10,270 visits of inspection, copies of regulations were posted on all ferry landings and delivered on board vessels in the port; four smoke observations were taken, and the offenders communicated with; fifty-three fishing boats, out of a total of 13,981 were found, on arrival in port, to be in a foul condition, and these were cleansed and deodorised after notice from the Port Sanitary Inspector; 18 cattle ships were cleansed by order, and under the supervision of, the Inspectors.

*Inspection of Imported Foods.*—The Local Government Board, on 13th of February of the year under review, after considering representations made by the Port Sanitary Authority on the subject, decided to adhere to a previous decision, and issued orders prescribing joint action by the City Corporation and this Authority, with reference to food discharged at Newcastle Quay. Since the date mentioned, the inspection of imported foods, by the officials of the Port Sanitary Authority, has been confined to other parts of the Port, the arrivals at the Newcastle Quay being dealt with by the city officials. The Chief Port Sanitary Inspector was specially appointed, with the approval of the Local Government Board, as Inspector of Foods under the Public Health (Regulations as to Foods) Act, 1907.

The nature of the foods imported, and the places of landing is shown below:—

*Fish Quay, North Shields.*—White fish and herrings in season.

*Albert Edward Dock.*—Principally wheat, vessels arriving daily from Argentina and Western Australia.

*Tyne Dock.*—Principally wheat and maize from Argentina and Russia, also small quantities of salt beef and herring in casks from Norway.

*Newcastle Quay.*—Vessels arrive almost daily, and a detailed list of vessels and nature of cargoes, up to February 22nd, is included in the report. Provisions of nearly all kinds are included but, up to the date mentioned, the whole of the consignments were found in good condition.

#### RIVER TWEED PORT.

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

The sanitary authority of the borough of Berwick-on-Tweed constitutes the River Tweed Port Sanitary Authority. The Medical Officer of Health reports that twenty ships from foreign ports were inspected and that the crews were all found healthy.



## BOROUGHES.

## BERWICK-UPON-TWEED.

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

Area, 6,396 acres; estimated population, 13,420; birth rate, 25.48; general death rate, \*14.3; zymotic death rate, 0.59; infant mortality rate (per 1,000 births), 73.09; Phthisis death rate, 1.04; death rate from respiratory diseases, 1.19.

With the exception of the birth rate, which has increased by 2.46, all the above rates have decreased as follows, in comparison with those for the preceding year:—General death rate by 2.46, zymotic death rate, 0.97; infant mortality, rate 66.06; Phthisis death rate, 0.59 and respiratory death rate, 0.52.

Three hundred and forty-two births were registered during the year, and one hundred and ninety-two deaths; of the latter twenty-five were of children under one year and sixty-seven of persons sixty-five years and upwards.

Seventy-five cases of infectious disease were notified as follows:—Diphtheria (including Membranous croup), 41; Erysipelas, 4; Scarlet fever 27; Enteric fever 1 and Puerperal fever, 2.

Eight deaths occurred from zymotic disease, viz:—Whooping cough, 1; Diphtheria, 2 and Diarrhoea (including infantile Enteritis and Gastritis) 5.

Phthisis caused 14 deaths; respiratory diseases, 16; heart diseases, 28; accidents, 9 and premature birth, 6.

The infant mortality rate was the third lowest recorded in urban districts in the administrative county.

The following table presents one or two points of interest. The birth rate was higher in each sub-division than during the previous year; the general death rate though practically unchanged in Berwick was considerably lower, both in Tweedmouth and Spittal. The infant mortality rate was lowest in Spittal and highest in Tweedmouth. The zymotic death rate was lowest in Tweedmouth and highest in Berwick. The attack rate from notifiable infectious disease was lowest in Tweedmouth and highest in Spittal:—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		Number.	Rate per 1,000 pop.	Number.	Rate per 1,000 pop.	Number.	Rate per 1,000 births.	Number notified.	Rate per 1,000 pop.	Number.	Attack rate per 1,000 pop.
Berwick ...	8,270	205	24.8	127	15.3	14	68.2	7	0.84	46	5.5
Tweedmouth	3,080	79	25.6	31	10.0	9	113.9	—	—	15	4.8
Spittal ...	2,070	58	28.0	31	15.0	2	34.4	1	0.48	14	6.7
Whole district	13,420	342	25.48	189	14.08	25	73.09	8	0.59	75	5.58

When speaking of the infantile death rate, the suggestion is made that, "in each sub-district, a creche should be erected, in which widows and other women who have to earn their living away from home may leave their young children under suitable conditions instead of, as so frequently happens, in charge of children little older than themselves."

Two cases of Phthisis were notified by the Poor Law medical officers, and disinfection of the premises, where these cases occurred, was carried



out. The medical officer, in commenting on this disease, alludes to the desirability of some system of isolation, without which, "notification of Phthisis will fail to do much good," and states that "a Sanatorium for each borough will lead to a reduction in the death rate from this disease."

*Dairies, Cowsheds and Milkshops.*—The number of these premises on the register is not given, but it is stated that one hundred and seventy dairy cows were kept in the district, and that two hundred and sixty-five visits of inspection were paid. In three instances dairy cows suffering from Tuberculosis were discovered, and these, after the diagnosis had been confirmed by a veterinary surgeon, were slaughtered and the carcasses buried. In one instance, milk vessels were found in a dirty condition, and a few notices requiring limewashing of cowsheds were served.

*Slaughter Houses.*—The fourteen slaughter houses were all visited, periodically, by the medical officer, and more than a hundred visits of inspection were paid by the sanitary inspector. In four instances where limewashing had been neglected, action was taken by the Sanitary Authority.

*Common Lodging Houses.*—Four of these premises were on the register, a reduction of one compared with the previous year. Almost daily inspections were made, totalling seven hundred and twenty for the year. No case of infectious disease was reported in common lodging houses. The defects found, if any, are not mentioned.

*Factories and Workshops.*—The total number of these premises, which are not separately classified, was one hundred and fifty. Twenty-two of these are bakehouses, none of which are underground. Three hundred and eighteen inspections were made, and the defects met with included insufficient sanitary accommodation in six instances, and "lime-washing required" in seven instances.

*Improvements.*—The medical officer did not include, in his report, any record of improvements effected during the year as regards housing, water supply, drainage, etc. Very few houses were built. The water supply remained in the same unsatisfactory state as before, and occupied a considerable amount of the Council's time without any satisfactory action having resulted.

In the sanitary inspector's report appears an extensive list of matters dealt with, but the value of this report would have been greatly enhanced if a differentiation had been made between the defects met with and the work actually carried out for the purpose of remedying these defects. In the absence of any information to the contrary, it is assumed that, of the 932 defects found, all, or nearly all, were remedied.

The amount of inspection carried out by the medical officer and inspector (nearly 1,500 visits) in relation to the Factories and Workshops, Common Lodging Houses, Cowsheds and Slaughter Houses, in addition to the daily inspection of this scattered and, at the same time, densely populated district, was again enormous, and to this daily and continuous supervision must, no doubt, in great measure, be attributed the measure of success secured by these officials in obviating, in the face of many difficulties, a greater incidence of infectious disease.

In several instances fall spouts delivering direct into drains, insufficient or defective sanitary conveniences, dangerous buildings and overcrowding, were successfully dealt with by the Sanitary Authority; seventy-four rooms were disinfected after infectious disease, and infected bedding was disinfected in one hundred and forty-eight instances.

Forty-six complaints were received; one hundred and eleven preliminary, and seventy-three statutory notices were served.

Two prosecutions—for overcrowding and contravention of bye-laws—were undertaken by the Authority, and convictions obtained.



*Requirements*—The most urgent requirement of the borough continued to be a more abundant water supply, especially for Tweedmouth and Spittal. Though the supply for Berwick, collected and pumped over from Tweedmouth daily, is just sufficient for the daily needs of this part of the borough as a whole, some houses are very inadequately supplied and, since the impounding reservoir at New East Farm ceased to be available, there has been no surplus amount upon which to draw in case of a large fire breaking out. Increased storage was still needed for Berwick, and Tweedmouth and Spittal were, at the end of the year, in the same deplorable condition in relation to water supply as before. An abundant supply for all houses, in these localities, was still urgently needed. On this subject, the medical officer remarks:—"At the end of each yearly report, I had hoped, for many years, that I should be able to report progress and, this time, was more sanguine than ever that something would be done, especially when the necessity was admitted by all; but my hopes have been dashed and, unless strong measures are now taken, I do not see any chance of a water supply for the next twenty years." He further alludes to the great risk of an epidemic of Enteric fever (which is ever present) so long as the present supply is relied upon. "We are sometimes told," he states, "that Tweedmouth is a healthy place and the death rate low and, fortunately, it is so at the present time; but we have no guarantee how long this may continue, and when the epidemic does come upon whom will the responsibility rest?"

The provision of a modern scheme of sewerage for Tweedmouth and the abolition of the many foul surface channel sewers situate in Main and other streets. These are frequently the source of intolerable nuisance, especially during the summer months when, in consequence of the inadequacy of the water supply, which is accentuated at this period of the year, the requisite flushing of the channels cannot be efficiently carried out.

The abolition of the many insanitary privy middens and pail closets, and their replacement by water closets, *especially in Tweedmouth and Spittal.*

The grossly insanitary conditions, which result from the existing privy accommodation in some portions of the district, cannot be effectively remedied until the water supply for these localities has been improved.

Increased hospital accommodation for cases of infectious disease.

The provision of a public mortuary.

The medical officer also refers to the need of additional public sanitary conveniences, and of action as regards dangerous public buildings, in various parts of the town, which have been untenanted for some time and are now in a ruinous condition.

Additional housing accommodation, for the working classes, is urgently needed, and many general improvements to existing houses, particularly in tenement property.

\*14·08 if eleven deaths of non-residents occurring in the district be deducted, and if eight deaths of residents occurring without the district be added.

#### MORPETH.

Medical Officer of Health, H. DICKIE, M.A., M.D.

Area, 328 acres; estimated population 6,680; birth rate, 32.03; general death rate, \*20.65; zymotic death rate, 0.44; infant mortality rate (per 1,000 births), 140.18; Phthisis death rate, 1.79; death rate from respiratory diseases, 2.69.

When compared with the corresponding rates for the preceding year, an increase is shown in the birth rate of 0.89, and in the Phthisis death



rate of 0.74. The remaining rates each show a decrease as follows:—General death rate, 3.21; zymotic death rate, 1.66; infant mortality rate, 87.97; respiratory death rate, 0.48.

Two hundred and fourteen births were registered during the year, and one hundred and thirty-eight deaths; of the latter, thirty were of children under one year, and thirty-one of persons sixty-five years and upwards.

Seventeen cases of infectious diseases were notified as follows:—Scarlet fever, 9; Enteric fever, 4; Diphtheria, 3; Erysipelas, 1.

Three deaths occurred from zymotic disease, viz.:—Measles, 2; Diarrhoea, 1.

Phthisis caused 12 deaths; respiratory diseases, 18; heart diseases, 14; accidents, 7 and premature birth, 5.

The general death rate was again the highest recorded in any district.

The Phthisis and respiratory death rates were, respectively, the second and third highest recorded either in urban or rural districts.

The decrease in the infant mortality rate "from the colossal rate of the previous year" is attributed, by the medical officer, not so much to the better sanitary arrangements as to the comparative freedom from epidemics, to the mildness of the types of those which did occur, and especially to the greater equability of the seasons. Regret is expressed that the Local Authority have not yet adopted the Notification of Births Act, nor carried out the further steps necessary to make it a means of reducing infantile mortality.

The medical officer, in alluding to the absence of any provision in the district for the isolation and treatment of Phthisical cases remarks, "as regards Sanatoria, they are, for the most part, so financed that, with the exception of a few paupers for which the Guardians are empowered to pay, only the wealthy can secure admission; the intermediate respectable working classes which furnish three-fourths of the cases have, with rare exceptions, no means of access to Sanatoria."

The opinion is expressed that the undue prevalence of Rheumatism and Phthisis in Morpeth is due to the dampness of the subsoil, attributable, in some measure, to the prevalence of weir heads in the river.

All the nine cases of Scarlet fever notified were removed to the isolation hospital, as also were one case of Diphtheria and one case of Enteric fever.

A considerable number of houses were disinfected after the infectious diseases usually notified, and also some in which Tubercular disease had occurred.

*Factory and Workshop Act.*—Twenty-eight factories, twenty workshops and four workplaces were on the register. Seventy-seven inspections were made and seven defects were found, all of which were remedied. The defects included want of cleanliness in four instances, and insufficient or defective sanitary accommodation in two instances. Four outworkers' lists were received, from which it appears that only five outworkers were employed in the borough.

*Dairies and Cowsheds.*—The number on the register is not given, nor the number of inspections made. The cowsheds are stated to be in a much better state than formerly and, with one or two exceptions, were found in a satisfactory condition. In one instance the drainage and floor were improved.

*Slaughter Houses.*—In addition to the public abattoir, there is only one slaughter house in the district. Frequent inspections were made of the slaughter houses, and no action was needed as regards the seizure of unsound food. Periodical limewashing and frequent cleansing were maintained.



*Common Lodging Houses.*—There were two houses of this description in the district and, in addition, a number of tenement houses were dealt with as houses let in lodgings. Frequent inspections were made and the conditions found to be satisfactory.

*Improvements.*—During the year under review, the housing accommodation of the district was improved by the erection of 22 cottages, 20 houses in flats and one villa. Of the above, 20 flats and 10 cottages were provided by the Local Authority under Part III. of the Housing of the Working Classes Act 1890, and the erection of 10 additional houses was contemplated. Some progress was made in the direction of closing some of the older houses situated in congested areas.

The sewage disposal works are stated to have given satisfaction, and the effluent is reported to have been uniformly good. New sewers were laid in Alexandra Road and West Greene, and various improvements, of a minor character, in local drainage were carried out. No cases of river pollution were known to exist in the district.

The insufficient supply of water, which became somewhat acute in October, the storage reservoir being then empty, necessitated the provision of an additional supply. Arrangements were made for a temporary supply to be taken from the Tranwell Colliery Company, and this was continued for a period of seven weeks.

As regards refuse disposal, it is satisfactory to note that, in fourteen cases, water closets were substituted for open privies, and the medical officer, in alluding to this, remarks:—

“With careful supervision and some attention and training the water closet system is quite suitable for all classes of the community and their houses. . . . The privy system, with its smells, its eye-sores, its infection-spreading flies and the increased labour devolving upon the scavengers should be discouraged as much as possible.”

Many nuisances, caused by defective drainage, insufficient ashpit accommodation and animals improperly kept, were effectually dealt with.

Part VIII. of the Public Health Acts Amendment Act 1907 was adopted.

*Requirements.*—In spite of the increased cottage accommodation, provided by the Local Authority under the Housing Acts, the supply of houses for the weekly wage earning class did not meet the demand and additional houses were needed.

The demolition of houses in congested areas, as provided for in the scheme agreed upon in 1908-9. The delay in carrying out the above scheme is, however, attributed by the medical officer, not to any want of energy on the part of the Local Authority, but to the sanction of the Local Government Board not having been obtained to certain details, and also to the difficulty experienced in negotiating with some of the owners.

An augmentation of the quantity of water available for the increasing needs of the district.

Increased facilities for the treatment of patients suffering from Phthisis.

An improved method of refuse disposal.

The provision of a steam disinfecter.

The adoption of the Notification of Births Act, with a view to a permanent reduction in the mortality among young children.

\* 17·95 if the deaths of eighteen non-residents which occurred within the district are deducted.



## WALLSEND.

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

Area, 1,158 acres; estimated population, 29,000; birth rate, 29.34; general death rate, \*11.93; zymotic death rate, 1.86; infantile mortality rate (per 1,000 births), 129.25; Phthisis death rate, 1.20; death rate from respiratory diseases, 2.58.

With the exception of the birth rate which has decreased by 6.12, all the rates, when compared with those for the preceding year, show increases, as follows:—General death rate, 0.41; zymotic death rate, 1.01; infant mortality rate, 15.46; Phthisis death rate, 0.42; respiratory death rate, 0.83.

Eight hundred and fifty-one births were registered during the year, and three hundred and forty-six deaths; of the latter, one hundred and ten were of children under one year, and sixty-three of persons sixty-five years and upwards.

Two hundred and sixteen cases of infectious disease were notified as follows:—Scarlet fever, 108; Diphtheria and Membranous croup, 81; Erysipelas, 18; Enteric fever, 9.

Fifty-four deaths occurred from zymotic disease, viz:—Whooping cough, 34; Measles, 5; Diphtheria, 4; Diarrhoea, 4; Scarlet fever, 3; Infantile Enteritis, 2; Infantile Gastritis, 2.

Phthisis caused 35 deaths, respiratory diseases, 75; heart diseases, 17; accidents, 9 and premature birth, 15.

The following table gives, for the several sub-divisions, the population, the birth and the various mortality rates, the cases of infectious disease notified, and the attack rate per 1,000 population of the latter.

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious disease.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1,000 pop.
Northumberland	2,800	83	29.6	47	16.8	12	144.5	8	2.85	25	8.8
Wallsend ...	4,000	136	34.0	74	18.5	20	147.0	5	1.25	33	2.2
Carville ...	3,600	99	27.5	66	18.4	19	190.9	11	3.05	36	10.0
Buddle ...	4,100	136	33.1	39	9.5	12	88.2	6	1.46	17	4.1
Holy Cross ...	12,400	331	26.7	113	9.1	40	120.8	22	1.77	89	7.1
Hadrian ..	2,100	66	31.4	26	12.3	7	106.6	2	0.95	16	7.6
Whole district	29,000	851	29.34	365	12.58	110	129.2	54	1.86	216	7.44

The general death rate was below 10 per 1,000 in Holy Cross and Buddle; below the average for the whole district (12.58) in Hadrian, and considerably above the average in the Northumberland, Carville and Wallsend divisions.

The infant mortality rate was below the average for the whole district (129.2 per 1,000 births) in the Buddle, Hadrian and Holy Cross sub-districts, and greatly above the average in the Northumberland, Wallsend and Carville divisions. The medical officer attributes the increase in the infant mortality rate to the prevalence of Whooping cough, which disease was the cause of fourteen deaths at this age period. At the same time, it must be noted that twice the above number of deaths were caused by Bronchitis and Pneumonia; fifteen were attributed to premature birth, and thirty-seven to causes not specified. The medical officer is of opinion that many of the deaths resulting from Whooping cough were due, in a great measure, to lack of proper attention in the early stages of the illness.



The zymotic death rate was especially high in Carville and Northumberland, and was the second highest recorded in any urban or rural district.

*Notifiable Infectious Diseases.*—Scarlet fever was prevalent during every month of the year. The chief incidence of the disease was upon the Holy Cross division (52 cases) but 16 and 17 cases occurred in Wallsend and Carville respectively, and no sub-district was free from this disease. Of the 108 cases, 60 were removed to hospital.

Diphtheria and Membranous Croup.—Cases were notified in each month of the year. The disease occurred in every sub-district, but, as was the case with Scarlet fever, the great majority of the cases were in the Holy Cross, Carville and Wallsend sub-divisions. Of the 81 cases of this disease, 60 were removed to hospital.

Enteric fever was slightly less prevalent than during the previous year. Five of the nine cases occurred in the Northumberland sub-district; Carville and Buddle were alone exempt. All the patients were removed to hospital, and no deaths occurred.

It is most satisfactory to note that more than 57 per cent. of the cases of Scarlet fever, Diphtheria and Enteric fever were treated in hospital, which is evidence, if any were required, that the public appreciate the great advantages furnished by a well equipped and well managed hospital.

*Non-notifiable Infectious Diseases.*—The medical officer does not give any particulars of the outbreaks of Whooping cough and Measles, but the former disease was prevalent during every month of the year with the exception of August, November and December, and the latter during the months of January, February, March, April, May and July. Deaths occurred from Whooping cough in every sub-division, the chief mortality being in Holy Cross and Carville. Two deaths were caused by Measles in Holy Cross, two in Northumberland and one in Carville.

*Factories and Workshops.*—Forty-seven workshops were on the register at the close of the year, eight having been added since the previous report. Seventy-five inspections of workshops, and twenty of factories were made. Six contraventions of the Factory and Workshop Act were found, and all were remedied. Two complaints of sanitary conditions in factories, remediable under the Public Health Acts, were received from the Home Office Inspector and successfully dealt with. No outworkers' lists were received. The standard of sanitary accommodation, required by the local authority in workshops and factories, is not stated in the report.

*Dairies, Cowsheds and Milkshops.*—There were ten registered cow-keepers in the district, and the total number of cows kept by them was eighty-nine. The number of milkshops on the register is not stated. All the cowsheds were visited by the medical officer and sanitary inspector. In the majority of cases, the occupiers appeared desirous that the premises and animals should be kept in a cleanly condition, but in some of the more unsatisfactory premises the occupiers tried to justify the continuance of the existing conditions by the fact that they have existed for many years and, therefore, "ought to be good enough for the present generation." The inspector's remarks, that clean and healthy milk cannot be expected from dirty cows in filthy cowsheds is only too true. All the milkshops were inspected, and, in one case where infectious disease occurred, the milk supply was stopped. In a similar instance twenty-two gallons of ice cream and one gallon of milk were destroyed owing to their having been exposed to infection.

*Slaughter Houses.*—There were two "registered" and fifteen "licensed" slaughter houses in the district, the licences of the latter being renewable annually. The slaughter houses were regularly inspected, and the carcasses of three animals were found to be affected with tuberculosis.



to such an extent that they were condemned and destroyed. Meat inspection is carried out in this district very energetically, and this is one of the few districts in which the law is complied with relating to the registering or licensing of slaughter houses. Twenty limewashing notices were served, and the provision of covered galvanised receptacles for offal were insisted upon, an example which many sanitary authorities would do well to follow.

*Common Lodging Houses.*—There is only one common lodging house in the district and, as these premises were partially destroyed by fire, the opportunity was taken, during restoration, to secure valuable improvements as regards ventilation, lavatory accommodation, etc. Frequent inspections, both by day and night, were made.

*Improvements.*—Housing.—Six new houses, and twenty-one premises consisting of flats or tenements, were erected during the year; two houses, being unfit for human habitation, were closed. All the houses erected during the year were provided with w.c.'s. Various conditions requiring amendment were discovered during the systematic inspections by the medical officer and sanitary inspector.

The council passed a resolution in favour of the provision of public washhouses and the desirability of erecting public baths was considered.

*Nuisances.*—Two hundred and fifty-nine notices to property owners and others were served, and the nature of the defects are set out in detail in the report of the sanitary inspector; amongst the matters dealt with were the following:—Defective house drainage, etc., 49; overcrowding, 21; defective or insufficient sanitary accommodation, 68; defective paving of yards and passages, 10; animals improperly kept, 12; smoke nuisances, 3.

*Sewerage.*—In consequence of many complaints of offensive emanations from sewers in the older districts, a number of the manholes provided with catchpits were improved by being filled up to the invert level and provided with proper half channel bends and junctions. The sanitary committee also approved of the erection of automatic flushing tanks for all the main sewers, and this work was being proceeded with at the end of the year.

*Disposal of Excrement and Refuse.*—The local authority are to be congratulated upon their determination to secure the removal of privy ashpits. The council adopted the recommendation of the sanitary committee that provision should be made for the abolition of these structures at the rate of 100 per year, and it is anticipated that the above work of abolition will be completed during the next two years. The required action is being taken under the provisions of Sec. 39 of the Public Health Acts Amendment Act 1907, water closets and ashbins have been substituted, half the cost, in many cases, being borne by the local authority. Seven privy ashpits were also abolished under the provisions of the Public Health Act 1875, water closets being substituted.

*Scavenging.*—In consequence of a combined report, by the medical officer and sanitary inspector, the previously existing method of day time scavenging was discontinued.

*Isolation Hospital.*—The hospital for infectious diseases was enlarged, the available accommodation being increased from twenty-four to sixty-eight beds; included in the extension were the provision of a convalescent ward of sixteen beds and an observation ward of four beds.

*Common Lodging House.*—Allusion has already been made to the improvements effected subsequent to the outbreak of fire.

*Dairies and Cowsheds.*—The council adopted the model Regulations of the Local Government Board which, if enforced, will secure better lighting and ventilation, and more healthy conditions. Some improvements in the ventilation and drainage of one cowshed were effected.



**Systematic Inspection of Dwelling Houses.**—A commencement was made with the inspection of the whole district under Sec. 17 of the Housing, Town Planning, etc., Act 1909.

In consequence of the adoption of the Notification of Births Act (in 1908) the services of a health visitor were continued in order that all newly born children, whose mothers were attended by midwives, and, when required, children, at whose birth a medical practitioner was in attendance should be kept under observation. It is extremely interesting to note that, among the 394 children born who were kept under observation for a period of twelve months, the death rate was only 60.9 per 1,000, compared with 129.1 for the whole district. Twenty-one cases of Ophthalmia were met with, nineteen of which were cured. Sixty births were not notified to the medical officer of health as required by Sec. 1 (1) of the Notification of Births Act, but the report does not state what action was taken by the council for failure to notify.

**Requirements.**—In consequence of the complaints received, of dampness in houses, the medical officer calls attention to the importance of rigidly enforcing the building bye-laws relating to the covering of the whole site with cement concrete. It appears that many houses have been erected on undrained clay sites without covering the whole site with cement concrete as required by bye-law No. 9 (New Streets and Buildings), and with most unsatisfactory damp courses. Under the above conditions, dry walls are out of the question.

Considering the amount of Tubercular disease which has been shown to exist amongst dairy cows, it is most desirable that the new Regulations under the Dairies, Cowsheds and Milkshops Order should be enforced, so as to ensure, *inter alia*, improved lighting and ventilation in cowsheds, fresh air and light being the great enemies of Tuberculosis.

The provision of a public slaughter house is most desirable in this populous borough, both for the purpose of making adequate inspection of all meat intended for human consumption possible, and also with a view to the closure of existing slaughter houses in very unsuitable positions.

The provision of a common lodging house on more modern lines is very desirable.

\* 12.58 if the deaths of two non-residents which occurred in the district are deducted, and the deaths of twenty one residents which occurred outside the district are added.



## URBAN DISTRICTS.

## ALNWICK.

Medical Officer of Health, R. B. ROBSON, M.B., M.R.C.S.

Area, 4,777 acres; estimated population, 6,800; birth rate, 27.20; general death rate, \*18.23; zymotic death rate, 0.88; infant mortality rate (per 1,000 births), 75.67; Phthisis death rate, 2.05; death rate from respiratory diseases, 1.02.

With the exception of the birth rate, which increased by 0.15 in comparison with the preceding year, all the above rates decreased as follows:—General death rate, 2.06; zymotic death rate, 0.14; infant mortality rate, 38.46; Phthisis death rate, 0.15 and respiratory death rate, 0.74.

One hundred and eighty-five births were registered during the year, and one hundred and twenty-four deaths; of the latter, fourteen were of children under one year, and forty-three of persons sixty-five years and upwards.

Forty-two cases of infectious disease were notified as follows:—Diphtheria (including Membranous croup) 20, Erysipelas 21, and Enteric fever, 1.

Six deaths occurred from zymotic disease, viz.:—Diphtheria, 1; Measles 3; and Diarrhoeal diseases, 2.

Phthisis caused 14 deaths; respiratory diseases, 7; heart diseases, 13; accidents, 3 and premature birth, 3.

The medical officer, as usual, divided the district into "town" (embracing all the sewered portions) and "country," in which are included all the remaining portions of the district. Although the great disparity, as regards population, of these sub-divisions—6,300 and 500 respectively—considerably reduces the value of statistical comparison, it is somewhat remarkable to find that, in the "country" division, not a single death occurred from Phthisis nor from any of the zymotic diseases, nor were there any deaths of infants under one year.

The general death rate (16.17) was the third highest recorded in the county.

The report also points out that, after excluding the deaths of infants under one year, almost forty per cent. of the remaining deaths occurred at sixty-five years of age and over.

The birth rate was the highest recorded since the year 1901.

The infant mortality rate was the lowest recorded during the last ten years, and this is attributed, by the medical officer, to the favourable climatic conditions which prevailed during the summer months, as a result of which "the common house fly was hardly in evidence; dust was much reduced in quantity; food stuffs, especially among that class whose facilities for the hygienic storing of victuals are practically non-existent, were liable in a less degree to contamination. As a consequence, Diarrhoea was practically unknown."

Discussing the Phthisis death rate, which, during the preceding year, was the highest in the administrative county, the medical officer states that it bids fair to uphold its record during the year under review, and refers to "the innate repugnance, on the part of certain classes to opening doors and windows, and so depriving themselves of such fresh air as these simple means of ventilation afford." The Phthisis death rate was again the highest recorded in any urban or rural district.

*Infectious Diseases.*—Though the cases of infectious disease notified during the year under review were more numerous than during any of



the ten years preceding, the number does not appear to be excessive when account is taken of the number of tenement houses in Alnwick, and of the consequent impossibility of isolation in houses of the above description.

The case of Enteric fever which was notified is the first case since 1899—a remarkable record for an urban district of nearly 8,000 inhabitants. The immunity from Enteric fever, enjoyed by this district, is doubtless attributable to the abolition of privies and pail closets, to the constant supervision exercised by the sanitary officials resulting in greater cleanliness of yards courts and tenement property, and, to some extent, to a higher standard of hygienic observances which was noticeable in some of the least desirable areas.

Scarlet fever and Diphtheria were notified, in the case of the former disease, during the months of January, February, April, July, August, October and November, and, as regards the latter disease, during the months of January, February, May, June, September, October and December. There was a sudden rise, in the case of Diphtheria, during December, when eleven out of the total of twenty cases were reported.

A widespread epidemic of Measles occurred in the early months of the year, causing three deaths.

Thirteen patients, suffering from infectious disease, were removed to hospital.

*Dairies, Cowsheds, and Slaughter Houses.*—The number of these premises on the register is not stated. The number of inspections made, or of defects and contraventions of regulations or bye-laws met with, is not given, though all are reported to have been periodically inspected. The medical officer alludes to the objectionable practice of depositing refuse near the slaughter house, for considerable periods, previous to its removal, and the sanitary inspector refers to the unsatisfactory condition of the floors and lighting arrangements in some of the older cowsheds.

*Common Lodging Houses.*—The premises were periodically inspected during the year, and are reported to have been kept in "fairly good order." The number on the register is not stated.

*Factories and Workshops.*—There were sixty-one workshops on the register, excluding bakehouses. The number of inspections made is not given, nor is the standard of sufficiency adopted by the council as regards sanitary conveniences alluded to as required by the official form. Seven defects were found, all of which were remedied.

*Improvements.*—Sixteen additional dwellings, consisting of eight double flats, were commenced in Lisburn Street.

With a view to augmenting the water supply of the district, and increasing the storage capacity, the council obtained the services of a consulting engineer who prepared and submitted three alternative schemes. All these were, after consideration, abandoned on account of the terms being too exacting, or the estimated cost being prohibitive. A further scheme was prepared by the council's surveyor and considered by the council, but no definite conclusion was arrived at.

The Canongate sewerage continued to occupy the attention of the council; competitive schemes were invited, and these were submitted to an assessor. A scheme was eventually decided upon at an estimated cost of £1,600, and this, it is stated, will be carried out during the ensuing year. Considerable alterations were made, with a view to improving the sewage disposal works, but a sufficient time had not elapsed to enable an opinion to be expressed as to the efficiency of the work carried out. Improvements in the drainage of houses and other premises were carried out as a result of action taken by the sanitary inspector. Sanitary conveniences were still further improved and many old drains were tested and, when necessary, relaid.



The heating and lighting of the wards at the Isolation Hospital were greatly improved.

*Requirements.*—The water supply of the district was still awaiting that augmentation and improvement, the necessity for which has been, for years, very apparent. More houses, suitable for the working classes, were still greatly needed and, owing to the insanitary condition of much tenement property, the need for additional houses for the weekly wage earning class increases year by year. The medical officer intimates that it has been necessary to defer action with reference to the closure of houses, admittedly unfit for human habitation, and whose structural defects are too glaring to admit of their being occupied for any considerable time, owing to the totally insufficient housing accommodation at present available. Alluding to the provision of houses by the Local Authority so as to meet the above-named need, the medical officer makes reference to the difficulties they experience in providing houses for the weekly wage class owing to the greatly increased cost of building and to the stringent requirements of the Local Government Board in sanctioning a loan.

An improvement scheme for No. 2 area.

The necessity for increased hospital accommodation was acutely felt during the year under review, the facilities for treating patients of both sexes, suffering from more than one infectious disease, not being available.

The provision of a steam disinfecter is also needed.

The completion of the Canongate sewerage scheme which at length appears to be within measurable distance of fulfilment.

Improvement of some of the cowsheds, especially in the direction of better flooring and lighting.

A public mortuary.

The provision of public conveniences for both sexes.

The inclusion, in the medical officer's report, of the tables provided and required by the Local Government Board and the Home Office. These tables contain valuable and interesting statistical information which should be accessible to any ratepayer interested in public health matters.

\* 16·17 if fourteen deaths of non-residents be deducted.

#### AMBLE.

Medical Officer of Health, H. M. STUMBLES, M.B., Ch.B.

Area, 1,258 acres; estimated population, 6,000; birth rate, 25.33; general death rate, 9.16; zymotic death rate, 0.50; infant mortality rate (per 1,000 births), 92.10; Phthisis death rate, 0.33; death rate from respiratory diseases, 1.0.

When compared with the corresponding rates for the previous year the respiratory death rate shows no alteration, the birth rate and Phthisis death rate have increased respectively by 0.67 and 0.33; the remaining rates decreased as follows:—General death rate by 0.50; zymotic death rate, 0.16; infant mortality rate, 49.79.

One hundred and fifty-two births were registered during the year, and fifty-five deaths; of the latter, fourteen were of children under one year, and twelve of persons sixty-five years and upwards.

Fifty-four cases of infectious disease were notified as follows:—Scarlet fever, 27; Diphtheria and Membranous croup, 24; Erysipelas, 2; Enteric fever, 1.



Three deaths occurred from zymotic disease, viz.:—Scarlet fever, Diphtheria, and Enteric fever, one each.

Phthisis caused 2 deaths; respiratory diseases, 6; heart diseases, 9; accidents, 2 and premature birth, 1.

The birth rate was slightly higher than for the previous year, but 4.8 below the average for the ten years 1899-1908.

The general death rate was slightly lower than during 1908, and considerably lower than during 1907 and the eight previous years. It was also the third lowest recorded in any urban or rural district.

In commenting upon the very marked reduction in the infant mortality rate, the lowest recorded in this district since 1902, the medical officer acknowledges the valuable services rendered by the district nurse. The opinion is expressed that at least fifty per cent. of the infant deaths registered might, with care, be prevented, as "the absence of maternal care before the birth of the infant is largely to blame. Some mothers know and yet wilfully disregard the fact that upon their conduct and habits depend the woe or weal of their coming offspring, whilst others are young and ignorant of the responsibility which nature has vested in them." With regard to the latter class, the medical officer emphasises the desirability of inaugurating some method of instruction of the elder girls before leaving school, and of the mothers by approved health visitors.

*Infectious Diseases.*—Fewer cases of infectious disease were notified than during the previous year. Scarlet fever was present during every month of the year except July, and Diphtheria during every month. Only one case of Enteric fever (imported from an outside district) occurred. Each of the above-named diseases caused one death. The decrease in the number of Diphtheria cases notified is, in the opinion of the medical officer, largely due to the greater use, by the local medical men, of the advantages offered by the county council of the free examination of swabs taken from suspected cases, as, in this way, many cases presenting all the appearances of Diphtheria would have been reported as such but for the fact that they have been shown by bacteriological examination to be free from the Diphtheria organism, while, on the other hand, children apparently well and presenting to the naked eye no evidence of Diphtheria were shown to be in an infectious condition and by continued isolation were prevented from communicating the disease to others.

The indiscriminate use of slates by different children attending the public elementary schools as a factor in the spread of this disease is also referred to, and in reporting on one outbreak the medical officer states, "I am perfectly satisfied that infection from one child to another was spread by slates being used by one child one day and by some other child on a subsequent day. Children *will* lick and spit, and it is easy to conceive how, in this way, the organism left on the slate may find a new home on the following day."

Phthisis caused two deaths, and, apart from three districts in which no deaths occurred from Phthisis, the mortality rate from this disease was the lowest recorded in any urban or rural district.

Disinfection of premises where notifiable diseases occurred, and also of rooms inhabited by Phthisical patients, was carried out by the council's employees.

*Factory and Workshop Act.*—Sixteen factories and thirty-three workshops were on the register, a decrease of one of the former and two of the latter since the preceding year. The number of inspections made is not stated, but the various provisions of the Act were carried out. The two bakehouses in the district were reported to be in a satisfactory condition.



*Dairies, Cowsheds, and Milkshops.*—There were two cowkeepers and two purveyors of milk in the district. Their premises were regularly inspected and found to be in a satisfactory condition.

*Slaughter Houses.*—The number of these premises, registered or licensed is not stated in the report. One new slaughter house was licensed, and all were regularly inspected and found to be in a perfectly satisfactory condition. The meat prepared for sale was good, and no carcasses were condemned. The medical officer alludes to the unsatisfactory situation of some of the slaughter houses, owing to their close proximity to dwelling houses. It is satisfactory to note that the council are desirous to erect a public abattoir, and the matter has been referred to a sub-committee, who have received the council's instructions to prepare a report on the subject.

*Common Lodging Houses.*—The number on the register and the accommodation provided therein are not stated, nor is the number of inspections given in the report. The houses are reported to have been satisfactorily kept and the bye-laws generally observed; no cases of infectious disease were discovered.

*Improvements.*—Several new houses were erected during the year, which resulted in a considerable reduction in the overcrowding which formerly existed.

A new Council School was completed and opened, and the use of the old school discontinued. Various sanitary improvements were effected in the Church of England Infant School.

In the sanitary inspector's report, particulars are given of several improvements in and around existing houses, notably in Victoria Street, Greenfield Street, Scott Street and the Common Lodging House.

The water supply of the district continued to be plentiful and good, and an additional spring, supplying over sixty gallons per minute, was added to the supply of previous years.

Improvements in the sewerage system were effected, more especially as regards increased ventilation; ten ventilating shafts were fixed in different parts of the town, and several connections were made between sewers, which had the effect of doing away with the dead ends.

One old cowshed was replaced by a new building with improved drainage.

*Requirements.*—The medical officer directs attention to the "enormous amount of solid matter," together with representatives of lower animal life, in the water supplied by the council, and suggests that "by the provision and use of a suitably constructed filter bed, the purity of the water would be safeguarded, and its palatability increased."

Further improvements as regards the ventilation of sewers in which the fall is not sufficient to secure self-cleansing action.

The abolition, in many cases, and the general repair in others, of insanitary privy middens, especially the open ashpits in Marks Row which abut on the public pavement and, being uncovered and unprotected in any way, are a source of annoyance, and a danger to the health of the passers-by.

The provision of a more suitable method of refuse disposal in place of the indiscriminate tipping which is now in vogue. "The habit of spreading broadcast the faecal accumulation of the town is most undesirable. Both the Warkworth Road and the pathway across the Braid have many times been impassable owing to the stench." Also more frequent and thorough scavenging of middens and ashclosets.

The adoption of means for preventing the gross pollution of the Gut, which has been a frequent source of nuisance, especially in warm weather.



The utilisation of the legal powers possessed by the council so as to secure satisfactory isolation of cases of infectious disease. The medical officer, in alluding to this matter, states:—"The time has come when I must advise the council to institute prosecutions in cases where wilful "exposure of infective persons occurs."

The bacteriological examination of the milk supplies of the district, as occasion demands.

The erection of a public abattoir.

A general remodelling of the sanitary accommodation, etc., at Gibson Street School.

#### ASHINGTON.

Medical Officer of Health, R. J. MILLS, M.B., B.S.

Area, 3,035 acres; estimated population, 22,000; birth rate, 37.27; general death rate, 13.13; zymotic death rate, 2.18; infant mortality rate (per 1,000 birth), 132.92; Phthisis death rate, 0.68; death rate from respiratory diseases, 0.95.

With the exception of an increase of 1.18 in the zymotic death rate, the above rates, when compared with those of the preceding year, show decreases as follows:—Birth rate, 3.18; general death rate, 3.42; infant mortality rate, 69.79; Phthisis death rate, 0.17; respiratory death rate, 0.76.

Eight hundred and twenty births were registered during the year and two hundred and eighty-nine deaths; of the latter one hundred and nine were of children under one year and twenty-three of persons sixty-five years and upwards.

One hundred and twenty-nine cases of infectious disease were notified as follows:—Scarlet fever, 46; Diphtheria and Membranous Croup, 39; Enteric fever, 21; Erysipelas, 18; Continued fever, 4; Puerperal fever, 1.

Forty-eight deaths occurred from zymotic disease, viz:—Measles, 17; Infantile Enteritis, 10; Diarrhoea, 9; Diphtheria and Membranous Croup, 5; Whooping cough, 3; Enteric fever, 3; Continued fever, 1.

Phthisis caused 15 deaths, respiratory diseases 21, heart diseases 24, accidents 7 and premature birth 14.

The area of the district was increased during the year by the addition of 165 acres from the Morpeth Rural District.

The population was estimated to have been 22,000 in the middle, and 23,000 at the end of the year.

The birth rate, though lower than during the previous year, was the third highest recorded in any sanitary district, but with the exception of the year 1907 was the lowest recorded during the last eleven years.

It was considerably higher in the Hirst than in the Ashington sub-division.

The general death rate was practically the same in each sub-division, and with the exception of the year 1907 was the lowest recorded since the formation of the urban district.

The infant mortality rate was the lowest recorded in this district during the last eleven years and was much higher in the Hirst than in the Ashington sub-district.

The zymotic death rate was higher than during either 1907 or 1908 and was the highest recorded in the administrative county during the year under review.

The attack rate from notifiable infectious diseases was much higher in Ashington than in Hirst.



The following table gives, for each of the two sub-divisions of the district, the population, the birth rate, the various mortality rates, the number of cases of infectious diseases notified, and the attack rate of the latter per 1,000 population :—

Sub-district.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Ashington ...	7,000	177	25.28	94	13.42	20	113.00	8	1.14	58	8.3
Hirst ...	15,000	643	42.86	195	13.00	89	138.41	40	2.66	71	4.7
Whole district	22,000	820	37.27	289	13.13	109	132.92	48	2.18	129	5.8

The medical officer, referring to the infantile mortality, shows that the rate for the year under review was the lowest ever recorded since the formation of the district. The improvement was most marked in the Hirst ward where the rate, for the preceding year was 221.3 per 1,000 births and, for the year under consideration, 138.4. While giving due weight to the favourable climatic conditions, the medical officer is of opinion that "the constant agitation, the continual reiteration, and the widespread advising, both by teaching and by printed instructions are beginning to bear fruit." In drawing attention to the fact that one-third of the infant mortality occurred in the first four weeks of life, and the influence thereon of prenatal conditions, the report states, "While we teach mothers how to feed and bring up their children, it is, at the same time, essential that we should educate these same mothers how to take care of themselves. Health visitors afford a very valuable means of imparting such knowledge, especially as regards maternity, and the sympathetic instruction given will be the means of making the innocently careless girl-wife into a careful and self-reliant mother, who, relying on her own educated resourcefulness, will be able to dispense with the precarious and conflicting advice of the neighbours."

*Infectious Diseases (Notifiable).*—Cases of Diphtheria were notified during every month except August.

Ashington ward was free from Scarlatina during the first seven months of the year, but in the Hirst ward cases occurred during nine months.

The majority of Enteric fever cases (13) occurred in the Ashington ward during the months of February, March, May, August, September and October; in the Hirst ward eight cases were notified in the months of May, July, September and October. All the twenty-one cases of Enteric fever were treated in hospital.

The medical officer again testifies to the material assistance obtained from the bacteriological examinations provided by the county council, to the increased appreciation, by medical practitioners, of the above provision and to the marked reduction in the mortality from Diphtheria which has resulted from the use of Antitoxin.

*Infectious Diseases (Non-notifiable).*—In March and April, Measles was epidemic; the outbreak was the cause of school closure in the Hirst and Ashington wards.

*Schools.*—The schools in the Hirst ward, and also the Bothal schools at Ashington were closed in March and April respectively owing to an extensive outbreak of Measles. The opinion is expressed that, with a view to the early suppression of "class-room epidemics" it would be



a distinct advantage if all teachers were instructed, during their training curriculum, in the initial signs or symptoms of infectious diseases with a view to their reporting all suspicious cases to the medical officer of health.

Though fifteen deaths resulted from Phthisis (and twenty from other forms of Tuberculosis), the Phthisis death rate was the third lowest recorded in urban districts (apart from the three districts in which no deaths from Phthisis occurred).

The council are again urged, by the medical officer, to take further steps as regards the prevention of the spread of Phthisis. The advisability of making the disease notifiable was again urged upon the council in order that patients suffering from Phthisis and other members of the households affected might be provided with means of preventing its spread, both in the family and to others, and regret is expressed that "a disease, productive of more national as well as local bankruptcy than any of the others is left to foster and spread in our community, involving a long unproductive period in a workman's life, expenditure on the part of friendly societies and sick clubs and, ultimately, by Boards of Guardians and ratepayers."

*Factories and Workshops.*—There were ten factories and twenty-nine workshops in the district; one hundred and ninety-six visits of inspection were paid. The number of bakehouses was not given in the report. Five contraventions of the Factory and Workshop Act were met with, all of which were remedied. No outworkers were employed in the district.

*Dairies, Cowsheds and Milkshops.*—There were eight cowkeepers in the district and the cowsheds and dairies were stated to be well ventilated, lighted and drained. It is encouraging to note that considerable improvements have been effected by the provision of milk cooling appliances and by the adoption of greater cleanliness in cowsheds, cows and milking operations. The water supply for all cowsheds and milkshops was reported to be both adequate and satisfactory.

*Slaughter Houses.*—The number and condition of the slaughter houses in the district are not given, nor are the inspections made alluded to. The provision of a public abattoir is recommended, and the council are stated to have the matter under consideration.

*Improvements.*—*Housing.*—The housing accommodation of this district was considerably increased by the erection of 367 new houses in the Hirst and 65 in the Ashington ward. The new houses were of an improved type, with more air space, cemented yard areas, and better street accommodation than those previously erected. That there is an increasing demand for better sanitary arrangements is shown by the fact that, in 40 cases baths and lavatories were provided, as against 12 during the previous year, and also that 35 water closets were fixed during 1909, whereas only 8 were provided during the previous year.

*Water Supply.*—The building operations referred to above necessitated considerable extensions of the local authority's water mains. Speaking generally, three taps were provided for each row of houses, but water was laid into the houses whenever the owners agreed to bear the expense of this extension.

*Sewerage.*—The sewerage system of the district was considerably extended by the provision of a sewer for the new buildings at Hirst, by the construction of a new branch sewer for the north side of Station Road and also a large 18-inch sewer through Rollington Dene.

*Scavenging.*—The scavenging of the district was improved in several details, notably by the substitution of covered carts for the open ones formerly used, and by scavenging being carried out, as far as possible, during the night. Lime spraying of ash-pits was effectively carried out,



more especially during the hot weather and printed notices were posted warning householders of the danger of depositing vegetable matter in the ashpits.

Disinfection of houses, clothing, bedding, &c., was carried out by the Sanitary Authority in connection with all cases of an infectious nature.

Streets and Roads.—The more important improvements to streets carried out include the widening of Station Road, the laying of about 2,000 yards of asphalt paving for footpaths, and the making up of Fourth Row. The council also decided to take over all private streets as soon as they were put into a satisfactory condition, and Mortimer Street was dealt with in this manner.

The Notification of Births Act was adopted during the year under review.

Considerable improvements were effected at the isolation hospital, *e.g.*, a new wing was added containing bath room, kitchen and hot water supply, also sitting room and bedroom for nurses, and increased pantry accommodation.

*Requirements.*—"In the existing private streets," states the report, "considerable improvement is still desirable." This has been alluded to in former reports, and although the present one shows that the local authority are appreciating their responsibilities in this respect to a greater extent than formerly, there are still many private streets in the town where the provisions of the Private Street Works Act could, with considerable benefit to the district and its inhabitants, be put in force.

The fixing of additional water taps in several of the colliery rows or, preferably, the provision of a water tap for each house, is very desirable as, when water has to be carried long distances, there is always an incentive to economy in its use, which frequently results in an injurious effect on the sanitary well-being of the district.

Extensions of the water circulating system were required at the hospital.

The provision of a more satisfactory method of disposing of house refuse than the present one of "tipping." The rapid growth of the town, more especially when it is considered that the privy midden system so largely predominates, makes this a question of ever-increasing urgency.

The provision of a destructor to deal with the trade and ashpit refuse would be of great advantage.

The drafting of bye-laws for the regulating of slaughter houses.—The failure, by an urban authority, to make such bye-laws is a contravention of Sec. 128 of the Towns Improvement Clauses Act, 1847, and Sec. 169 of the Public Health Act, 1875, as was pointed out in the previous annual report of the county medical officer.

The provision of a public abattoir. By action in this direction, the local authority would not only prevent the undoubted nuisances and dangers which continually arise from the existence of slaughter houses in close proximity to dwelling-houses, but would, at the same time, be providing means for the efficient inspection of meat prepared for human consumption. In the absence of a public slaughter house, thorough inspection is impossible.

The cementing of all yard spaces.

The provision of wash-houses.

Better lighting of some of the streets was an urgent requirement.

Tables I. and II. supplied by the Local Government Board as well as the form supplied by the Home Office, relating to factories and work-shops are not included in the printed report of the medical officer: these tables give valuable statistical information which should be accessible to any ratepayer interested in public health matters.



## BEDLINGTONSHIRE.

Medical Officer of Health, R. S. TROTTER, M.D., C.M., B.Hy.

Area, 8,533 acres estimated population, 25,630; birth rate, 31.87; general death rate, 13.64; zymotic death rate, 1.52; infant mortality rate (per 1,000 births), 116.27; Phthisis death rate, 0.98; death rate from respiratory diseases, 1.96.

When compared with the corresponding rates for the preceding year the birth rate and the Phthisis death rate show respective increases of 0.05 and 0.20; the remaining rates have decreased as follows:—General death rate, 1.98; zymotic death rate, 0.14; infant mortality rate, 58.47; respiratory death rate, 0.33. The birth rate and infant mortality rate are the lowest ever recorded for this district.

Eight hundred and seventeen births were registered during the year and three hundred and fifty deaths; of the latter ninety-five were of children under one year and sixty-seven of persons sixty-five years and upwards

Seventy-two cases of infectious disease were notified as follows:—Scarlet Fever, 30; Diphtheria and Membranous Croup, 17; Enteric Fever, 12; Erysipelas, 10; Continued Fever, 2; Puerperal Fever, 1.

Thirty-nine deaths occurred from zymotic disease, viz.:—Measles, 10; Whooping Cough, 6; Diarrhoea, 17 (including 11 infant deaths from Enteritis); Enteric Fever, 3; Diphtheria, 1; Continued Fever, 1.

Phthisis caused 26 deaths, respiratory diseases 52, heart diseases 39, accidents 11, and premature birth 19.

The births registered during the year exceeded those of 1908 by 33; at the same time the deaths under one year were 43 less during 1909 than during the previous year, corresponding to a fall in the infant mortality rate of 58 per 1,000 births. The infant mortality rate was the lowest ever recorded in this district. Of the 25 illegitimate children born, only one died within the first year.

The following table gives some statistical information relating to the whole district, and also to the seven sub-districts into which the medical officer divides this urban district, and indicates the localities in which notifiable infectious diseases occurred, the number of cases and the attack rate per 1,000 in each sub-district.

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Barrington ...	1,123	36	31.9	26	23.0	7	194.4	2	1.77	8	7.0
Bedlington ...	6,743	219	32.5	80	11.8	21	95.8	10	1.48	19	2.8
Cambois ...	2,795	82	29.3	41	14.6	7	85.3	3	1.07	10	3.5
Choppington ...	6,364	190	29.8	88	13.8	23	121.0	10	1.57	15	2.3
Netherton ...	1,879	80	42.5	31	16.4	13	162.5	4	2.12	5	2.7
Sleekburn ...	5,004	180	35.9	69	13.7	21	116.6	7	1.39	11	2.1
East and West Sleekburn	1,717	30	17.4	15	8.7	3	100.0	3	1.74	4	2.3
Whole district	25,630	817	30.79	350	13.64	95	116.27	39	1.52	72	2.8

The following table indicates the attack rates per 1,000 population from notifiable infectious disease in each sub-division of the district.



Sub-districts.	Scarlet Fever.		Enteric Fever.		Diphtheria.		Continued Fever.		Erysipelas.		Puerperal Fever.	
	No.	Attack Rate.	No.	Attack Rate.	No.	Attack Rate.		Attack Rate.	No.	Attack Rate.	No.	Attack Rate.
Barrington ...	—	—	2	1·77	6	5·31	—	—	—	—	—	—
Bedlington ...	4	0·59	4	0·59	6	0·89	—	—	4	0·59	1	0·15
Cambois ...	10	3·57	—	—	—	—	—	—	—	—	—	—
Choppington ...	8	1·25	1	0·16	2	0·31	—	—	4	0·62	—	—
Netherton ...	2	1·06	1	0·53	—	—	2	1·06	—	—	—	—
Sleekburn ...	6	1·19	2	0·39	2	0·39	—	—	1	0·19	—	—
East and West Sleekburn	—	—	2	1·16	1	0·58	—	—	1	0·58	—	—
Wholedistrict	30	1·17	12	0·47	17	0·66	2	0·07	10	0·39	1	0·03

From the above tables it appears that the general death rate was below the average for the whole district in East and West Sleekburn and in Bedlington, and above the average in Barrington, Netherton, Cambois and Choppington, being especially high in Barrington, as was the case in the previous year. The infant mortality rate was also markedly higher in Barrington and Netherton than in the other sub-divisions.

*Infectious diseases (notifiable)* were less numerous than during 1908. Of the 72 cases of infectious disease, 19 occurred in Bedlington, 15 in Choppington, 11 in Sleekburn, 10 in Cambois, 8 in Barrington, 5 in Netherton, and 4 in East and West Sleekburn. Cambois and Netherton were entirely free from Diphtheria; indeed, with the exception of ten cases of Scarlet Fever, Cambois was entirely free from notifiable infectious diseases; Bedlington and East and West Sleekburn were free from Scarlet Fever. The greatly reduced incidence of infectious disease, and especially of Enteric Fever, upon the whole district, and the total absence of the last-mentioned diseases in Cambois, is most satisfactory, though the medical officer remarks, "we may have a greater number next year." Attention is also called to the responsibility of flies, "especially in a privy midden district such as ours, for the transmission of certain diseases from one member in a household to another, and from house to house." The attack rate, per 1,000 population, from infectious diseases notified, was twice as high in Barrington as in any other sub-district. Barrington also headed the list, in the above respect, during 1906, 1907 and 1908.

Leaflets were distributed, intimating the steps which should be taken by householders for lessening the fly nuisance.

Four deaths occurred from Enteric fever, 1 from Diphtheria and 1 from Scarlet Fever.

*Infectious Diseases (non-notifiable).*—Measles, Mumps, Whooping Cough, Chicken-pox, epidemic Influenza, etc., were, one or more, prevalent in every part of the district, and resulted in 29 deaths, 10 of which were caused by Measles.

In commenting upon the control of Tuberculosis, which disease caused 6 more deaths than during the previous year, the medical officer advocates compulsory notification of Phthisis, the elimination of Tuberculous cows from all herds of cattle, especially milch cows, the segregation of all persons suffering from consumption to an incurable extent and provision for the treatment, under proper conditions, of patients in the early stages of the disease, and concludes:—"Those of us who see, in our daily life, not only the actual ravages of this scourge, but the untold miseries—mental, physical, moral and economic—left in its train, are prepared to use all the influence we can to have the matter treated in a drastic fashion, feeling as we do that the more drastic the measures adopted



"in the present, the less chance will there be of future evil. As a matter of economics, which is the bogey at which most reformers shy, the more drastic the measures adopted in this generation the less need would there be for such expenditure in the next."

*Common Lodging Houses.*—These could not be said to be in a satisfactory condition, though some improvements were effected. The number of the above premises on the register, and the amount of accommodation provided, is not stated in the report.

*Dairies, Cowsheds and Milkshops.*—These premises were all inspected and, in two cases, dairies which did not conform to the sanitary requirements of the council were closed. The medical officer reports a general tendency towards improvement in most of the "dairies, and also in the methods of handling milk." The number of premises registered was not stated in the report.

*Slaughter Houses.*—Several of the slaughter houses continued to be unsatisfactory, both as regards position and construction. Bye-laws were sanctioned by the Local Government Board during the year under review, and the sanitary authority have, thus, the necessary powers for dealing with various defects. The number of premises, registered or licensed, is not given in the report.

*Factoriss and Workshops.*—These number eighty-five, exclusive of workplaces. Visits of inspection were paid as follows:—Factories 50, workshops 42, workplaces 20. In several instances want of cleanliness, defective privy accommodation and other nuisances were remedied.

*Improvements.*—*Housing*—Certificates of occupation were granted during the year for two-hundred-and-fifty-nine houses, and it is satisfactory to learn that many of these houses "are more commodious and of an altogether better type than many of those erected formerly"; also that many are provided with self-contained yards, cemented or flagged, and water taps provided in the yards. A considerable number of houses were also provided with bath rooms and water closets, "others, however, are chiefly run up on the cheapest possible lines, and this is an evil which will lead to further evils, from a health point of view, in future. It is regrettable to think that this sort of thing is, to a considerable extent, encouraged at headquarters, and advocated by many so-called housing reformers. The ill effects of this modern craze for cheapness and shoddy on the health of the people is a problem that future generations will have some difficulty in dealing with. It is not for the good of the nation, from either a moral or a physical standpoint." Several houses were closed (number not stated) as unfit for human habitation, and structural improvements were carried out in others, e.g., the substitution of cement concrete floors for flagged floors, and also for wooden floors, which latter were damaged by "dry-rot" owing to absence of ventilation below the floor. In numerous cases where dampness of house walls existed, improvements were effected by the renewal of defective spouting, the fixing of additional spouting, and the provision of additional means for the drainage of roof and surface water.

*Water supply*—Great improvements were effected at the waterworks by the provision of an additional filter bed. The capacity of the new filter bed is more than two-thirds that of the previously existing beds. As regards distribution, the following improvements were effected:—One-thousand-four-hundred yards of six-inch water mains were laid from Bedlington to Bedlington Station. Water mains were also laid in other parts of the district, and service pipes were carried into several houses and yards. Twenty additional stand pipes were provided in the older parts of the district, by which the distance over which water has to be carried was considerably reduced.

*Sewerage and drainage*—The new main sewer from the Doctor Pit Rows to tidal waters was nearly completed. Sewers were also laid to meet the



requirements of the new houses erected. Several old defective sewers were relaid and some old surface channel sewers were replaced by pipe sewers.

**Sanitary conveniences**—In some instances where the contents of privy middens were wheeled out through passages, cart entrances were made; forty-three privies were abolished and water closets provided in their stead. A large number of concrete privy risers were substituted for the insanitary privy risers which previously existed.

More than two thousand yards of tar macadam footpaths were laid, and kerbing provided.

Some slight improvements were made in some of the colliery roads and back streets.

Bye-laws relating to slaughter houses, and also to the clearing of footways and cesspools were framed, and received the sanction of the Local Government Board during the year under consideration.

Further consideration was given to the new Building and other bye-laws which have been framed to supersede those dating back to 1862 but, up to the end of the year they had not received the sanction of the Local Government Board.

**Requirements.**—Increased housing accommodation was still required, and considerable difficulty was experienced in effectually dealing with overcrowding. The last-mentioned condition is attributed, by the medical officer, to be due, in part, to the supply of houses being still below the requirements of the district, and partly to "thoughtless early marriages, leading to young couples having to live in one or other of the parental households, and perhaps before the young folks can get a house the household has been increased by one or two children being brought into the world." A considerable number of back-to-back houses, and also the condition of many tenement houses called for the attention of the sanitary authority. The provision of suitable places for the storing of food was greatly needed in many of the older houses, where such provision is either entirely absent or altogether unsuitable.

The paving of yards and the making up of back streets; the deplorable condition of several streets during wet weather, makes cleanliness impossible, and the medical officer states that this "is a standing source of danger to the health of even the best shod school children who often have, as the result of traversing these muddy, puddly streets, to sit in school with feet damp or soaked."

The substitution of covered sewers for the dilapidated or defective open surface channels which still exist in several sub-districts, notably at Netherton Colliery, Cambois, Sleekburn, Choppington Colliery and Scotland Gate. The provision of improved and additional means of drainage for many houses where the present conditions are both insufficient and unsatisfactory.

An improved method for dealing with sewage so as to prevent the gross pollution of streams (*e.g.*, Netherton Letch, Green Letch, Willow Burn, etc.) was still urgently needed.

The abolition of the numerous and, in many cases, extremely dilapidated privy ashpits which still exist in almost every sub-district, and the provision of other and more sanitary structures, preferably water closets.

The need for an improved system of scavenging and the more frequent cleansing of ashpits and stable middens—especially during the summer months—was still very much in evidence.

The medical officer emphasised the importance of the contents of ashpits and stable middens being removed at shorter intervals with a view to preventing both the hatching of eggs laid by flies and other



evils resulting from accumulations of decomposing filth in the vicinity of dwelling houses.

The contents of privy middens, etc., were, as before, removed to "tips" by a number of private contractors, a system which entails a considerable amount of supervision by the council's officials, and which is very rarely, if ever, productive of a satisfactory result. A new objection to the present system is alluded to by the medical officer:—Several of the scavenging contractors are also market gardeners, and there is a grave danger of disease being spread by the consumption of raw vegetables grown upon land manured with the contents of privy middens.

Building bye-laws to replace those now in force, which date back to 1862.

That the possession of increased powers, by the local authority, as regards the erection and supervision of new buildings is urgently needed, is apparent from the remarks (already quoted) of the medical officer in alluding to houses recently erected. The powers now possessed by the local authority under bye-laws dated 1862 are totally inadequate if the tendency alluded to above is to be successfully combated.

The adoption of the Public Health Acts Amendment Acts of 1890 and 1907, the Infectious Diseases (Prevention) Act, 1890, and the Notification of Births Act, 1907.

The unsatisfactory condition of many of the slaughter houses also urgently needs attention, and now that the council have obtained the requisite powers, by the adoption of bye-laws, there is no excuse for the continuance of the many insanitary conditions to which reference has been made in former reports.

#### BLYTH.

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

Area, 3,016 acres; estimated population, 28,011; birth rate, 34.09; general death rate, \*17.63; zymotic death rate, 1.64; infant mortality rate (per 1,000 births), 160.20; Phthisis death rate, 1.39; death rate from respiratory diseases, 2.99.

With the exception of the zymotic death rate which has decreased by 0.03, all the above rates have increased, in comparison with the preceding year as follows:—Birth rate 0.98, general death rate 2.28, infant mortality rate 11.85, Phthisis death rate 0.41 and the respiratory death rate 0.79.

Nine hundred and fifty-five births were registered during the year and four hundred and ninety-four deaths; of the latter one hundred and fifty-three were of children under one year and eighty-six of persons sixty-five years and upwards.

One hundred and sixty-four cases of infectious diseases were notified as follows:—Diphtheria 48, Erysipelas 19, Scarlet fever 82, Enteric fever 9, Continued fever 5 and Puerperal fever 1.

Forty-six deaths occurred from zymotic disease, viz.:—Measles 12, Scarlet fever 5, Whooping cough 6, Diphtheria 1, Enteric fever 2, and Diarrhoea 20 (including two infantile deaths from Gastritis).

Phthisis caused 39 deaths, respiratory diseases 84, heart disease 44, accidents 12 and premature birth 30.

The following table indicates the sub-divisions of the Blyth urban district and some vital statistics relating to the district as a whole, and also to the several sub-divisions:—



Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
North Ward	4,847	106	21.7	58	11.9	9	84.9	9	1.85	35	7.2
South Ward	2,016	63	31.2	24	11.9	8	127.0	2	0.99	24	11.9
Waterloo and Crofton ...	7,310	251	34.3	124	16.9	36	143.4	13	1.77	48	6.5
Cowpen Quay	6,503	265	40.7	168	25.8	54	203.7	12	1.84	28	6.8
Newsham Buildings, Cowpen Colliery, &c. }	3,754	132	35.7	53	14.1	16	121.2	5	1.33	24	6.3
Kitty Brewster, Cowpen Village, &c. }	1,840	71	38.5	43	23.3	19	267.6	3	1.63	3	1.6
Bebside ...	1,741	67	32.7	24	13.7	11	164.1	2	1.14	2	1.1
Whole district	28,011	955	34.09	494	17.63	153	160.2	46	1.64	164	5.8

Since the fall of 2.77 per 1,000 in the birth rate, which was recorded in 1907, there has been an upward tendency in each succeeding year and, for the year 1909, the birth rate was the highest recorded since 1905, though lower than the average for the years 1899-1908. The rate was again the lowest (21.7) in the North Ward, as was also the infant mortality rate. The birth rate was above 31 in six of the sub-districts, and in three, it was above 34 per 1,000 population.

The infant mortality rate, which was the highest recorded in any district was again lowest in the North Ward (84 per 1,000 births) and highest (267 per 1,000 births) in the Kitty Brewster sub-division.

The medical officer draws attention to the great disparity between the infant mortality rate among legitimate and illegitimate children, being 154 per 1,000 births among the former, and 360 among the latter, and again expresses the hope that the local authority will, in the near future, reconsider their decision not to adopt the Notification of Births Act, and adds "I can fancy the outcry there would be if, in a herd of cattle, the same mortality existed amongst the calves. Questions would be asked in Parliament; the aid of the Board of Agriculture would be invoked, and no expense would be spared to remedy the evil." Why deal with the evil amongst children less strenuously?

The general death rate for the whole district was rather higher than during the previous year, and was the second highest recorded in any district. As was the case in 1908, the rate was below 12 per 1,000 in the North and South Wards; in the remaining sub-districts it varied from 13.7 in Bebside to 25.8 per 1,000 in Cowpen Quay.

The zymotic death rate was the third highest, and the death rate from respiratory diseases (excluding Phthisis) was the second highest recorded in any urban or rural district.

The attack rate from notifiable infectious diseases, lowest in the Bebside and Kitty Brewster, etc., divisions (1.1 and 1.6 per 1,000 respectively), rose to 11.9 per 1,000 in the South Ward, and was over 6.3 per 1,000 in the remaining sub-districts.

*Notifiable Infectious Diseases.*—Cases of Scarlet fever were notified during every month with the exception of January and September. The chief incidence of the disease was upon the North Ward and the Waterloo and Crofton sub-district. Eleven of the patients were treated in hospital.



Diphtheria was most prevalent during March, though one or more cases were notified during every month with the exception of April. Several cases occurred in four sub-divisions; in the North Ward 2 cases, and in the Kitty Brewster and Bebside sub-districts one case each. Only one patient was treated in hospital.

Of the cases of Enteric and Continued Fever, five occurred in the North Ward and a similar number in Cowpen Quay. One case was notified in the South Ward, two in the Waterloo and Crofton sub-division, and one in the Newsham Buildings, etc., sub-division. The Kitty Brewster and Bebside sub-districts were entirely free from the above-named disease.

*Non-notifiable Infectious Diseases.*—Whooping cough, Measles and epidemic Diarrhœa were all prevalent. Whooping cough in the spring, Measles during the autumn months, and epidemic Diarrhœa during July, August and September. The last-mentioned disease, which caused 13 infant deaths, was most prevalent in Cowpen Quay; in "eight of these cases the children were bottle fed, and in six with bottles having long tubes."

*Tuberculosis.*—The medical officer draws attention to the increase of this disease and to the increasing mortality from this cause. He emphasises the desirability of "including Phthisis amongst the diseases which are compulsorily notifiable, as, by so doing, precautionary measures could be taken at an earlier stage than is possible in the majority of cases at present." The suggestion is also made that the council should consider the provision of sanatorium treatment for patients suffering from Phthisis. Eight notifications were received under the Public Health Tuberculosis Regulations, four of which were of persons resident in the district. In each of the latter cases, advice was given as to the requisite precautionary measures to be taken. All houses in which deaths from Phthisis occurred were disinfected, and five applications were made for the fumigation of houses in consequence of this disease.

*Factories and Workshops.*—One hundred and twenty-one premises were registered. One hundred and nine inspections were made, and seventeen written notices, dealing with eleven defects, were issued. The defects, which were want of cleanliness in five instances, insufficient ventilation in four instances, and two other nuisances, were all dealt with in a satisfactory manner. One prosecution was instituted under Sec. 109 of the Act, in the case of a dressmaker's workshop, and a conviction was obtained.

*Common Lodging Houses.*—There were three common lodging houses on the register, with total accommodation for about 230 lodgers. Although the general cleanliness of the houses was exceedingly good, the general structural condition, in one case, was far from satisfactory. Several contraventions of the council's admirable set of bye-laws were noted in each common lodging house, and the sanitary accommodation was most unsatisfactory in every case.

*Dairies and Cowsheds.*—The number of premises on the register is not stated, and no improvements to cowsheds are recorded, although alterations are desirable in many instances. One dairy "the last really bad one," was closed. Limewashing is stated to have been systematically carried out. The medical officer expresses the opinion that "too little care is exercised in milk production."

*Slaughter Houses.*—The number of these premises, registered or licensed, is not stated in the report. Numerous visits were made by the medical officer and sanitary inspector. No tuberculous carcasses were met with. In a few instances, structural improvements were effected, e.g., paving of floors, improvements to drainage and, in one case, entire rebuilding.



*Improvements.*—Housing.—A considerable number of houses were erected, and plans for others were passed by the council. Most of the new houses were provided with w.c.'s.

Some old property was demolished in Blagdon Street, Sussex Street, and Northumberland Street.

It was not deemed necessary to take any action under the Housing of the Working Classes Acts.

Sewerage.—Improvements of a far-reaching character were effected as in previous years in the flushing and ventilation of sewers, and by the provision of inspection chambers in the course of many house drains.

Scavenging.—A great improvement was noticeable owing to the council having undertaken the scavenging of the whole district, with the result that refuse was removed more regularly and more thoroughly than previously.

Roads and Footpaths.—Considerable improvements were effected by widening Bridge Street and portions of other roads, and by raising the level of the Links Road; also by paving back streets and by kerbing and asphaltting footpaths.

Lighting.—The lighting of some of the streets was much improved.

Isolation Hospital.—The Sanitary Authority resolved to erect the long needed Isolation Hospital for the use of this district only. When this is carried into effect the difficulties which from time to time have arisen, owing to the Port Hospital not being available, will be removed.

Ridley Park.—Improvements were effected which will greatly add to the comfort and enjoyment of those using the park.

*Requirements.*—The adoption of the Notification of Births Act and the appointment of a health visitor, the necessity for which is apparent from the appallingly high infant mortality rate in almost every sub-division of this district.

Compulsory notification of Phthisis, and the provision of sanatorium treatment for suitable cases.

A more satisfactory water supply for a large portion of the district and increased storage capacity and filtration area at the Bebside Water-works.

Action under the Housing and Town Planning Act, 1909, to secure the closure of houses, or the improvement in the housing conditions in several parts of the district, especially at Bebside Furnace, Kitty Brewster, Cowpen Quay, Hodgson's Yard, Smith's Buildings and White Row.

Improvements in roads, *e.g.*, at Bebside, Bebside Furnace, and several of the roads and footpaths in the vicinity of colliery rows.

Abolition of open channel sewers, which still exist in some of the colliery villages, and the substitution of pipe sewers.

Also covering in the portion of Newsham Letch which receives crude sewage from New Delaval and houses in the vicinity of Newsham Junction and the continuance of the conduit recently constructed between Thoroton Cottage and the railway to Isabella Pit.

The abolition of the many insanitary privy ashpits.

Additional public slaughter house accommodation.

The provision of a steam disinfecter, and consideration of the advisability of obtaining a refuse destructor.

The enforcing of the bye-laws, especially of those relating to common lodging houses, slaughter houses and the prevention of nuisances.

\* 17.67 if the deaths of seven non-residents occurring in the district be deducted, and if eight deaths of residents which took place without the district be added.



## CRAMLINGTON.

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

Area, 3,583 acres; estimated population, 6,800; birth rate, 26.17; general death rate, 13.38; zymotic death rate, 1.47; infant mortality rate (per 1,000 births), 146.06; Phthisis death rate, 0.73; death rate from respiratory diseases, 2.5.

With the exception of the Phthisis death rate, which is higher by 0.59 than the corresponding rate for the previous year, the above rates have all decreased in comparison with those for the year 1908 as follows:—Birth rate, 3.38; general death rate, 1.91; zymotic death rate, 0.29; infant mortality rate, 33.04, and the respiratory death rate, 0.58.

One hundred and seventy-eight births were registered during the year, and ninety-one deaths; of the latter, twenty-six were of children under one year, and twenty-three of persons sixty-five years and upwards.

One hundred cases of infectious diseases were notified as follows:—Diphtheria, 12; Erysipelas, 7; Scarlet fever, 69; Enteric fever 11 and Puerperal fever, 1.

Ten deaths occurred from zymotic disease, viz.:—Diphtheria, 1; Enteric fever, 3; and Diarrhoea, 6 (including 3 infantile deaths from Enteritis and 2 from Gastritis).

Phthisis caused 5 deaths; respiratory diseases, 17; heart diseases, 13; accidents, 3 and premature birth, 9.

The infant mortality rate was the third highest recorded in any district.

A most satisfactory feature of the report is that the general death rate was the lowest recorded in this district during the last ten years, except for the year 1907, when the rate was the same as for the year under consideration.

*Infectious Diseases.*—The cases notified were considerably more numerous than during any of the preceding five years, owing largely to an outbreak of Scarlet fever which, commencing in February, continued till the end of the year. The disease was of a very mild type, and though nearly 70 cases were notified, no deaths occurred. The incidence of the epidemic was mainly upon Cramlington Village, High Pit Terrace, etc., and West Cramlington, though, in each of the remaining sub-districts, a single case occurred.

Eight of the twelve cases of Diphtheria occurred in East Cramlington. Shankhouse, Cramlington Village and West Cramlington were entirely exempt. One case was removed to hospital.

Nine of the eleven cases of Enteric fever occurred in the High Pit Terrace sub-division; no cases were notified in the Shankhouse and East and South Cramlington sub-districts. Eight cases were removed to hospital.

The medical officer, in Table III. (relating to the notifications of infectious diseases) divides his district into six sub-districts, but as neither the population of each sub-division is given, nor are the births and deaths allocated to each sub-district, it has not been possible to calculate the birth rate, the various mortality rates and the attack rate from infectious disease for each sub-division.

The following table shows the incidence of the several notifiable diseases in the different sub-districts:—

Sub-districts.	Diphtheria and Mem. Croup.	Scarlet Fever.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Totals.
Shankhouse ... ..	—	1	—	—	3	4
Cramlington Village ...	—	45	1	—	—	46
East Cramlington ...	8	1	—	—	1	10
West .. ..	—	6	1	1	1	9
South .. ..	1	1	—	—	—	2
High Pit Terrace, &c.	3	15	9	—	2	29
Totals ... ..	12	69	11	1	7	100



*Dairies and Cowsheds, and Slaughter Houses.*—Unfortunately no information is given in the report, either as to the number or the condition of the premises above-mentioned.

*Factories and Workshops.*—Four workshops and one factory were on the register; four inspections were made, but no defects were reported to exist.

*Improvements.*—No mention is made of the housing accommodation in the district, either as regards additional houses provided, improvements to existing houses or demolition of old property at East Cramlington.

The water supply was considerably improved during the early part of the year by an additional supply for High Pit and East Cramlington from the Tynemouth Corporation water mains.

With a view to greater efficiency in the scavenging of the district, the council decided that, in future, all privy ashpits are to be scavenged once in three weeks in lieu of the five weeks intervals which have latterly been in vogue.

As regards nuisances dealt with, the report states "all nuisances coming under notice are promptly attended to by the sanitary inspector." As no mention is made of any particular nuisances discovered and removed, it may be assumed that none were of a serious nature.

A resolution in favour of adopting the Notification of Births Act was passed by the council.

*Requirements.*—The adoption of bye-laws relating to new streets and buildings, the prevention of nuisances, etc., is still one of the matters requiring immediate action on the part of the council. This urban authority, and the neighbouring one of Seghill, are the only two urban authorities in the administrative county in whose districts the regulation of new buildings is left, so far as bye-laws are concerned, to the tender mercies of speculative and other builders. The only bye-laws possessed by the Cramlington Urban District Council relate to the cemetery. Regulations under the Dairies, Cowsheds and Milkshops Order are in force.

The abolition of the many insanitary open privy ashpits which are to be found in nearly all parts of the district, and the provision of others of a more satisfactory type.

Measures are urgently required for dealing effectively with the sewage from Shankhouse, so as to remedy the gross pollution of the Horton Burn, which has continued for many years.

#### EARS DON.

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

Area, 4,705 acres; estimated population, 10,500; birth rate, 38.09; general death rate, \*13.23; zymotic death rate, 1.33; infant mortality rate (per 1,000 births), 107.5; Phthisis death rate, 1.33; death rate from respiratory diseases, 1.33.

When compared with the corresponding rates for the preceding year each of the above rates (with the exception of the Phthisis death rate which increased by 0.26) shows a decrease as follows:—General death rate, 5.97; birth rate, 0.34; zymotic death rate, 2.29; infant death rate, 119.54 and respiratory death rate, 0.63.

Four hundred births were registered during the year, and one hundred and thirty-nine deaths; of the latter, forty-three were of children under one year, and thirty of persons sixty-five years and upwards.

Sixty-nine cases of infectious diseases were notified as follows:—Scarlet fever, 42; Erysipelas, 12; Diphtheria and Membranous croup, 11; Puerperal fever, 3; Enteric fever, 1.



Fourteen deaths occurred from zymotic disease, viz.:—Diarrhoea 10 (including 3 infantile deaths from Enteritis), Scarlet fever 3 and Diphtheria 1.

Phthisis caused 14 deaths; respiratory diseases, 14; heart diseases, 16; accidents 6 and premature birth 9.

The birth rate was the second highest recorded in any district, and slightly higher than the average for the years 1899-1908.

The general death rate was above the average for the whole district in the Murton and Holywell sub-divisions, and below the average in Backworth and Earsdon. The same remark holds good of the infantile mortality rate. Murton and Holywell also headed the list as regards the zymotic death rate, and the attack rate from infectious diseases.

The medical officer divided his district into four sub-districts, for each of which he gave statistical information relating to the births and birth-rate, the various mortality rates and the attack rate from infectious diseases:—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Earsdon ...	3,630	159	43·8	43	11·8	14	88·0	5	1·37	25	4·1
Backworth ...	2,290	62	27·0	23	10·0	4	64·5	2	0·86	7	3·0
Holywell ...	3,540	111	31·3	48	13·5	15	135·1	5	1·41	30	8·4
Murton ...	1,040	68	65·4	24	23·0	10	147·0	2	1·90	7	6·7
Whole district	10,500	400	38·09	138	13·14	43	107·5	14	1·33	69	6·57

*Infectious Diseases (Notifiable).*—The following table shows the districts from which the cases of infectious disease were notified, and the number of notifications from the respective districts:—

Sub-districts.	Scarlet Fever.	Erysipelas.	Diphtheria and Mem. Croup.	Puerperal Fever.	Enteric Fever.	Totals.
Earsdon ...	15	1	7	2	—	25
Backworth ...	2	4	—	1	—	7
Holywell ...	24	3	3	—	—	30
Murton ...	1	4	1	—	1	7
Whole district...	42	12	11	3	1	69

Nineteen of the above cases were removed to the isolation hospital.

Cases of Scarlet fever were notified in the Holywell township during the months of January, March, September, October, November and December; in the Earsdon township during February, June, November and December; in the Backworth township in April (two cases), and in the Murton township in June (one case). Eleven of the forty-two cases were treated in hospital.

Cases of Diphtheria occurred in the Earsdon sub-division during January, February, March, May and November; in the Holywell township during January, February and September (one case in each month), and in Murton during September (one case only). Those occurring in the early months of the year were a continuation of the epidemic of 1908. Of the eleven cases, seven were treated in hospital.

Enteric Fever.—Only one case (in Murton in June) of this disease was notified during the year and was treated in hospital.



*Infectious Diseases (Non-notifiable).*—Mumps and Chicken-pox were very prevalent, especially in the Murton township causing school closure towards the end of the year.

Commenting on the very satisfactory decrease in the infant mortality rate, the medical officer points out that the number of infant deaths was the lowest, and the number of births the highest, recorded since the formation of the urban district.

*Housing Conditions.*—In certain portions of the district a considerable number of old and, more or less, insanitary houses were still to be found; some are back-to-back (though several of these had been converted into through houses); in others the accommodation consists of one room only; in many, any satisfactory provision for efficient ventilation or for storing food is wanting; in others are attic bedrooms with no opening skylight in the roof and no provision for ventilation by open fireplace; some houses have one wall of the lower floor built into the ground; others have no eavespouts or no fall-pipes on one or both sides; in others the spouting is so defective as to be of little or no use, the roof water being discharged upon the unpaved ground, the latter being in some cases above the floor level.

The immediate surroundings also, of some of the older houses in particular, were anything but satisfactory, *e.g.*, damp pantries; unpaved or badly paved yards and a total absence of paved footpaths making it impossible to secure that dryness of site which has such an important bearing on the general healthiness of houses; unmade roads and footpaths, often nearly ankle-deep in mud, which must, of necessity, be crossed several times a day owing to pantries, in some cases, and the water stand pipes, sanitary conveniences and coalhouses in numerous instances, being on the side of the road furthest from the houses; large uncovered privy ashpits which are near to and, in some cases, surrounded by houses, and which must always be a continual menace to the public health.

*Water Supply.*—With the exception of a few houses at Holywell Village, all the district was well supplied by the Newcastle and Gateshead Water Company, the water being purchased in bulk and distributed by the council. The water consumption over the whole district averaged 8.2 gallons per head per day. The consumption varied from 5.9 gallons in Holywell to 10.9 gallons in the Earsdon township. The small consumption of water in this district may, in part, be accounted for by the inadequate provision of water taps or stand pipes for some of the houses, in which cases all water has to be carried for a considerable distance.

The comprehensive report furnished by the sanitary inspector contains information of considerable interest.

*Scavenging.*—This was carried out, as in former years, by 14 contractors; the results were not satisfactory, and it is again reported that "in some of the districts it has not been satisfactorily attended to." Included in the sanitary inspector's report is an account of the cost of scavenging in the various sub-districts, which varied from 5s. 1½d. in West Holywell to 8s. 2½d. in the Seaton Terrace scavenging district. The cost per house averaged 6s. 8½d.

Other subjects of interest, in the sanitary inspector's report are mentioned under *Improvements and Requirements*.

*Factories and Workshops.*—The official form was not included in the medical officer's report, and the number of premises registered in the district was not stated, nor was the standard of sanitary accommodation, required by the local authority in workshops and factories, given. One hundred and twelve inspections were made, twenty of factories and ninety-two of workshops. Written notice to provide additional sanitary accommodation was given in one instance.



*Dairies, Cowsheds and Milkshops.*—The number of these premises on the register is not stated. Inspections were made, from time to time, by the medical officer and sanitary inspector, and several notices were served requiring limewashing, removal of manure, etc.

*Slaughter Houses.*—There were seven private slaughter houses in the district, all of which were inspected from time to time. They are reported to have been kept in fairly good order, but the methods of storing and disposing of refuse were not, in some cases, satisfactory. Undoubtedly, the best method of securing improvements in this and other matters is by the adoption of bye-laws for the regulation of slaughter houses, and the failure to make such bye-laws is a contravention of Sec. 128 of the Towns Improvement Clauses Act 1847 as incorporated with Sec. 169 of the Public Health Act 1875.

*Improvements.*—The report shows that a most gratifying and energetic policy was pursued by the council and their officials, during the year under review, in carrying out improvements in many directions.

*Housing.*—The housing accommodation of the district was considerably increased, sixty-three new houses having been erected; several existing houses, which were unsatisfactory in many respects, were dealt with so as to secure more adequate ventilation, lighting, etc. At Office Row, East Holywell, the upstairs rooms were improved by raising the ceilings; the back-to-back tenement houses at Seaton Terrace were provided with through ventilation by connecting rooms on the same floor, and letting such rooms under one tenancy, instead of under two or more, as formerly; at East Holywell all back-to-back houses were done away with; at Willin's property, New York, additional windows were fixed so as to provide through ventilation where it was not formerly available; at Backworth the owners of the back-to-back houses agreed not to re-let the houses at the expiration of the present tenancy until the front and back rooms had been connected. Other general improvements were effected at Low Steads, Backworth, and Farm Cottages, Murton.

*Water Distribution.*—Eighty-four new service pipes were laid; the water mains were extended at Melrose Avenue, South Street, Wallace Terrace and Laurel Terrace, and a water supply was provided for the Dairy Cottages, West Holywell, and Telford's Cottage, East Holywell.

*Sewerage.*—The sewerage system of the district was considerably improved by the provision of additional sewers at West Holywell, and also for Castle Farm, Backworth, and by the relaying of defective sewers at North and South View, Duke Street and Percy Street, Shiremoor, and Wallace Terrace, Holywell. New sewage disposal works were erected at Bates Cottages for the treatment of the sewage from the Seaton Terrace district and, after a six months' trial, were reported to be working satisfactorily.

*Street Improvements.*—Considerable activity was also displayed in the improvement of streets, roads, footpaths, etc. Six of the streets at Shiremoor were made up at a cost of £869; the Church Pit Road, 1,382 yards in length, was completed, the total cost having been over one thousand pounds; the Backworth Coal Company completed the street works at North and South View, and Station Road, Shiremoor, and also laid cement footpaths at Northumberland Terrace and Percy Street, Backworth. In addition, they commenced the work of making up Duke Street and Percy Street, Shiremoor. Street improvements were carried out by the East Holywell Coal Company at Bates Cottages, at a cost of £800. Other measures included a greatly improved approach to "C" Pit and the kerbing and asphaltting of 200 yards of footpath on the Backworth roads.

*Privy Ashpits.*—Considering that the refuse disposal of the district is largely on the objectionable privy midden system, it is satisfactory to note that, of the houses recently erected, some were provided with water closets. The abolition of many insanitary open privy ashpits was



carried out, notably at Duke Street and Percy Street, Shiremoor, and at Willin's property, New York.

**Hospital Accommodation.**—The hospital accommodation at Scaffold Hill was increased by building two new wards, with twenty beds and nurses' apartments.

**Lighting.**—The lighting in one portion of the district was improved.

**Requirements.**—A continuance of the aggressive policy recently adopted by the council towards unsatisfactory housing conditions, *i.e.*, houses without through ventilation, and others in which the ventilation and lighting are insufficient; houses, in many localities, characterised by general dampness, frequently the result of defective spouting and insufficient means of drainage; houses without any provision for the storage of food, etc.

The closure of the well at Holywell Village, and the provision of a more suitable water supply for the people who still depend upon this well for drinking water.

The abolition of the insanitary, and frequently uncovered and offensive privy ashpits which still exist in all parts of the district and the substitution of water closets or earth closets.

The abolition of all surface channel sewers, and the substitution of modern pipe sewers with gullies and branch drains for each house.

An improved system of scavenging, preferably carried out by the council's own workmen under the direct supervision of their officials. Until this work is undertaken by the local authority, and carried out by their own employees, it is exceedingly doubtful whether scavenging will ever be done with that regularity and efficiency which is so desirable from a public health standpoint. The short-sightedness of the council in still relying upon the present system is almost inexplicable, and cannot be reconciled with the usual plea of economy, as an adjoining authority has, for some years, scavenged a considerable portion of its district (very similar in character to the one under review) at considerably less cost per house than is expended in the Earsdon district. In the Earsdon district the average cost per house was 6s. 8½d., whereas in the other district alluded to above the cost per house averaged 5s. 10d. for more frequent and more thorough scavenging with less interference with the surveyor's ordinary duties.

An improved method for the disposal of the sewage from New Backworth and Low Steads.

The making up of roads and streets, and the provision of footpaths in those situations where this work has not yet been carried out.

The adoption of bye-laws relating to slaughter houses, and for the prevention of nuisances arising from the keeping of animals. The framing of bye-laws for slaughter houses is a statutory duty which the council have, hitherto, failed to carry out, although both the medical officer and the sanitary inspector have, for several successive years, pointed out the necessity of so doing.

The provision of a steam disinfectant at the isolation hospital.

Increased facilities for dealing with outbreaks of fire.

\* 13·14 if the deaths of two non-residents occurring in the district be deducted, and the death of one resident which occurred outside the district be added.

#### GOSFORTH.

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

Area, 1303 acres; estimated population, 15,500; birth rate, 22·90; general death rate, 15·16\*; zymotic death rate, 0·45; infant mortality rate (per 1,000 births), 87·32; Phthisis death rate, 0·90; death rate from respiratory diseases, 1·16.



When comparison is made with the corresponding rates for the preceding year the general death rate and the respiratory death rate show respective increases of 0.1 and 0.23; the remaining rates have decreased as follows:—Birth rate, 1.56; zymotic death rate, 0.41; infant mortality rate, 21.67; Phthisis death rate, 0.10.

Three-hundred-and-fifty-five births were registered during the year and two-hundred-and-thirty-five deaths; of the latter, ninety-nine were of persons, who though belonging to other localities died in public institutions in this district, leaving one-hundred-and-thirty-six deaths on which the nett death rate is calculated. Thirty-one of the latter number of deaths were of children under one year and thirty-three of persons sixty-five years and upwards.

Seventy-four cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup, 35; Scarlet Fever, 24; Erysipelas, 13; Enteric Fever, 2.

Twenty-three of the above cases (31 per cent.) were removed to hospital.

Seven deaths occurred from Zymotic disease, viz.:—Whooping Cough, 3; Diarrhoea, 2; Infantile Enteritis, 2.

Phthisis caused 14 deaths, respiratory diseases 18, heart diseases 13, accident 1, and premature birth 5.

The birth rate was the third lowest recorded in urban districts as was also the zymotic death rate. The general death rate was the second lowest in the county.

The medical officer attributes the decrease in the infant mortality rate to the wet and cold summer rather than to any spread of enlightenment among the poorer classes in regard to the nurture and feeding of children. He further points out that this rate is still unnecessarily high inasmuch as over twenty per cent. of the total deaths occurred in children under one year of age. The medical officer also is of opinion that "if the widely-admitted physical degeneracy of the race is to be arrested some steps ought to be taken to prevent the bringing into the world of children who are handicapped in every way from the moment of their birth and who live to become a burden to society and a national menace," but does not furnish any particulars for the remedy he proposes for the existing conditions.

Phthisis was the cause of more deaths than any other disease, and was also the cause of one-tenth of the deaths from all causes, and more than one-seventh of the deaths from all causes at the age period 15 to 65 and upwards. The medical officer expresses his regret that his many recommendations that a public sanatorium should be provided for the treatment of Phthisis have not been acted upon, and, in the course of a most trenchant criticism of the apathetic attitude shown towards "this scourge of humanity," remarks:—"In the light of all that has been accomplished by medicine and sanitation in respect to similar scourges, in the light of all our positive knowledge as to the causes and casualties of Phthisis and the means by which it might—perhaps in one generation—be exterminated, it is amazing that *any* means whatever should be neglected of getting the disease under control"; he also advocates the instruction of the general public, and of the elder school children in "the importance of hygienic environment as one means of securing immunity from this disease." Other preventive measures recommended are compulsory notification of all cases of Phthisis, more thorough control of the milk and meat supplies; regular—not occasional—inspection of cow sheds and slaughter houses, and the examination of all dairy cows by veterinary surgeons.

The arrangement made by the county council for bacteriological examination in certain cases of infectious disease was apparently the means of preventing a widespread epidemic of Diphtheria. Suspicion attached to a certain milk supply in connection with which there was, however, no known case of disease. A bacteriological examination of



the throats of all the men employed at this dairy was made, when it was found that one man, though apparently in good health, was harbouring in his throat the germs of Diphtheria.

*Factories and Workshops.*—There were twenty-eight workshops on the register, seven of which were bakehouses. Thirty-five visits of inspection were paid, but in none were any defects or contraventions of the Act met with. Nine visits of inspection were paid in the case of factories, but no contraventions of the Public Health Acts were found.

*Dairies and Cowsheds.*—The register shows that there were, in this district, seven cowkeepers, two dairymen and nine purveyors of milk; the number of dairy cows kept was about ninety-five. The number of inspections made is not stated, but in three instances notices to the occupier or owner were given to remedy defects or contraventions of the Regulations under the Dairies, Cowsheds and Milkshops Order.

*Slaughter Houses.*—There were six slaughter houses on the register. The sanitary inspector points out, in his report, which is appended to that of the medical officer, that in four of these cases the slaughter houses have been established since the year 1875, and should be licensed. Regular inspections during the process of slaughtering, and at other times, were carried out in order to ascertain whether the bye-laws were complied with.

*Improvements.*—The housing accommodation of the district was increased by the erection of ninety-eight new houses, and, at the end of the year, thirty houses were in course of erection. Twelve old houses were pulled down and rebuilt, and sixteen two-room, back-to-back houses were converted into eight "through" houses of four rooms each. "There are now," states the medical officer, "no insanitary dwellings in the district, and there are no slums!"

The report of the inspector of nuisances again shows a most praiseworthy activity in the abatement of nuisances and other insanitary conditions, and the structural works carried out, with the above object in view, included:—The taking up of 1,503 lineal yards of old drains and the construction of 1,678 yards of new drains; the provision of about 130 new gullies; the substitution of forty-eight water closets to replace twenty-two privy ashpits abolished; the provision of ash bins instead of ashpits in seventy-six instances. For all new houses w.c.'s alone are allowed.

The work of constructing the new storm water sewer was being proceeded with and, up to the end of the year, the following work was carried out:—The sewer at the bottom of Church Road was relaid and connected with the sewer alongside the railway. A new sewer was laid in Jubilee Road to replace the old sewer which was in bad condition, and was laid through the Council School premises and round the back of the pit heap. Two 30-inch storm water drains were laid up Church Road to relieve the flooding to which the cellars in High Street were previously liable. Since these pipes were laid no flooding has taken place, in spite of the occurrence of many heavy storms. A storm water drain was laid from Church Road via Harley Terrace, along the north end of High Street and up Henry Street to Regent Road. A storm water drain was also laid from Salters Road, along Jubilee Road and Riddle Terrace to Dunn Street. Another storm water drain was laid from the North Road, up Elmfield Road and along Elmfield Park to Ashburton. All gully connections were made as the work proceeded. Considerably more than one third of the sewers and drains comprised in the system above alluded to, were laid during the year under review, and it was considered that the remainder would easily be completed before the end of the year 1910.

Upwards of nine hundred yards of extensions of water mains were laid during the year by the Newcastle and Gateshead Water Company.



The accomplishment of the improvements above-named, and of others not mentioned, encourages the medical officer "to anticipate the time when the universal application of the laws of hygiene shall have rendered much that is herein dealt with almost unthinkable, and when, consequently, such reports as this may be looked upon as curiosities in the archives of some museum."

*Requirements.*—An improved system for the collection and disposal of house refuse is very desirable for this district. The carrying out of this work by contractors, soetimes with uncovered carts, and the tipping of over 4,000 loads of refuse, as shown by the inspector's report, can hardly be considered a satisfactory system for a town which is so largely and increasingly residential in character. It has been abundantly proved that scavenging operations can be carried out by a local authority more frequently, more efficiently and more economically than by contractors. Prior to the acquisition of the Grange Brickworks Tip, the medical officer considered that a refuse destructor was very desirable. The situation of the present tip being so much less objectionable than was the former, the medical officer is now of opinion that the provision of a destructor is, perhaps, not a pressing need. It cannot, however, be maintained that the present method of excrement and refuse disposal is in every way satisfactory, and the council would be acting wisely if they procured a suitable site for the erection of a refuse destructor.

The maintenance of the commendable activity shown by the local authority and its officers in the abolition of privy ashpits, of which three-hundred-and-seventy-four still remained at the close of the year.

The provision of a steam disinfecter, which has been recommended on so many occasions, is still an unfulfilled requirement.

The adoption of the Notification of Births Act.

The licensing of all slaughter houses established since the year 1875 (see Public Health Act, 1875, Sec. 169, and Town Improvement Clauses Act, 1847, Secs. 126 and 127).

\* 8·7 if the deaths of 99 non-residents occurring in public institutions situate in the district be deducted.

#### HEXHAM.

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

Area, 5,149 acres; estimated population, 8,500; birth rate, 25.17; general death rate, \*13.05; zymotic death rate, 0.82; infant mortality rate (per 1,000 births), 88.78; Phthisis death rate, 1.41; death rate from respiratory diseases, 0.94.

Of the above rates the birth rate and the Phthisis death rate increased, in comparison with the preceding year, by 1.35 and 0.24 respectively; the remaining rates decreased as follows:—General death rate, 3.41; zymotic death rate, 0.35; infant mortality rate, 91.31 and respiratory death rate, 1.41.

The death rate from respiratory diseases was the third lowest, and the Phthisis death rate was the third highest, recorded in urban districts.

Two hundred and fourteen births were registered during the year, and one hundred and eleven deaths; of the latter, nineteen were of children under one year, and thirty-nine of persons sixty-five years and upwards.

Two hundred and twenty-one cases of infectious disease were notified as follows:—Diphtheria, 10; Erysipelas, 3; Scarlet fever, 8; Whooping cough, 15; Measles, 181 and Phthisis, 4.

Seven deaths occurred from zymotic disease, viz:—Measles, 3; Whooping cough, 1; Diphtheria, 2 and Diarrhoea, 1.

Phthisis caused 12 deaths; respiratory diseases, 8; heart diseases, 20; accidents 4 and premature birth 7.



The medical officer points out that the general death rate is the lowest he has ever reported, and also alludes to the reduction which has taken place in the infantile mortality rate as recorded above. On the other hand, he deplores the slight increase in the death rate from Phthisis, which he considers a most unsatisfactory feature of the report:—"That Hexham, with its many natural and sanitary advantages, should be competing with the other urban districts of Northumberland for the highest mortality rate from Tubercular diseases, shows plainly we are somewhere at fault." He further reiterates the remarks made in the previous annual report, that the continued high Phthisis death rate is mainly attributable to "the structural condition of portions of the older parts of the town—houses in confined yards with no through ventilation, having little light and less sunshine, also to dampness and overcrowding, etc.—also to the retention of the Cattle Market in the vicinity of houses."

*Infectious Diseases.*—Excluding Whooping cough, Measles and Phthisis, which are not generally notifiable, the cases numbered twenty-one, being a reduction of eight compared with the previous year. Including the above-named diseases, the cases notified numbered 221 (48 in 1908). A severe outbreak of Measles occurred during the months of April, May, June and July, but it is remarkable that no deaths occurred from either Scarlet fever or Enteric fever, two only from Diphtheria and one from Whooping cough. Three deaths occurred from Measles and one from Diarrhoea.

Three cases (2 of Scarlet fever and one of Diphtheria) were removed to hospital.

*Factories and Workshops.*—Probably by an oversight, no information is given in the report as to the number of factories and workshops, the number of outworkers and the standard of sanitary accommodation adopted by the Sanitary Authority, nor is the official form included in the report.

*Dairies and Cowsheds.*—Twenty-one dairies and ten milkshops were on the register. A keener interest is reported to have been shown in carrying out the various sanitary requirements, the byres being all better cared for than formerly, and the milk kept in more suitable places. Some of the byres are stated to be exceptionally good but, in others "a good deal more could be wished." The importance, to the public, of pure, clean, unadulterated milk, from healthy non-tuberculous cows, is alluded to by the medical officer, who also advises that the council should have the technical advice of a veterinary surgeon at their disposal.

*Slaughter Houses.*—There were no private slaughter houses in the district. The public slaughter house was regularly inspected, and three carcasses were condemned and destroyed during the year.

*Common Lodging Houses.*—The number of these premises on the register is not stated. Regular inspections were made throughout the year, and some improvement in their condition is reported.

*Improvements.*—Twelve new houses were certified as fit for human habitation during the year under review, making the total number certified, since the 1901 census, to be 392. Improvements were effected in some of the older houses, e.g., the Mystery. The surveyor's report also states that twenty-six instances of "property in an unsatisfactory condition," nine instances of dilapidated premises and fifteen of defective yard paving were dealt with.

*Water Supply.*—This was abundant and, according to the surveyor's report, the following extensions and renewals of mains and service pipes were made:—Six hundred feet of new water mains were laid during the year, eighty-five old service pipes were renewed and several new connections made. The surveyor also states that twenty-four cases



of insufficient or unsatisfactory water supplies and one hundred and fifty-eight instances of defective water fittings were dealt with.

Sewerage and drainage are reported to have been efficient, and nearly 4,000 feet of new sewers and drains were laid. Two Webb lamps were erected, and the ventilation of the sewers thereby improved; notices under the nuisances clauses of the Public Health Acts were served relating to choked drains in fifteen instances, defective drains in fourteen instances, bad smells from drains, etc., in twelve cases and insufficient drainage in five instances.

Sanitary Conveniences and Scavenging.—It is most satisfactory to note that, in this district, the water carriage system embraces the whole of the town and "there are no privy middens," a highly commendable and, probably, unique position as regards the administrative county. Daily removal of house refuse and ashes was carried out, with satisfactory results. Five instances of insufficient water closet accommodation were dealt with.

Street Improvements.—The following were carried out:—St. George's Road, Eilan's Terrace and Cowgarth (part of) were laid with tar macadam, and Tynedale Terrace and Windmill Hill with ordinary macadam. Haugh Lane was widened and tar macadam substituted for the old pavement stones. Five back streets were also made up with tar macadam.

Requirements.—The improvement of many houses in the older and more congested parts of the district, and the permanent closure of others which, owing to their general condition, cannot be made reasonably fit for human habitation, *e.g.*, No. 8 Eastgate and Jacob's ladder in Giles-gate. The medical officer again alludes to the importance of this requirement, especially as regards the tenemented houses and houses built back to back.

The removal of the nuisance arising from the holding of the Cattle Market in the main street was again urged, as in former reports, by the medical officer, who considers that the unfortunate position of Hexham, as regards Phthisis is, to some extent, accounted for by the continuance of the market under present conditions, "such markets being now conclusively proven to be factors in the spread of Phthisis."

Structural improvements in some of the cowsheds, and the enforcement of the council's Regulations relating thereto.

\* 11·76 if eleven deaths of non-residents occurring in the district be deducted.

#### NEWBIGGIN-BY-THE-SEA.

Medical Officer of Health, H. HART-JACKSON, M.R.C.S., L.R.C.P.

Area, 351 acres; estimated population, 2,875; birth rate, 41.04; general death rate, \*16.0; zymotic death rate, 1.04; infant mortality rate (per 1,000 births), 84.74; Phthisis death rate, nil; death rate from respiratory diseases, 3.82.

The birth rate and the respiratory death rate increased, as compared with the previous year, by 8.74 and 2.67 respectively; the remainder of the rates decreased as follows:—General death rate, 0.85; zymotic death rate, 0.11; infant mortality rate, 129.54 and Phthisis death rate, 0.76.

One hundred and eighteen births were registered during the year, and forty-six deaths; of the latter, ten were of children under one year, and twelve of persons sixty-five years and upwards.

Four cases of infectious disease were notified as follows:—Diphtheria (including Membranous croup), 2; Erysipelas 1 and Scarlet Fever, 1.

Three deaths occurred from zymotic disease, viz:—Measles, 2 and Diphtheria, 1.



Phthisis caused no deaths; respiratory diseases, 11; heart diseases, 3; accidents, 3 and premature birth, 1.

It is most satisfactory to note an increase in the birth rate and a decrease in nearly every death rate. The decrease in the infant mortality rate is especially noticeable. The birth rate was the highest recorded in any sanitary district, but unfortunately the same remark holds good of the death rate from respiratory diseases.

No deaths occurred, during the year, from Phthisis, a statement applicable to only two other districts, viz., the urban districts of Rothbury and Seghill.

*Infectious Diseases Notifiable.*—The district was very free from these diseases, only four cases having been notified.

*Infectious Diseases (Non-notifiable).*—In the early part of the year, Whooping cough was prevalent, and an epidemic of Measles, which occurred during the summer months, necessitated the closing of the school a fortnight earlier than the usual summer holidays.

*Factories and Workshops.*—There are only two in the district, both of which were inspected and no contraventions of the Act were reported. The official form, provided by the Home Office, was not included in the medical officer's report, and the standard of sanitary accommodation adopted by the council was not given.

*Slaughter Houses and Cowsheds.*—The number of these premises on the register, and of the inspections made, is not stated, nor is any allusion made to the defects found or remedied, but the medical officer remarks that they "have been kept in as sanitary a condition as their condition and want of a water supply will allow."

*Improvements.*—The housing accommodation of the district was improved by the erection of twelve new houses on the West Field, Bower Riggs and Monck House Estates. Improvements to existing houses were effected in Front Street and Vernon Place, and the back street to Brewery Yard was made up.

*Water Supply.*—The total failure of the water supply, which had been so long predicted, necessitated the immediate adoption of measures for obtaining water from some other source. Pipes were laid from the colliery with a view to supplying water from the pit, but this was found to be unsuitable for drinking purposes. An agreement was then entered into for a temporary supply from North Seaton; this arrangement proved to be fairly satisfactory, though the great distance that the water had, in some cases, to be carried was a source of much inconvenience and possible danger to health. "Plans for the pipe line from the Tynemouth Corporation's water main at Ewart Hill to Newbiggin have been prepared, and this scheme was awaiting the Local Government Board inquiry and sanction for the loan to carry out the work."

With the exception of the removal of obstructions wherever they occurred, no improvements appear to have been effected in the sewerage and drainage system of the district.

As the result of an inquiry held in the early part of the year, an area of thirty-five acres was added to the district. The Order came into force on April 1st, 1910. The added area contains eighty houses, fourteen of which were built during the year under review.

*Adoptive Act.*—On the application of the district council, the Local Government Board issued an Order declaring certain sections of the Public Health Acts Amendment Act 1907 to be in force in the district. The additional powers thus obtaining will be of extreme value to the district council in many respects. An important omission is that Section 25, dealing with the paving of yards of dwelling houses, was not adopted.



The system of scavenging (by contract) is reported to have been carried out more satisfactorily during the year; during the summer months the privy ash-pits were cleaned fortnightly.

*Requirements.*—There is an urgent need, in this district, not only for the improvement of existing housing conditions, but also for a considerable number of additional houses. The comparatively large number of old houses unprovided with means of through ventilation, and the obstructive buildings in Sea View and Watts Lane, are still awaiting the action recommended in several previous reports. This most necessary action is rendered all the more difficult owing to the scarcity of houses for the working class population, which has been further accentuated by the recent colliery development. As the medical officer states, “there is a shortage of suitable small houses and a considerable amount of overcrowding, which will increase as the colliery goes ahead, unless provision is made.”

The necessity for providing an adequate supply of water has been emphasised for many years in every annual report by the medical officer.

The report contains no account of any action taken with regard to houses unprovided with sanitary conveniences, nor the abolition of insanitary privy middens, notwithstanding the many instances in which improvements of this nature are urgently needed. Undoubtedly the absence of a satisfactory water supply is, to some extent, responsible for this lethargy on the part of the local authority and, now that there is a probability of this difficulty being removed at an early date, it is extremely desirable that action should be taken in the direction indicated, and the provision, or substitution, of modern water closets insisted upon in every case.

The medical officer strongly recommends the council to undertake the work of scavenging instead of letting it to contractors, and there is no doubt whatever that if this advice is acted upon, the scavenging of the district will be much more efficiently and, in all probability, more economically carried out.

The paving of the many unmade streets and the private yards of dwelling houses is also much needed.

The unsatisfactory condition of the Infants' School is again referred to by the medical officer, who states that it “remains in the same state as last year, and is in need of extensive improvements.”

\* 15.65 if the death of one non-resident occurring in the district be deducted.

#### NEWBURN.

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

Area, 4,673 acres; estimated population, 16,124; birth rate, 32.68; general death rate, 14.14; zymotic death rate, 1.30; infant mortality rate (per 1,000 births), 140.41; Phthisis death rate, 1.17; death rate from respiratory diseases, 2.17.

With the exception of the Phthisis death rate and the death rate from respiratory diseases, which have increased, as compared with the previous year, by 0.22 and 0.08 respectively, all the above rates have decreased as follows:—Birth rate, 6.69; general death rate, 1.35; zymotic death rate 1.17 and infant mortality rate 1.54.

Five hundred and twenty-seven births were registered during the year and two hundred and twenty-eight deaths; of the latter seventy-four were of children under one year and forty-five of persons sixty-five years and upwards.

One hundred and fifty-nine cases of infectious disease were notified as follows:—Diphtheria, 54; Erysipelas, 15; Scarlet fever, 84 and Enteric fever 6.



Twenty-one deaths occurred from zymotic disease, viz.:—Measles, 5; Scarlet fever, 2; Diphtheria, 5; Enteric fever, 1; Diarrhoea 8, (including two infant deaths from Gastritis).

Phthisis caused 19 deaths, respiratory diseases 35, heart diseases 23, accidents 9 and premature birth 9.

The medical officer divides his district, as usual, into seven sub-districts, and the following table contains statistical information relating to the sub-divisions of the urban district:—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Newburn ...	4,198	162	38.6	74	17.6	30	185.1	9	2.14	40	9.5
Newburn Hall	4,215	103	24.4	40	9.4	11	106.8	5	1.18	31	7.3
Throckley ...	2,535	76	29.9	29	11.4	7	92.1	3	1.18	36	14.2
Walbottle ...	2,478	89	35.9	32	12.9	11	123.5	1	0.40	35	14.1
East Denton	1,740	79	45.4	37	21.2	12	151.9	2	1.14	11	6.3
West Denton	705	17	24.1	14	19.8	3	176.4	1	1.41	5	7.0
Sugley ...	253	1	3.9	2	7.9	—	—	—	—	1	3.9
Whole district	16,124	527	32.68	228	14.14	74	140.4	21	1.30	159	9.8

The birth rate, as usual, was lowest (3.9) in Sugley, and highest (45.4) in East Denton, while in the other sub-districts it varied between 24 and 38 per 1,000 population. The general death rate was lowest in the Sugley, Newburn Hall and Throckley sub-divisions, in the order named, and highest in the East and West Denton and Newburn sub-districts. In four sub-divisions, the rate was below 13, in three it varied between 17 and 21 per 1,000 living.

Taking into consideration the years 1905, 1906, 1908 and 1909, the three highest general death rates were recorded in Walbottle, East and West Denton and Newburn. In 1906, 1908 and 1909, the general death rate was lowest in the Newburn Hall and Sugley divisions.

The infant mortality rate was also subject to considerable variation; thus, in Throckley, the rate was 92, while in the remaining divisions it ranged between 106 per 1,000 births in Newburn Hall to 185 in Newburn. Taking the whole district the deaths under one year accounted for nearly a third of the total deaths at all ages.

The medical officer when commenting on the slightly reduced general death rate, remarks "Had this comparatively low death rate been a characteristic of all the townships composing the area, the satisfaction would be correspondingly greater. I regret to say, however, this pleasing feature does not obtain. As in previous years, parts of the district show an abnormally low death rate, while others are just as abnormally high. There is this further feature to be noticed, that the districts which have a high death rate for this year have always been noted for it, and those which are low have similarly, for years, had a record in this direction." In previous reports attention has been directed to some of the various conditions which tend to influence and explain the persistently high death rates in certain localities, *e.g.*, in 1906, the medical officer says "The highest death rate, it will be noticed, is in East Denton, with Newburn, Walbottle and Throckley a long way behind. The conditions of life are much the same in all these townships; in all there is insanitary property and overcrowding with their attendant evils which determine a lowering of vitality; but in all there is the same system of scavenging and water supply and



“drainage. What is it then which causes one district to have a much higher death rate than another? The explanation is to be looked for in the birth rates of these townships, and if this is done, it will be noticed that where there is a high birth rate there the death rate is high, and further on, it will be shown that this increased death rate is due to a high infant mortality . . . . . It is well known that overcrowding is one of the most important factors causing a high death rate, and not so much overcrowding on a given area, as overcrowding of space in rooms. In the East Denton township, of 94 consecutive houses inspected, 34 per cent were overcrowded. The low birth rate noted in the other townships is usually associated with a low death rate, but a low birth rate does not necessarily condition a low death rate.” In 1909 he remarks “A life fed on bad air, overcrowded at home, deprived of wholesome recreation, passed for the most part amid ugly and dirty surroundings, has little chance of moral or physical health. Year by year we have less and less of the earth’s surface on which to live; the more closely we become packed together the more befouled is the earth with organic impurities, the thicker becomes the canopy of smoke that cuts off the sunshine, the fouler are the rain and springs which traverse the earth. The self purifying functions of soil and air and water are overpowered by the amount of work thrown upon them, and the unnatural circumstances under which it has to be attempted.”

The zymotic death rate was considerably lower than during the previous year. In Sugley no deaths from zymotic diseases occurred; in five divisions the rate was under 1.5, but in Newburn it reached 2.14 per 1000 population.

*Notifiable Infectious Diseases.*—Cases of Diphtheria occurred in each division of the district. Erysipelas and Scarlet Fever were present in all except Sugley, and Enteric Fever was notified in four of the sub-districts. No cases of the last mentioned disease occurred in East or West Denton or in Sugley.

The attack rate from notifiable infectious diseases over the whole district was also considerably higher than in the previous year, being lowest in Sugley, and more than three times as high in Throckley and Walbottle.

Forty-nine per cent. of all the above cases were treated in hospital.

The deaths from Phthisis were more numerous than during the previous year, even when the estimated increase in the population is taken into account.

*Factories and Workshops.*—Six factories and thirteen workshops were inspected. All the workshops are reported to have been registered and to have been found up to the standard required by law as to sanitary requirements.

*Dairies and Cowsheds.*—These had increased by two since the previous year. They were all registered but “few are up to the standard of modern requirements.”

*Improvements.*—In various directions the sanitary conditions of the Newburn Urban District were considerably improved, *e.g.* :—

*Housing Conditions.*—The owners agreed to close the houses at Lemington Low Row. A closing order was obtained for twenty-two houses at Walbottle Old Row.

*Water Distribution.*—In the Wood and Stone Rows, East Denton, a water tap was provided in each yard for houses previously supplied by stand pipes. Upwards of thirteen-hundred yards of extensions of water mains were laid in this sanitary district by the Newcastle and Gateshead Water Company during the year under review.

*Paving of Streets, etc.*—Improvements were effected at the Stone and Wood Rows, East Denton; Victoria and Albert Terraces, Newburn;



Coaly Hill Terrace, North Walbottle; Dean Terrace, Walbottle; Ash Street, Beech Street, Sycamore Street and Elm Street, Throckley. A footpath was provided at Denton Square, and another from Lemington to the Isolation Hospital.

*Paving of Yards.*—All those in Ash Street, Throckley, were paved.

*Sanitary Conveniences.*—Those in Stone Row and Wood Row, East Denton, also those at Lemington and Newburn Cottages, and at the Bank Top, Throckley, were rebuilt or improved.

*Requirements.*—In spite of all the improvements enumerated above much still remains to be done, chiefly in the direction of providing increased housing accommodation, demolishing houses unfit for human habitation, improving damp, dilapidated or ill-ventilated houses in various parts of the district and the water supply or water distribution in several situations, *e.g.*, Dewley Mill; Newburn Village; High Row, Newburn Hall; Water Row, The Winnings, Newburn; Duke Pit and Low Square, Walbottle; Elm, Beech, Sycamore, and Laurel Streets, and the Leazes, Throckley.

The paving of yards at Carr's Cottages, Carr's Row, East Denton; Duke's Cottages, Newburn; and at Dewley Mill; also the making up of streets at High Row and Cross Row, Stanley and Union Streets, Newburn Hall.

The alteration of sanitary conveniences was required in High Street, Station Road, Water Row, Newburn; Bell's Close, Newburn Hall, West Denton; Dewley Mill and Throckley.

Many structural and other alterations were still needed in the cow-sheds and slaughter houses mentioned in a former report.

#### ROTHBURY.

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

Area, 970 acres; estimated population, 1,300; birth rate, 20.76; general death rate, 13.84\*; zymotic death rate, 0.76; infant mortality rate (per 1,000 births), nil; Phthisis death rate, nil; death rate from respiratory diseases, nil.

When compared with the corresponding rates for preceding year, the birth rate and zymotic death rate show respective increases of 7.69 and 0.76, the general death rate and Phthisis death rate show respective decreases of 9.24 and 0.76, while the remaining rates show no alteration.

Twenty-seven births were registered during the year and eighteen deaths; of the latter none were of children under one year, but eleven of persons of sixty-five years and upwards.

Nine cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup, 4; Erysipelas, 4; Scarlet Fever, 1.

One death occurred from zymotic disease, *viz.*:—Diphtheria.

Phthisis caused no deaths, respiratory diseases none, heart diseases 3, accidents none, and premature birth none.

The birth rate was the second lowest recorded in any urban district. For the second year in succession no deaths were reported from respiratory diseases, nor of any infants under one year. The above statement cannot be made for any other district—urban or rural. No death was due to Phthisis (a statement which is applicable to two other sanitary districts only, *viz.*, the urban districts of Newbiggin and Seghill) and only one to Zymotic disease—the solitary instance during the last three years.

*Infectious Diseases.*—Very few cases of infectious disease occurred during the year, and neither Measles nor Whooping Cough were epidemic. The hospital was of considerable value for isolating a case of Scarlet Fever from a house in which three public officials lodged.



With a view to controlling the spread of Phthisis the Local Authority disinfected rooms which had been occupied by sufferers from this disease, and expectoration flasks and printed instructions relating to preventive measures were supplied free in all necessitous cases.

*Factories and Workshops.*—Twenty-two workshops were on the register at the end of the year, three of which were bakehouses. A corresponding number of inspections were made, and only in one case was it necessary to serve a notice; this related to a nuisance arising from smoke which was remedied. All workshops were reported to be in a satisfactory condition.

*Dairies and Cowsheds.*—The number of premises on the register is not given, neither is the number of inspections made.

From the report it appears that three additional cowsheds were put into use, and that the accommodation in an existing one was increased. Four were reported to be in good order and the rest "clean and tidy."

*Slaughter Houses.*—There were four slaughter houses in this district, but whether these were "registered" or "licensed" is not stated. They were inspected from "time to time" and were reported to be kept "clean and tidy," but no particulars were given as to condition of floors, walls, drainage, water supply, ventilation or lighting.

*Meteorology.* The medical officer includes in his report a record of the rainfall of this district, which shows that the total for the year was 35.14 inches, as against 30.96 inches for the preceding year. The average rainfall for the preceding ten years was 38.00 inches. Rain fell on 173 days. One thousand five hundred and twenty hours of sunshine were recorded, this number being one hundred and sixteen in excess of the record for 1908.

*Improvements.*—The sewerage scheme, which, when completed, is estimated to cost £5,250, was actively proceeded with during the year.

One house which had previously been closed was improved in several respects, and the sanction of the local authority given for its re-occupation.

Amongst the nuisances abated during the year was the substitution of a water closet for a defective privy and the roofing of uncovered ashpits behind the Market Place.

Great improvements were effected in connection with drainage, lighting and ventilation, etc., at the Secondary School.

*Requirements.*—The completion of the sewerage and sewage disposal scheme.

Scavenging by the local authority is advisable as, under the above system, the work could be done with greater regularity and efficiency than under the present method.

Though the six tables supplied by the Local Government Board and the Home Office were attached to the medical officer's report and filled in by hand two only were printed with the report. Those not included contain statistical information of considerable interest and importance and should be embodied in the medical officer's report. The Home Office form should contain information relating to Section 22 of the Public Health Acts Amendment Act, 1890, and to the standard of efficiency adopted with regard to sanitary accommodation provided in factories and workshops.

\* 10.76 if the deaths of four non-residents, which occurred in the district, are deducted.

SEGHILL.

Medical Officer of Health, ROBT. ANDERSON, M.D.

Area, 1,425 acres; estimated population, 2,220; birth rate, 28.37; general death rate, \*12.16; zymotic death rate, nil; infant mortality rate (per 1,000 births), 142.85; Phthisis death rate, nil; death rate from respiratory diseases, 1.80.



When comparison is made of the above rates with the corresponding rates for the preceding year, the birth rate alone shows an increase, viz., of 3.15; the remaining rates show decreases as follows:—General death rate, 2.70; zymotic death rate, 0.90; infant mortality rate, 71.43; Phthisis death rate, 0.90; respiratory death rate, 0.90.

Sixty-three births were registered during the year and twenty seven deaths; of the latter, nine were of children under one year, and six of persons sixty-five years and upwards.

Eight cases of infectious disease were notified, the patient in each case suffering from Scarlet fever.

No deaths occurred from zymotic diseases, a distinction shared by two other sanitary districts only, viz., the rural districts of Belford and Rothbury.

No deaths resulted from Phthisis—a condition obtaining also in the urban districts of Newbiggin-by-the-Sea and Rothbury.

Respiratory diseases caused four deaths; heart diseases, three; accidents one; and premature birth, four.

A most gratifying feature in this report is the great reduction in the infant mortality rate. It may, however, be mentioned that the average rate, during the previous ten years, was the abnormal figure of 207.7, and it is satisfactory to learn that the local authority, with a view to minimising this huge waste of infant life, appointed a health visitor.

For the fourth year in succession, there were no deaths from the notifiable infectious diseases and, of the latter only eight cases (Scarlet fever) were reported.

Especial attention was given to the regularity and efficiency of scavenging throughout the year, and the disposal of house refuse is stated, by the medical officer, to have been satisfactory.

No reference was made, in the medical officer's report, to housing accommodation, water supply, slaughter houses or dairies and cowsheds.

*Factories and Workshops.*—The report states that there are no workshops in the district.

*Improvements.*—The only references in the report, as regards matters coming under this heading are that the new sewage disposal works, after being nearly twelve months in operation, have proved to be thoroughly satisfactory, and that all pollution of the Seaton Burn, from this district is prevented, also that the beneficial results of the health visitor's work was apparent in the increased care of infant life.

*Requirements.*—The most unsatisfactory feature of the medical officer's report is that it appears, year by year, in manuscript form. It is much to be regretted that the medical officer's annual report, together with the forms provided by the Local Government Board and the Home Office were not printed and thus rendered available for the use of everyone interested in public health matters. Among urban districts, the Seghill Council is the only one that does not print the medical officer's annual report, and only one other council (Bellingham) in the administrative county fails in this direction.

The framing of bye-laws, and the adoption of regulations under the Dairies, Cowsheds and Milkshops Order are among the unfulfilled requirements of this urban district. It is a noteworthy fact also that in this district no adoptive Acts are in force.

Failure to make bye-laws in an urban district for the regulation of slaughter houses is an infringement of the Towns Improvement Clauses Act, 1847, incorporated in Sec. 169 of the Public Health Act, 1875.

\* 12.61 if the death of one resident, which occurred outside the district, be added.



## WEETSLADE.

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

Area, 2,198 acres; estimated population, 6,723; birth rate, 33.02; general death rate, \*12.94; zymotic death rate, 1.04; infant mortality rate, (per 1000 births), 148.64; Phthisis death rate, 1.04; death rate from respiratory diseases, 2.23.

With the exception of the infant mortality rate and the respiratory death rate, which showed increases of 8.22 and 0.40 respectively, the above rates have decreased as follows:—Birth rate, 10.07, general death rate, 6.05; zymotic death rate, 0.06; Phthisis death rate, 1.16.

A remarkable reduction is thus shown to have occurred in the birth rate and general death rate; the other rates, with the exception of the infant mortality rate and the respiratory death rate, have also decreased in comparison with the corresponding rates for the previous year. The above reduction, however, may be more apparent than real owing to the fact that in previous years the medical officer calculated these rates on an estimated stationary population, although in reality a considerable increase in population had occurred. The rates as calculated in former years were thus too high and now that they are calculated upon an increased population, any *comparison* is rendered to a great extent untrustworthy. The infant mortality rate not being calculated upon the population but on the number of births registered is reliable, and was the second highest recorded in any district.

Two hundred and twenty-two births were registered during the year and eighty-seven deaths; of the latter thirty-three were of children under one year and seventeen of persons sixty-five years and upwards.

Seven deaths occurred from zymotic disease, viz.:—Diphtheria and membranous croup, 1; Diarrhoea, 6 (including infantile Enteritis, 3).

Phthisis caused seven deaths, respiratory diseases fifteen, heart diseases ten, accidents three and premature birth five.

The following table gives statistical information relating to the birth rate, mortality rates and the attack rate from notifiable infectious diseases:—

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No. notified.	Attack rate per 1000 pop.
Dudley ...	2978	100	33.5	42	14.0	17	170.0	62	20.8
Seaton Burn ...	1618	43	26.5	20	12.3	6	139.5	5	3.0
Annitsford ...	1305	53	40.6	15	11.5	6	113.2	8	6.1
Wide Open ...	822	26	31.6	10	12.1	4	153.8	9	10.9
Whole district ...	6723	222	33.02	87	12.94	33	148.64	84	12.40

*Infectious Diseases.*—Eighty-four cases of infectious disease were notified as follows:—Diphtheria and membranous croup, 15; Erysipelas, 4; Scarlet fever, 60; Enteric fever 4; and Puerperal fever, 1.

The number of cases notified compares very unfavourably with that for the preceding year, an epidemic of Scarlet fever, principally confined to the Dudley sub-district, being chiefly responsible for the increase. Diphtheria was notified in every sub-division, but of the 15 cases of this disease 9 occurred in Dudley and 2 in each of the other sub-districts. Of the 4 cases of Enteric fever 3 occurred in the Dudley



division. The attack rate from infectious disease was 3 per 1,000 in Seaton Burn, twice this number in Annitsford, more than three times the above rate in Wideopen and nearly 7 times this rate in Dudley.

*Factories and Workshops.*—In this district the population is almost entirely engaged in the two occupations of mining and agriculture and it is again reported that there are no factories or workshops in the district.

*Dairies and Cowsheds.*—The number of premises on the register and of inspections made is not stated in the report. The medical officer again calls attention to the need of more cleanly conditions both as regards the byres and the cows. Referring to the former he remarks, "All require lime washing and the cobwebs removing."

With a view to securing a more cleanly milk supply the council issued, at the medical officer's suggestion a printed card—"Rules for Milkers."

*Slaughter Houses.*—There is no record in the report as to the number of these premises registered or licensed. The medical officer visited four two of which were reported to be in a very clean condition but the remaining two were in need of alteration.

*Improvements.*—Increased housing accommodation by the continuance of building operations in three of the four sub-divisions of the district is the chief improvement recorded. The number of additional houses erected or occupied during the year under review is not stated but it is interesting to note that since the last census (1901) the total number of new houses built in each sub-district is as follows:—Annitsford, 77; Dudley, 70; Wideopen and Hazelrigg, 107; total 254.

An Inquiry was held by an Inspector of the Local Government Board in consequence of an application by this urban district council for sanction to borrow £3,900 for purposes of sewerage and sewage disposal for the Wideopen portion of the urban district, and an engineer was engaged to prepare a scheme of sewerage and sewage disposal for the Wideopen and Hazelrigg area.

The sanitary conveniences of the privy midden type at Low Cross Row, Seaton Burn, were abolished and ash-closets of a more modern type were substituted.

A new asphalt footpath was laid from Seaton Burn to Wideopen.

The compulsory notification of Phthisis was adopted for twelve months and the advisability of adopting the Notification of Births Act was considered but up to the end of the year no definite action was taken.

*Requirements.*—Action was urgently needed by the council with a view to the improvement or closure of the houses at Wideopen Quarry. The improvement of many roads and footpaths, especially in the colliery districts and in the vicinity of the new houses at Hazelrigg, was urgently needed. The council have ample powers for securing these improvements and the necessity for using their powers becomes more acute in each succeeding year.

An efficient system of sewerage and sewage disposal for houses at Wideopen and Hazelrigg was another urgent requirement of this district, and until this is provided the nuisances which are constantly arising from the present system will continue with increased force. Measures should be taken to prevent the gross pollution of Seaton Burn by the discharge of untreated sewage into it at various points.

Improved privy accommodation was needed at Seaton Burn, Wideopen and Hazelrigg.

Means for isolating cases of infectious disease were still unprovided and urgently needed. The medical officer again advised the council to make some provision in this direction and pointed out that the need became accentuated during the year under review in consequence of the



epidemic of Scarlet fever previously alluded to. This is the only urban district in the administrative county where there is no provision made for isolating cases of infectious disease.

Information should be given on the form provided by the Home Office as to what standard of sufficiency and suitability of sanitary accommodation for persons employed in factories and workshops has been enforced.

\* 13·38 if the deaths of three residents occurring without the district be added.

#### WHITLEY AND MONKSEATON.

Medical Officer of Health, J. PEEL SPARKS, M.D., B.S. (Durh.).

Area, 1,650 acres; estimated population, 15,300; birth rate, 16·07; general death rate, \*6·92; zymotic death rate, 0·06; infant mortality rate (per 1,000 births), 65·04; Phthisis death rate, 0·39; death rate from respiratory diseases, 0·32.

When comparison is made with the corresponding rates for the preceding year, a decrease is shown in each case, as follows:—Birth rate, 3·51; general death rate, 2·40; zymotic death rate, 0·35; infant mortality rate, 15·94; Phthisis death rate, 0·43; respiratory death rate, 0·57. The general death rate is the lowest ever recorded in this district.

Two hundred and forty-six births were registered during the year and one hundred and six deaths; of the latter sixteen were of children under one year, and forty-one of persons sixty-five years and upwards.

Eighty-four cases of infectious disease were notified as follows:—Scarlet fever, 56; Diphtheria and Membranous croup, 16; Erysipelas, 7; Enteric fever, 5.

One death occurred from zymotic disease, viz.:—Measles.

Phthisis caused 6 deaths; respiratory diseases, 5; heart diseases, 24; accidents 4 and premature birth 7.

The birth rate and the general death rate were each the lowest recorded in any county district and the general death rate was the lowest ever recorded in this district. The infant mortality and the zymotic death rates were the second lowest in urban districts. The death rate from respiratory diseases (excluding Phthisis) was the second lowest recorded in either urban or rural districts, as was also the Phthisis death rate (apart from the three districts in which no deaths from Phthisis occurred).

The medical officer divides his district into four localities. The following table gives information of considerable interest relating to the population, birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate of the latter per 1,000 population in the several subdivisions.

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
St. Mary's ..	6,000	75	12·5	46	7·6	10	133·3	1	0·16	36	6·0
Marden ...	3,000	70	23·3	24	8·0	3	44·2	—	—	10	3·3
Rockcliff ...	3,500	49	14·0	26	7·4	2	40·9	—	—	21	6·0
Monkseaton...	2,800	52	18·5	15	5·3	1	19·2	—	—	17	6·0
Whole district	15,300	246	16·07	111	7·25	16	65·04	1	0·06	84	5·49



The above table indicates that the general death rate was below the average for the whole district in the Monkseaton division and above the average in St. Mary's, Marden, and Rockcliff; that the infant mortality rate was considerably the lowest in the Monkseaton sub-district; and that in St. Mary's division the rate was more than double the average for the whole district; that no deaths resulted from zymotic disease in either the Marden, Rockcliff, or Monkseaton sub-districts, and only one in the whole district.

*Infectious Diseases (notifiable).*—Of the fifty-six cases of Scarlet fever twenty-five occurred in St. Mary's, as did seven of the sixteen Diphtheria cases and two of the five cases of Enteric fever. Twenty-one patients suffering from Scarlet fever and one attacked by Diphtheria were treated in hospital.

The single death due to notifiable diseases was due to Erysipelas, and the single death from zymotic diseases resulted from Measles. The following table indicates the districts in which the above cases occurred:—

Sub-district.	St. Mary's.	Marden.	Rockcliff.	Monkseaton.	Totals.
Scarlet fever ... ..	25	8	14	9	56
Diphtheria and Mem- branous Croup ... ..	7	2	2	5	16
Erysipelas ... ..	2	—	4	1	7
Enteric fever ... ..	2	—	1	2	5
Totals ... ..	36	10	21	17	84

Seventy-six houses and two schools were disinfected owing to the occurrence of infectious diseases, and ten other houses were similarly dealt with after occupation by Phthisical patients.

*Infectious Diseases (non-notifiable).*—Measles was prevalent during the months of January, February, and August, and Whooping cough during the latter month. Chickenpox was reported to be present during February.

*Factories and Workshops.*—Three factories and fifty-one workshops were on the register; eleven of the workshops were bakehouses. Periodical inspections were made, but no defects or contraventions of the Act were found.

*Dairies, Cowsheds and Milkshops.*—Thirteen cowkeepers were on the register in this district and twenty-eight purveyors of milk. Eighty-four visits of inspection were made and in the majority of cases the general condition of the premises was found to be satisfactory. Two notices requiring lime-washing and cleansing of cowsheds were served. The water supplies of four dairy farms—from a well in each case—were submitted to analysis and all were certified to be unfit for either drinking or dairy purposes. The report, however, does not state what further action was taken, either to prevent the use of the above-mentioned wells or to procure a more satisfactory water supply.

*Slaughter houses.*—There was only one private slaughter house in this district. The council's slaughter houses at Hill Heads were fully occupied, there being eleven tenants in all. Ninety-four visits of inspection were paid. The bye-laws are stated to have been "fairly well carried out."

*Improvements.*—One hundred and sixteen houses were completed during the year. The sanitary inspector's report states that notices were served in one case owing to a house being unfit for human habitation, in seven cases to repair defective walls, floors, spouting, &c. and in one case to remedy overcrowding. Several back streets were paved.

Extensions of the sewerage system were carried out, 1,500 yards of sewers being laid; these included the extension of the Front Street (Monkseaton) sewer, for which a Webb lamp ventilator is to be provided.



In consequence of action taken under the Public Health Acts a large amount of valuable work was carried out, including the relaying of drains, the provision of additional w.c.'s, ventilating shafts, inspection chambers, and disconnecting traps, &c., &c.

The drainage systems of thirty-nine houses were tested in consequence of complaints from occupiers or owing to outbreaks of infectious disease. Of this number thirty-five were found to be defective; fifteen were relaid and the remainder made water-tight and efficient.

The defective drainage of Park Schools, referred to in the preceding annual report, was remedied.

The scavenging of the district continued to be satisfactorily carried out by the local authority, and notwithstanding a slight increase in cost, due to the provision during the year of fixed covers to all the scavengers' carts, the cost for the year per head of the population was  $1/1\frac{1}{2}$  against an average cost of  $1/4\frac{3}{4}$  during the "contract" years, 1902-8.

The figures *per house*, when compared as above, show that  $1/4\frac{1}{4}$  *per house per year was saved by the local authority carrying out its own scavenging operations*, greater efficiency being at the same time secured.

Bye-laws relating to tents, vans, sheds, &c., were adopted, there being over 200 of such structures in the district; 1,500 inspections were made and notices were served on the owners of the land to provide sufficient sanitary conveniences in eight instances and in two others to provide a sufficient water supply.

*Requirements.*—A realisation of the long-promised water supply from the Tynemouth Corporation's mains.

A better system of refuse disposal than the present one of tipping, preferably by means of a modern refuse destructor.

The abolition of the conservancy system of refuse disposal, the perpetuation of which can only be regarded as a weak spot in the sanitary administration of any health resort. This will involve the abolition of about forty privy-ashpits, of over 1,000 pail closets, and the provision of a similar number of water closets. Alluding to the above the medical officer remarks—"It is a matter for regret that houses should be still equipped in this district with the dirty, insanitary, and, to the general community, expensive privy pail. The expense is not only to the community. These pails have to be constantly renewed, and even to the house owner a water closet proves less expensive in the long run." He further advocates the compulsory provision of water closets in the case of all new houses.

The improvement of the road at Windsor Crescent was still greatly needed, although attention was drawn to the unsatisfactory condition of this road in the report for the year 1907.

The provision of a steam disinfecter. The medical officer again alludes to the difficulty in efficiently carrying out the important work of disinfection. "At present the bulky articles, such as beds, which cannot be properly disinfected without being passed through a steam disinfecter, are burned, sometimes at a considerable cost to the community."

\* 7.25 if the deaths of five residents, which occurred outside the district, are added.

#### WILLINGTON QUAY.

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

Area, 313 acres; estimated population, 9,420; birth rate, 33.33; general death rate, 12.74\*; zymotic death rate, 1.48; infant mortality rate (per 1,000 births), 121.01; Phthisis death rate, 1.27; death from respiratory diseases, 2.01.

When comparison is made with the corresponding rates for the preceding year, the Phthisis death rate alone shows an increase of 0.52. The remaining



rates have decreased as follows:—Birth rate, 3.22; general death rate, 2.36; zymotic death rate, 0.68; infant mortality rate, 24.39; respiratory death rate, 1.46.

Three hundred and fourteen births were registered during the year and one hundred and twenty deaths; of the latter thirty-eight were of children under one year and twenty of persons sixty-five years and upwards.

Twenty-four cases of infectious disease were notified as follows:—Diphtheria and Membranous Croup, 13; Scarlet Fever, 8; Erysipelas, 3.

Fourteen deaths occurred from Zymotic disease, viz.:—Diarrhoea, 5; Measles, 3; Whooping Cough, 2; Diphtheria, 2; Infantile Enteritis, 2. Phthisis caused 12 deaths, respiratory diseases, 19; heart disease, 13; accidents, 2; and premature birth, 5.

The medical officer of health included, as usual, in his report some interesting tables in which comparison is made between the general and zymotic death rates in Willington Quay and those recorded for the combined urban districts of England and Wales. For the first time during the last ten years the general death rate in Willington Quay did not exceed that of the combined urban districts in England and Wales, the rates being, for the year under review, identical; the mean rate for the ten years 1900–9 is 17.7 in Willington Quay, and 16.1 for the combined urban districts in England and Wales. A similar comparison as regards the zymotic death rates is also unfavourable to this district, the rate for Willington Quay being 1.48 and for the combined English urban districts 1.08 for the year under review.

A list is also given of the localities in which the average death rate during the last ten years exceeded eighteen per thousand and in which districts the rate was below thirteen per thousand population.

*Infectious diseases (notifiable).*—The cases were few considering the character of the district, and of the 24 notified, 9 (37.5 per cent.) were treated in hospital. It is again most gratifying to note that no case of either Enteric Fever or Puerperal Fever was notified during the year.

*Infectious diseases (non-notifiable).*—Three deaths resulted from Measles and two from Whooping Cough. The first named disease was prevalent during the first three months of the year, and Whooping Cough in the first and last quarters.

*Factories and Workshops.*—These numbered thirty-three, a considerable proportion being factories. Thirty visits of inspection were paid, one defect only being met with and this was remedied. The report does not state what standard of sufficiency or suitability of sanitary conveniences is required by the local authority.

*Dairies, Cowsheds and Milkshops.*—Three cowsheds were on the register and these were regularly inspected. One notice, relating to overcrowding, was served. The general structural condition of two of the cowsheds was most unsatisfactory, and in nearly all, the methods adopted for the storage of manure are direct contraventions of the bye-laws relating to the prevention of nuisances and keeping of animals. The keeping of horses in one cow-byre and the close proximity of a large open privy-midden to another, are two instances of the unsatisfactory conditions existing.

*Slaughter Houses.*—There were five slaughter houses in this district and it was stated that they had been inspected at regular intervals. Speaking generally their condition was far from satisfactory; in none was there proper provision made for the storage of manure, garbage, etc; two required considerable structural alterations and defects in drainage, as well as various contraventions of bye-laws, existed in others.

*Improvements.*—The improvements effected are mentioned in the medical officer's and the sanitary inspector's report, and include the following:—Defective yards, surface relaid with cement, 23; improvements to house drainage, 26; repairs to sanitary conveniences, 64; overcrowding abated, 2.



In Chapel Street one block of houses was voluntarily closed by the owner and was being rebuilt.

Six large privy-middens were abolished and ash-closets substituted.

A new sewer was laid in George Street.

*Requirements.*—The medical officer protests against the small size and inadequate ventilation of the bedrooms provided in many houses, more especially in those built on the "flat" system, and expresses the hope that "it will be found practicable to include regulations fixing the minimum size of the bedrooms in the existing local bye-laws."

Immediate action should be taken under the Housing, Town Planning etc., Act, 1909, with a view to securing the closure or improvement of houses in Keelman's Row and Ravensworth Street. The damp and generally dilapidated condition of the first named houses (about twenty tenements) has been repeatedly alluded to in previous reports. The amelioration of insanitary conditions in Ravensworth Street should be enforced.

The abolition of privy-ashpits, about fifty of which still remain, and their substitution by water-closets and ashbins.

Additional sanitary accommodation, *e.g.*, in Palmer's Terrace, where only one sanitary convenience is provided for four or five families.

Improvements in method and greater care in carrying out scavenging operations are very desirable in view of the number of complaints that were received, and a more sanitary method of refuse disposal than the existing one of tipping is deserving of consideration.

Some alteration is much needed as regards the yards of houses in Palmer's Terrace and Stephenson Street where the close proximity of the ballast hills not only causes an inadequacy of yard area, but is productive of a constantly recurring nuisance owing to sand and gravel being washed into the yards during heavy rains.

A more strict enforcement of the bye-laws is very desirable, more especially those relating to slaughter houses, and the prevention of nuisances. Structural improvement in some of the slaughter houses and in at least two of the cow-sheds are also urgently required.

In the form supplied by the Home Office should be given "the standard of sufficiency and suitability of sanitary accommodation for persons employed in factories and workshops which is enforced."

\* 13.80 if the deaths of ten "residents" which occurred outside the district are added.



## RURAL DISTRICTS.

## ALNWICK.

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

Area, 93,009 acres; estimated population, 12,772; birth rate, 22.39; general death rate, 10.72\*; zymotic death rate, 0.70; infant mortality rate (per 1,000 births), 104.89; Phthisis death rate, 0.47; death rate from respiratory diseases, 1.33.

When comparison is made with the corresponding rates for the preceding year, the infant mortality rate and respiratory death rate show respective increases of 0.32 and 0.55. The remaining rates have decreased as follows:—Birth rate, 1.62; general death rate, 2.70; zymotic death rate, 0.08; Phthisis death rate, 0.55.

Two hundred and eighty-six births were registered during the year and one hundred and thirty-seven deaths; of the latter thirty were of children under one year and fifty-three of persons sixty-five years and upwards.

One hundred and fourteen cases of infectious disease were notified as follows:—Scarlet fever, 61; Diphtheria and Membranous croup, 39; Erysipelas, 12; Enteric fever, 2.

Nine deaths occurred from zymotic disease, viz.:—Diphtheria and Membranous croup, 4; Diarrhœa, 2; Infantile Enteritis, 2; Whooping cough, 1.

Phthisis caused 6 deaths, respiratory diseases 17, heart diseases 15, accidents 6 and premature birth 7.

The following tables show the sub-districts in which cases of notifiable disease occurred, and give statistical information of considerable interest relating to the district as a whole, and also to each sub-division.

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Warkworth ...	7,604	186	24.4	89	11.7	20	107.5	7	0.92	83	10.9
Embleton ...	4,501	87	19.3	43	9.5	9	103.4	2	0.44	12	2.6
Denwick ...	667	13	19.5	9	13.5	1	76.9	—	—	19	28.5
Whole district	12,772	286	22.39	141	11.03	30	104.89	9	0.70	114	8.9

The general death rate was not only considerably lower than the low average for the previous ten years, but was also the lowest ever recorded in this district. The reduction in the above rate was noticeable in each of the three sub-districts.

The infant mortality rate, though practically the same as during 1908, was considerably lower than the average for the previous ten years, and the medical officer attributes "the greater tendency to "survival to the gradual enlightenment concerning the feeding of "infants, and also to more stringent regulations for the production and "distribution of milk which have, without doubt, had a beneficial "influence, more especially in relation to tubercular diseases in young "children."

The Phthisis death rate was the lowest recorded in rural districts.

*Infectious Diseases (Notifiable).*—Cases of Scarlet fever and Diphtheria occurred in each sub-district, the chief incidence of both diseases being upon the Warkworth division, where also the only two cases of Enteric fever and eight of the twelve cases of Erysipelas occurred.



Sub-districts.	Infectious Diseases Notified.				
	Scarlet Fever.	Diphtheria.	Enteric Fever.	Erysipelas.	Totals.
Warkworth ... ..	45	28	2	8	83
Embleton ... ..	3	6	—	3	12
Denwick ... ..	13	5	—	1	19
Whole district ...	61	39	2	12	114

The only place where Scarlet fever assumed epidemic proportions was at Newton-on-the-Moor, where school closure was considered necessary.

The medical officer deals, at some length, with the increased incidence of Diphtheria, and points out that, during the last two years, there have been ninety-four cases of this disease against only seventy-seven cases of the previously "much more infectious disease," Scarlet fever, although, prior to the year 1908, the notifications of the latter disease outnumbered those of Diphtheria by ten to one, and concludes that the explanation of the change in the relative frequency of the above-named diseases probably lies in the increased facilities afforded by bacteriological examination for arriving at an absolutely correct diagnosis. Previously many inflamed throats presenting, to the naked eye, none of the characteristics of Diphtheria, but being, in reality, mild cases of this disease, were not counted as Diphtheritic.

Two cases only of Enteric fever (in the same house) occurred during the year.

*Infectious Diseases (Non-notifiable).*—Measles was prevalent during the month of July.

*Factories and Workshops.*—Ninety-three premises were registered in this district, but no differentiation appears to be made, in the register, between factories and workshops. A corresponding number of inspections were made, and three defects, or contraventions of the Act, were met with and remedied.

*Dairies and Cowsheds.*—There were thirty-seven registered cowkeepers in the district. In five cases the milk was sent to other districts, Amble, Whitley Bay, Newcastle and South Shields. The number of inspections made is not stated. Several structural defects, *e.g.*, drain openings inside the cowshed, were found and notices to remedy these conditions were served.

*Slaughter Houses.*—The slaughter houses in the district numbered eight and five of these are situate in townships—Alnmouth, Embleton and Warkworth—where the rural authority have been granted urban powers as regards slaughter houses. The bye-laws do not, therefore, apply to the three slaughter houses at Felton and Glanton. The number of inspections made, or defects met with and remedied, is not stated in the report. No notices were served, but the removal of garbage, etc., is stated to have been much better attended to than formerly.

*Common Lodging Houses.*—Two were on the register in this district, one of which was not in use during the year. The other, at Embleton, was stated to have been kept in a satisfactory condition.

*Improvements.*—The only improvements noted, in the medical officer's report, as regards housing conditions, are the following:—Continued alterations to houses at Radcliffe; the raising of the roof, and remodelling of four cottages at Harehope Farm; the carrying out of remedial measures in the case of damp house walls at Brockley Hall; the discontinuance of the use of Buston Granary for human habitation.



The water supply was improved in several places, *e.g.*, Glanton, North Field, Stamford Cottages, Glanton and Sturton Grange. Every endeavour was being made to obtain a better supply for Chester House and Acklington.

A scheme for the improvement of the water supply to the higher parts of Warkworth was being formulated, the district to be supplied being on a higher level than the village reservoirs.

Considerable activity was shown by the local authority in the improvement of the district as regards sewerage and drainage. A new sewerage system was completed at Craster (North Side), and the outlet taken to sea. A defective sewer at Gordon Terrace, Alnmouth, was relaid and the private drains connected to it. The sewers at Newton-on-the-Moor, Eglington and Christon Bank were extended; a new sewer and septic tank were completed at Powburn; settling tanks were provided for the east and west sewers at South Charlton with a view to minimising the nuisance caused by stagnant sewage near the outlets.

A house-to-house inspection of over 100 houses at Warkworth resulted in the relaying of defective drains in several instances, and the fixing of twenty new gully traps; other improvements in drainage were effected at Embleton East Farm Cottages, Hazon, Acklington Bridge End, Bilton Barns, Hobberlaw High Cottages, Brockley Hall, Greensfield Moor, Little Mill, Craster fish yards, Glanton, Shawdon Hill and Heckley High House. A new sewerage scheme was submitted to the Local Government Board for the drainage of twenty-two houses at Heather Leazes, which are at present drained to land drains, ditches and cesspools.

Several improvements in the sanitary accommodation for houses were effected at Lesbury, Warkworth, Eglington Glebe Cottage, the north western cottages at High Buston and Howick Red Stead. A large number of minor sanitary defects and nuisances were also remedied without any recourse to legal measures.

The council are to be congratulated on having secured the conviction of a person for depositing ashes and refuse in the river at Warkworth.

*Requirements.*—Improved water supplies were still urgently required at Acklington Low Park where, in summer, water has to be carried about a mile; at Middle Cawledge Park, Sturton Grange South Side and Shipley Lane. In the latter case, the water is carted from a burn which, 200 yards higher up, is polluted by horses, cattle, etc. An analysis of water from a pump situate within twenty feet from a privy at Chester House Cottages was made, and the report stated "it is heavily contaminated with sewage, and quite unfit for drinking purposes." Notwithstanding the grave danger from the continuance of such a supply, no action is reported to have been taken by the local authority to secure the closure of the well or the removal of the privy. The water supply to Acklington Village was still most unsatisfactory and, up to the end of the year, no improvement seems to have been effected. As regards this supply, the remarks in the previous annual report still apply. "The well near the churchyard at Acklington, which is the supply for the inhabitants of this village and also for a dairy farm, can only be regarded as a possible source of extreme danger. The distance from the nearest grave to the well is only about thirty yards and, as the intervening sub-soil is sand and gravel, the danger of the well being polluted is considerable."

Attention has been drawn, in previous annual reports, to the unsatisfactory and dangerous condition of several of the above water supplies, and it is most desirable that the local authority should make use of the powers they possess to put an end to the present state of affairs.

The widening of the Elmire footpath at Warkworth, so as to provide a cart entrance for scavenging purposes in the case of several houses where the refuse has to be carried through dwelling houses.



The condition of the roads at Radcliffe have long called for action by the local authority in order to secure improvements of the surface and the drainage.

An improved system of sewage disposal was needed at Leslie Row in place of the present most unsatisfactory system under which sewage is discharged into an open ditch. Measures should also be adopted for preventing the pollution of the Lady Burn by crude sewage from Togston Terrace and Togston Crescent.

\* 11·03 if the deaths of four residents which occurred outside the district are added.

#### BELFORD.

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

Area, 39,619 acres; estimated population, 5,262; birth rate, 17·67; general death rate, 10·83; zymotic death rate, nil; infant mortality rate (per 1,000 births), 64·51; Phthisis death rate, 0·76; death rate from respiratory diseases, 2·28.

A comparison of the above rates with those for the preceding year shows that the Phthisis death rate has remained stationary, the respiratory death rate has increased by 0·19, while the remaining rates have decreased as follows:— Birth rate 4·40, general death rate 3·24, zymotic death rate 0·19, and infant mortality rate 30·31.

Ninety-three births were registered during the year and fifty-seven deaths; of the latter six were of children under one year and twenty-two of persons sixty-five years and upwards.

Sixteen cases of infectious disease were notified as follows:— Diphtheria 3, Erysipelas 8 and Scarlet fever 5.

Phthisis caused 4 deaths, respiratory diseases 12, heart diseases 11, accident 1 and premature birth 2.

The birth rate, both for the whole district and for each sub-division, was lower than during the previous year, and was also the lowest recorded in any rural district.

The general death rate was also lower than during the previous year.

The infant mortality rate, which was considerably lower than during 1908, was the third lowest in rural districts, and no deaths of children under a year old occurred in the North Sunderland, Bamburgh or Beadnell divisions.

No deaths occurred from zymotic disease, a condition which only obtained in two other districts in the administrative county—the Seghill urban and the Rothbury rural districts.

The respiratory death rate was the highest recorded in rural districts.

The following table indicates the populations and various rates in each of the several sub-districts:—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Belford ...	721	14	19·4	9	12·4	1	71·4	—	—	—	—
North Sunderland ...	1,080	22	20·3	10	9·2	—	—	—	—	9	8·3
Bamburgh ...	605	8	13·2	8	13·2	—	—	—	—	1	1·6
Beadnell ...	303	6	19·8	4	13·2	—	—	—	—	1	3·3
Remainder of district ...	2,553	43	16·8	26	10·1	5	116·2	—	—	5	1·9
Whole district	5,262	93	17·67	57	10·83	6	64·51	—	—	16	3·04



*Infectious Diseases (Notifiable).*—The district was again singularly free from the above diseases. The three cases of Diphtheria which occurred were in the North Sunderland division. No case of Enteric fever was notified; in the Belford sub-division, no case, and in the Bamburgh and Beadnell sub-districts only one case each of infectious disease was notified. No death occurred from any notifiable infectious disease.

*Infectious Diseases (Non-notifiable).*—Measles was prevalent during January, April, May and June, and was the cause of school closure at Lucker. Whooping cough was prevalent during June, and Influenza in January, February and December, the latter disease being the cause of four deaths. No deaths were caused by either Measles or Whooping cough.

When on the subject of Tuberculosis, the medical officer refers to "the conditions which favour the development of Phthisis—absence of "sunshine, badly ventilated rooms, overcrowding in bedrooms, dampness of soil and houses, poverty and intemperance."

*Factories and Workshops.*—Eighty workshops were on the register, an increase of four compared with the previous year; five were bake-houses, and these received special attention; no contraventions of the Act were met with. The report states that there were no outworkers in the district.

*Dairies and Cowsheds.*—Twenty-seven cowsheds were on the register; all were inspected and, it is reported that "most of them were found "to be fairly satisfactory"; one defective cowshed was repaired and put into a good condition.

*Slaughter Houses.*—The slaughter houses, six in number, were visited, during slaughtering and on other occasions, and are reported to have been found "clean and satisfactory."

*Improvements.*—Housing.—Plans were passed for the erection of two new houses and for additions to two others. Arrangements were made for remedying the various structural defects at Detchant Farm Cottages, Detchant Buildings, Low Middleton and Elford Farm Cottages.

*Water Supplies.*—A scheme was prepared for procuring a new water supply for Beadnell and Swinhoe, and a Local Government Board Inquiry was held in connection with the above. A new and adequate water supply was provided for Elford.

*Sewerage and Drainage.*—A bacteria bed was constructed for purifying the sewage from the farm cottages at Bellshill. An automatic flushing tank was constructed in connection with the sewer on the north bank at Belford with a view to abate the nuisance which frequently arose, especially during periods of dry weather. Other improvements in drainage were effected at Adderstone Mains and Elwick.

*Sanitary Accommodation.*—At Seahouses a privy midden was abolished and two water closets substituted. Other improvements to sanitary conveniences were carried out in High Street, Belford, and at Glororum.

*Cowsheds.*—Improvements in the flooring and drainage of two cowsheds were carried out.

The entrances to the herring yards at Seahouses were improved, and defects at the Black Swan Inn and at the Schooner Inn were remedied.

*Requirements.*—Measurements were still needed for remedying the dampness of farm cottages at New Shoreston and Seahouses; this condition was mentioned in the medical officer's report for 1908 and still continued at the end of the year under review.

A water supply, on the premises, was still needed for one of the slaughter houses at Belford.

An entirely new sewerage and sewage disposal scheme has been urgently needed in Belford for many years. In a report issued in 1896



it was pointed out that some of the sewers were not constructed in accordance with modern requirements; that many untrapped surface gratings existed; that, in numerous instances, rainwater pipes appeared to discharge direct into sewers or drains instead of over trapped gullies, thus acting as sewer ventilators in most undesirable situations and, further, that practically all the crude sewage from a population of about 700 was discharged into the Belford Burn.

The framing and adoption of more stringent regulations under the Dairies, Cowsheds and Milkshops Orders.

The adoption of the Notification of Births Act. Referring to the infant mortality rate, the medical officer remarks "that there is no doubt that much of the waste of human life at this age period is preventable and would be curtailed if mothers were carefully instructed in all cases in which it is necessary to feed infants artificially. It is also very important that flies should be prevented from gaining access to milk by keeping all milk vessels covered." The above remarks point to the desirability of the adoption of the Notification of Births Act and the appointment of a health visitor.

#### BELLINGHAM.

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

Area, 246,580 acres; estimated population, 6,000; birth rate, 23.33; general death rate, 12.83; zymotic death rate, 0.16; infant mortality rate (per 1,000 births), 85.71; Phthisis death rate, 1.33; death rate from respiratory diseases, 1.5.

With the exception of the zymotic death rate, which has decreased by 0.50, all the above rates have increased as compared with the corresponding rates for the preceding year as follows:—Birth rate 4.83, general death rate 1.83, infant mortality rate 31.66, Phthisis death rate 0.33 and the respiratory death rate 0.67.

One hundred and forty births were registered during the year and seventy-seven deaths; of the latter twelve were of children under one year and forty of persons sixty-five years and upwards.

Twenty-four cases of infectious disease were notified as follows:—Diphtheria 2, Erysipelas 5 and Scarlet fever 17.

One death occurred from zymotic disease, viz., from Diarrhoea.

Phthisis caused 8 deaths, respiratory diseases 9, heart diseases 14, accidents 1 and premature birth 5.

The birth rate was below the average for the whole district in the Kirkwhelpington, Elsdon, and Wark and Birtley divisions, and above the average in the other three sub-districts.

The general death rate was lowest in Falstone and Elsdon, and also below the average for the whole district in the Wark and Birtley sub-division. In Corsenside, Kirkwhelpington and Bellingham, the death rate was considerably above the average for the whole district, though three of the deaths allocated to Bellingham occurred in the work-house and were not necessarily of persons belonging to Bellingham. The rate for the whole district was 0.9 per 1,000 lower than the average for the previous ten years.

The infant mortality rate was subject to considerable variation in the different sub-districts, but the births recorded in each sub-division were so few that a comparison of the various infant mortality rates is necessarily of little value.

The zymotic death rate was the third lowest, and the Phthisis death rate was the highest recorded in rural districts. Only one death resulted from zymotic disease.



The following table gives information as to population, birth rates, the various mortality rates, the cases of infectious disease notified and the attack rate of the latter per 1,000 population in the several sub-divisions :—

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Bellingham ...	1,256	36	28·6	28	22·2	2	55·5	—	—	4	3·1
Falstone ...	1,100	28	25·4	6	5·4	2	71·4	1	0·90	8	7·2
Corsenside ...	700	24	34·2	11	15·7	4	166·6	—	—	2	2·8
Elsdon ...	1,320	22	16·6	10	7·5	2	90·0	—	—	—	—
Wark and Birtley ...	1,004	22	21·9	12	11·9	—	—	—	—	5	4·9
Kirkwhelp- ington ...	620	10	16·1	10	16·1	2	200·0	—	—	5	8·0
Whole district	6,000	142	23·33	77	12·83	12	85·71	1	0·16	24	4·0

*Infectious Diseases (Notifiable).*—In the Elsdon sub-division alone no cases were notified. Several cases of Scarlet fever occurred during the months of January, February, May and August but, owing to the precautions taken, in no case did the disease spread beyond the family first attacked. The Bellingham, Corsenside, Elsdon and Wark districts were entirely free from this disease.

Two cases only of Diphtheria—one in Bellingham and one in Wark—occurred in the whole district.

Five cases of Erysipelas were notified, three from the Bellingham and two from the Corsenside sub-district.

*Infectious Diseases (Non-notifiable).*—Measles was prevalent in February, March, June, July and September, and a few cases of German Measles occurred during May; no deaths resulted from these diseases.

*Factories and Workshops.*—Sixteen workshops and one factory were the register, none of which were bakehouses; all were inspected and no contraventions of the Act were met with, the premises being reported to be “in a perfectly sanitary condition.”

*Dairies and Cowsheds.*—The number of premises registered is not stated in the report, but all were inspected. The conditions met with are reported to have been satisfactory, all sanitary requirements having been complied with.

*Improvements.*—Housing.—Additional housing accommodation was provided by the erection of seven new houses three at Catcleugh, two at Bellingham and one each at Ray and Falstone. Four houses at Otterburn were in course of construction.

Water Supplies.—Several improvements were effected in the water supplies of various premises in the district; included in the above are farmhouses and buildings at Elishaw, Haning Rigg and Blakehope; cottages at Elishaw Gate, Brownrigg, Dargues, Bogle Hole and Reenes Cottages. The supply at Wark was also improved and augmented.

Sewerage and Drainage.—The main sewer at Pasture House was extended, and the condition of one of the main sewers at Bellingham was improved. A new system for the disposal of sewage was completed at Brandy Bank, and the sewage disposal works at Otterburn Tower were improved by the construction of a new filter bed. The drainage of houses and other premises was improved, in most cases by the laying



of new drains, at Otterburn School, Heatherwick, Haning Rigg, Woodburn Chapel, Birtley Cottage, Falstone and the Fox and Hounds Inn, Bellingham.

**Sanitary Accommodation.**—The ash-pits connected with the sanitary conveniences of the schools at Otterburn and Wark were roofed in and, in the latter case, a drain was laid to carry away the roof water. Other improvements as regards sanitary conveniences were carried out at Low Carryhouse, Blindburn Cottage, Bay Horse Inn, Birtley Cottage and Redesmouth Cottage.

**Requirements.**—The water supplies for Plashetts and West Woodburn were still unsatisfactory, as was pointed out in previous reports.

A new sewerage system was required for the village of Greenhaugh, and improvements in the drainage of Yarrow Cottage, Boathouse, Soppitt, West Whygate, Thorneyburn Eals, Lanehead Cottages and Heathery Hall were still unrecorded although the necessity for these alterations has been mentioned in previous reports.

The installation of sewage disposal systems in various parts of this extensive district was urgently needed so as to minimise the gross pollution of watercourses which at present obtains owing to the discharge therein of untreated or of imperfectly treated sewage. Special mention may be made as to the above-named requirements at Falstone, Greenhaugh, Redesmouth, Ridsdale, West Woodburn, East Woodburn, Otterburn and Catcleugh.

The general housing conditions at Plashetts Colliery were in urgent need of improvement, and it is extremely desirable that the council should exercise their powers under the Housing, Town Planning, etc., Act, 1909, for securing more sanitary conditions than at present exist.

The need for improved sanitary accommodation in many parts of the district is pointed out by the medical officer.

Provision is urgently required for the isolation of persons suffering from infectious disease.

The printing of the medical officer's annual report together with the tables supplied by the Local Government Board and a portion of the form provided by the Home Office is very desirable so that copies may be available for all ratepayers interested in the public health administration of the district.

#### CASTLE WARD.

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

Area, 85,124 acres; estimated population, 12,558; birth rate, 25.80; general death rate, 10.59; zymotic death rate, 0.55; infant mortality rate (per 1,000 birth), 86.42; Phthisis death rate, 1.11; death rate from respiratory diseases, 1.03.

The general death rate, the infant mortality rate and the respiratory death rate have decreased by 1.81, 41.39 and 0.93 respectively; the remaining rates have increased as follows:—Birth rate 4.52, zymotic death rate 0.06 and the Phthisis death rate 0.38.

Three hundred and twenty-four births were registered during the year and one hundred and thirty-three deaths; of the latter twenty-eight were of children under one year and forty-seven of persons under sixty-five years and upwards.

Sixty-four cases of infectious disease were notified as follows:—Diphtheria 34, Erysipelas 9, Scarlet fever 16, Enteric fever 4 and Puerperal fever 1.

Seven deaths occurred from zymotic disease, viz.:—Diphtheria 1 and Diarrhoea 6 (including 2 cases each of infantile Enteritis and Gastritis).

Phthisis caused 14 deaths; respiratory diseases, 13; heart diseases, 12; accidents 6 and premature birth 8.



The following table indicates the birth rate, the various mortality rates and the attack rates of notifiable infectious disease in each of the sub-divisions of the district :—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Heddon ...	1 410	22	15·6	10	7·0	1	45·4	1	0·70	10	7·0
Newburn ...	813	29	35·6	6	7·3	1	34·4	—	—	5	6·1
Stamfordham and Matfen	1,425	36	25·2	14	9·8	2	55·5	—	—	—	—
Kirkheaton & Capheaton	338	12	35·5	7	20·7	—	—	—	—	—	—
Gosforth (N.)	1,551	33	21·2	22	14·1	8	242·4	5	3·22	10	6·4
Stannington and Belsay	2,177	37	16·9	23	10·5	4	108·1	—	—	3	1·3
Ponteland, Dinnington, & Workhouse	4,844	155	32·0	51	10·5	12	77·4	1	0·20	44	9·1
Whole district	12,558	324	25·8	133	10·6	28	86·4	7	0·55	72	5·1

The birth rate varied very greatly in the different sub-divisions of this district, being considerably below the average for the whole district in the Heddon, Stannington and Belsay, and Gosforth (N) divisions and considerably above the average in the Newburn, Kirkheaton and Ponteland sub-districts.

The general death rate was the lowest recorded in any rural district and was also the lowest recorded in this district during the years 1899-1909. The rate was close upon the average for the whole district in the Stannington and Ponteland divisions, below the average in the Heddon, Newburn and Stamfordham sub-divisions and considerably above the average in the Kirkheaton and Gosforth (N) divisions.

The infant mortality rate was the lowest in the Newburn, Heddon and Stamfordham districts, and highest in the Gosforth (N) and Stannington districts. The rate was lower than any recorded during the years 1899-1908.

No deaths from zymotic disease occurred in the Newburn, Stamfordham, Kirkheaton or Stannington districts but in Gosforth (N) the rate was nearly five times as high as in either of the other divisions.

The respiratory death rate was the third lowest recorded in rural districts.

The attack rate from notifiable infectious diseases was very much the highest in the Ponteland district and no cases were notified in either the Stamfordham or the Kirkheaton division.

*Infectious Diseases (Notifiable).—*The localities chiefly affected by Diphtheria were Dinnington Colliery (11 cases), Blayney Row (7 cases), Ponteland (4 cases), and West Brunton (4 cases). As regards Scarlet fever and Enteric fever the incidence was also greatest upon Dinnington Colliery, six of the sixteen cases of the former and two of the four cases of the latter disease occurring in this locality. Six patients suffering from Diphtheria and two Enteric fever cases were treated in hospital. Eight cases of Pulmonary Tuberculosis were notified during the year. The council issued a special leaflet giving directions to those suffering from Phthisis. The council also provided and authorised the



medical officer to supply pocket spitting flasks to all persons suffering from the above disease who were in receipt of relief from the Poor Law Authority.

*Infectious Diseases (Non-notifiable).*—Measles was prevalent during March, June and September; outbreaks occurred at Butterlaw, Capheaton, Matfen and Whalton and closure of schools at these places was considered necessary.

An epidemic of Mumps occurred in October amongst the children attending the Coates Endowed School. Chickenpox was prevalent during the year in the Belsay district and the schools in this district were closed for one week in December owing to an outbreak of Influenza.

*Factories and Workshops.*—Four factories and nine workshops were on the register in this district and a corresponding number of visits of inspection were paid. There were no bakehouses in the district and the medical officer was not aware of any "outworkers." In the case of one workshop considerable improvements were effected by the provision of a new workroom with increased air-space and better lighting.

*Dairies and Cowsheds.*—There were thirty-two dairies on the register and inspections by the medical officer and sanitary inspector were made on several occasions. During the year two complaints were received from an adjoining Sanitary Authority that tuberculous milk was being supplied from dairies in this district. Veterinary examination was, in both cases, resorted to with the result that two cows which reacted to the tuberculin test were isolated and promises were obtained from the dairymen that the milk from these animals would not in future be sold for human consumption and that if used for pigs, etc., would previously be boiled. In another instance a complaint was received of the large amount of excrementitious matter in milk supplied from one dairy and that several persons using the milk had contracted Diphtheria. Bacteriological examination of the throats of all persons connected with this supply resulted in one person being found who, though apparently well, was harbouring the germ of this disease; he was immediately removed to the isolation hospital. The medical officer made certain suggestions for improving the structural condition of one of the cowsheds, which were subsequently carried out.

With the above exceptions no mention was made of any unsatisfactory condition of cowsheds, presumably therefore they were all considered satisfactory.

*Slaughter Houses.*—There are no public slaughter houses in this district and the private slaughter houses were visited at various times during the year. No tuberculous carcasses were found. No mention is made of the structural or other conditions of the slaughter houses.

*Improvements.*—An improved water supply was provided for Dalton Village and new water supplies were installed in the following localities:—Woolsington Hall, Sunnyside, Hack Hall, Howard Arms, five cottages at Stannington, Broom Hall, Callerton, Bog Hall, Cairn House, Dissington Red House and Dalton Hill Head.

Improvements in sewerage and drainage were effected in several parts of the district; a new sewer, to replace an old stone conduit, was laid at Whalton and a new system of drainage was constructed for the Howard Arms and five adjoining cottages; at Whorlton Hall a new drainage system and sewage disposal works were provided; at East Shaftoe a new sewer and septic tank were constructed and arrangements made for the treatment of the overflow from the latter on land.

A commencement was made in providing sewage disposal works for Dinnington Village.



The medical officer again reported to the council upon the unsatisfactory housing conditions at Fawdon Square. As a result of negotiations between the council and the colliery company several of the houses were closed and others were improved as regards lighting, ventilation, drainage, etc. Some difficulty was experienced by the tenants of condemned houses, in securing suitable houses and at the end of the year twelve of the houses were still inhabited although the notices to quit had expired some time previously.

A hay loft at Ponteland which had been converted into a dwelling-house was also closed as unfit for human habitation.

A great improvement was effected in the sanitary accommodation for five rows of houses at Dinnington Colliery where also five of the streets were made up and footpaths provided.

Other sanitary improvements of a general and varied nature were effected at Whalton (ten houses); Mason's Arms and Bay Horse Inn, Dinnington; Wheat Sheaf Inn, Callerton; Berwick Hill Low House, Butterlaw Farm, Mill Hill Farm, Whinney Hill, Bog Hall, Prestwick Farm, Capheaton Hall, Bolam White House and Low House, Ferney Chesters, Riplington, Lough House, Stannington and Milbourne Grange.

Tuberculosis was made a notifiable disease.

#### *Requirements.*

(1) An improved water supply for the village of Ponteland was still urgently needed.

(2) Improvements in the sanitary conveniences in many parts of the district, especially where unroofed ash-pits with uncemented walls are provided, *e.g.*, the back-to-back Row at Dinnington Colliery, etc.

(3) Measures for preventing the pollution of streams by crude or imperfectly treated sewage, *e.g.*, at Lough Bridge and Dinnington Village.

(4) The provision of a suitable site for a Small-pox Isolation Hospital.

#### GLENDALE.

Medical Officer of Health, ALEXANDER DEY, M.B., C.M.

Area, 147,942 acres; estimated population, 8,772; birth rate, 22.91; general death rate, 12.99; zymotic death rate, 0.22; infant mortality rate (per 1,000 births), 54.72; Phthisis death rate, 1.02; death rate from respiratory diseases, 1.36.

Of the above rates the Phthisis death rate was the same as for the preceding year, the birth rate increased by 0.22 and the remaining rates decreased as follows:—General death rate, 0.92; zymotic death rate, 0.23; infant mortality rate, 55.83 and the respiratory death rate, 0.35.

Two hundred and one births were registered during the year, and one hundred and fourteen deaths; of the latter, eleven were of children under one year, and forty-six of persons sixty-five years and upwards. A noteworthy feature is, that over fifteen per cent. of the total number of deaths were of persons over eighty years and upwards, and nearly five per cent. of persons of ninety years and upwards.

Thirty-eight cases of infectious disease were notified as follows:—Diphtheria, 7; Erysipelas 5 and Scarlet fever, 26.

Two deaths occurred from zymotic disease, viz., from Diarrhoea (infantile Enteritis 1, and infantile Gastritis 1).

Phthisis caused 9 deaths; respiratory diseases, 12; heart diseases, 24; accidents 1 and premature birth 5.



The birth rate, though low, was the highest recorded during the last eleven years.

The general death rate was slightly higher than the average for the years 1899-1908 but lower than the previous year and also below the county rate for rural districts. It was considerably higher in the Wooler than in the Ford division.

The infant mortality rate was the third lowest recorded in any district. It was considerably lower than the average for the whole district in the Wooler division and much higher than the average in the Ford district.

The zymotic death rate was less than half that recorded during the previous year, two deaths only having resulted from zymotic disease.

The following table gives, for each sub-district, the population, the birth rate, the various mortality rates, the number of infectious diseases notified and the attack rate of the latter per 1,000 of the population:—

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Wooler ...	4,572	95	20.7	68	14.8	3	31.5	1	0.21	17	3.7
Ford ...	4,200	106	25.2	46	10.9	8	75.4	1	0.23	21	5.0
Whole district	8,772	201	22.91	112	12.99	11	54.72	2	0.22	38	4.3

*Infectious Diseases (Notifiable).*—These were again few and were chiefly represented by twenty-six cases of Scarlet fever, eighteen in the Ford and eight in the Wooler district and seven of Diphtheria, all in the last-named district. The Scarlet fever patients were treated in hospital. No deaths occurred from either disease.

*Infectious Diseases (Non-notifiable).*—Measles was very prevalent during May, June, July and August, and Whooping cough during June and July.

No deaths were caused by either of the above-named diseases, but school closure on account of infectious disease was considered necessary on several occasions, viz.:—

Milfield School, May 7th to June 21st; both schools at Wooler, May 21st to June 14th; Wark School, June 14th to July 5th, all in consequence of outbreaks of Measles. Crookham School was closed from March 28th to May 24th, owing to the prevalence of Scarlet fever and Hazelrigg School from July 13th to August 30th, owing to the prevalence of Whooping cough.

*Factories and Workshops.*—Seventy-eight workshops were registered in this district, six of which were bakehouses. Only thirty-three inspections were made, eighteen being inspections of workshops and fifteen of factories. The number of factories was not given.

A few minor defects were met with and these were remedied.

*Dairies and Cowsheds.*—The number of premises on the register is not stated. Periodical inspections were made and the conditions found as regards ventilation, cleanliness, and water supply were stated to be satisfactory.

*Common Lodging Houses.*—Two were on the register, one situate at Wooler and the other at Lowick. The former was reported to be in a



satisfactory condition, but the latter is an old building and unsuitable for the purpose for which it is used, though presumably the council have granted a licence.

*Slaughter Houses.*—The number of premises in this district was not stated nor is the number of inspections made given in the report. The council decided to provide a constant supply of water to the lairage at the public slaughter houses. No allusion is made as to the condition of any private slaughter houses in the district nor of defects met with and remedied.

*Improvements.*—The housing accommodation of the district was improved by the erection of six new houses at Wooler and five at Ford Village, four of the latter being provided in substitution for some of the insanitary thatched cottages.

Improvements in water supply were effected at Turvelaws Cottages, West Flodden, Etal Rhodes and East and West Horton; at the latter place a new reservoir was built. In consequence of several cases of suspected lead poisoning at Wandon Farm an analysis of the water used for domestic purposes was made, the result being that it was found to contain two-thirds of a grain of lead per gallon. The water was from a "peaty" source and was conveyed for a distance of a quarter of a mile through lead pipes. Iron pipes were substituted with satisfactory results. A plan was propounded for increasing the storage capacity at Wooler and for relaying some of the water mains.

The sewage disposal works at Wooler were improved and it is reported that in consequence of careful supervision throughout the year the results were satisfactory and a good effluent was produced.

The sanitary conveniences for the infants' department at Wooler Schools were much improved by substituting the water carriage for the conservancy system.

*Requirements.*—The farm cottages at North Doddington, which have been the subject of several reports by the medical officer, were still in a most unsatisfactory condition and require the immediate attention of the council.

The water supplies for some parts of this district were still most unsatisfactory. As regards the supply for Lowick, to which attention has been drawn by the medical officer in his five previous annual reports, the medical officer points out that (1) it is insufficient, (2) the quality is not good and (3) the reservoir is very much out of repair. He further states that there is every prospect of an abundant supply being available at Eelwell Springs and that by fixing a ram in a suitable position and providing a reservoir a good and suitable supply could be obtained and the present unsatisfactory system could then be dispensed with. Attention is also drawn to the fact that "the risk of contamination is great." The liability to pollution of the water supply at Reavely was also reported to the Sanitary Authority.

An improved sewerage system for the village of Bowsden was much needed.

The sanitary accommodation for the senior departments at the National School, Wooler, and also for the Presbyterian School was far from satisfactory and for cottages at North Doddington farm was reported to be "practically non-existent."

#### HALTWHISTLE.

Medical Officer of Health, J. M. GLASSE, M.B., B.S.

Area, 69,333 acres; estimated population, 9,709; birth rate, 21.21; general death rate, 10.60; zymotic death rate, 0.30; infant mortality rate (per 1,000 births), 92.23; Phthisis death rate, 0.51; death rate from respiratory diseases, 1.23.



The whole of the above rates have, in comparison with the corresponding rates for the previous year, decreased as follows:—Birth rate 4.71, general death rate 2.20, zymotic death rate 0.84, infant mortality rate 16.20, Phthisis death rate 0.32 and the death rate from respiratory diseases 1.47.

Two hundred and six births were registered during the year and one hundred and three deaths; of the latter nineteen were of children under one year and forty-one of persons sixty-five years and upwards.

Forty-six cases of infectious disease were notified as follows:—Scarlet fever 35, Diphtheria 8, Enteric fever 1 and Erysipelas 2.

Three deaths occurred from zymotic disease, viz.:—Enteric fever 1 and Diarrhoea 2.

Phthisis caused 5 deaths, respiratory diseases 12, heart diseases 12, accidents 2 and premature birth 5.

The birth rate, which was the third lowest recorded in rural districts, was considerably below the average for the whole district in all the sub-districts except the Haltwhistle division.

The general death rate which was the second lowest among rural districts was below the average in the Blenkinsopp and Haltwhistle sub-divisions and above the average for the whole district in the remaining sub-divisions.

The infant mortality rate was lowest (below the average) in the Haltwhistle and in the Melkridge and Henshaw sub-divisions and highest in No. 5 sub-district.

The Phthisis death rate was the second lowest in rural districts.

*Infectious Diseases (Notifiable).*—Of the thirty-five cases of Scarlet fever twenty-four occurred in the Haltwhistle division; six of the eight cases of Diphtheria were notified in No. 5 sub-district as was also the one case of Enteric fever.

In the Melkridge and Henshaw sub-district no cases of notifiable infectious disease occurred.

The following tables give some statistical information relating to the whole district and also to the five sub-divisions into which the medical officer divides this district and also indicate the localities in which notifiable infectious diseases occurred, the number of cases and the attack rates per 1,000 in each sub-district.

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
1. Haltwhistle ...	3,957	119	30.0	35	8.8	8	67.2	1	0.25	26	6.5
2. Melkridge and Henshaw ...	1,181	21	17.7	15	12.7	1	47.6	—	—	—	—
3. Blenkinsopp and Thirlwell	1,608	21	13.0	13	8.0	3	142.8	—	—	6	3.7
4. Lambley and Hartleyburn	890	16	17.9	11	12.3	2	125.0	2	2.24	1	1.1
5. Rest of district	2,073	29	13.9	29	13.9	5	172.4	—	—	13	6.2
Whole district	9,709	206	21.21	103	10.60	19	92.23	3	0.30	46	4.7

The following table shows the number of cases of each notifiable disease which occurred in the various sub-districts:—



Sub-districts.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Erysipelas.	Totals.
Haltwhistle ...	24	1	—	1	26
Melkridge and Henshaw	—	—	—	—	—
Blenkinsopp and Thirl- well ...	6	—	—	—	6
Lambley and Hartley- burn ...	—	1	—	—	1
Rest of District ...	5	6	1	1	13
Whole district ...	35	8	1	2	46

In alluding to the deaths from Phthisis the medical officer points out the necessity of dealing firmly with insanitary property, dampness, insufficient lighting and ventilation in dwelling houses, etc.

*Infectious Diseases (Non-notifiable).*—Measles was prevalent in March, June, July and December and Whooping cough was present in the latter month.

*Factories and Workshops.*—Thirty-five factories and twenty-five workshops were on the register, two of the latter being bakehouses. Forty-nine inspections were made, thirty being inspections of workshops and nineteen of factories. Four nuisances—want of cleanliness and overcrowding, etc., were found and remedied. There were no domestic factories nor underground bakehouses in the district and only one home-worker.

*Dairies and Cowsheds.*—Twenty-two cowkeepers were on the register. Although most of the cowsheds were reported to be satisfactory there were others which did not conform to the regulations. Forty-seven visits of inspection were paid but the number and nature of the defects met with and remedied were not stated in the report.

*Slaughter Houses.*—There were four slaughter houses in the district, all of which were regularly inspected by the medical officer and the sanitary inspector. In only one case was a diseased carcass met with and this was reported to the Sanitary Authority by the owner. The slaughter houses are stated to have been kept in a clean and sanitary condition.

*Improvements.*—At Haltwhistle two hundred yards of water mains were renewed and the north side water scheme was completed; the latter is reported to be a great boon.

The water main to Melkridge Village was completed and a supply provided for Tow Houses, Henshaw and Redburn. A supply of water for Longbyre was being provided in conjunction with the Gilsland water scheme.

The number of new houses erected during the year is not stated, but eighty-nine inspections of buildings in course of erection were made.

Improvements to the sewerage system at Gilsland were being proceeded with at the end of the year and the provision of sewers for Eals Village was being carried out by several private owners. Thirty-six nuisances arising from defective drains were dealt with by the sanitary inspector. Forty-eight nuisances from defective privies and ash-pits were met with but the report does not state whether these structures were repaired or abolished and, if the latter, the type of sanitary convenience substituted.

*Requirements.*—The housing conditions in some parts of this district continued to be far from satisfactory; notably at Burnside Cottages, Haltwhistle Bank, The Barracks, Crown Court, Willis Lane, Pattisons



Lane and Workhouse Lane, and it is extremely advisable that the new powers which the local authority have obtained under the Housing, Town Planning, etc., Act, 1909, should be utilised in remedying the conditions alluded to. The medical officer in the report emphasises this in the following words:—"We as a Sanitary Authority must be prepared to deal with a firm hand with conditions coming directly under our notice, such as insanitary property, where the foundations or walls allow damp to pass into dwelling rooms, houses where there is insufficient light, absence of proper ventilation, etc."

Improved water supplies were needed for Greenhead, Featherstone and Bellister.

The provision of sewerage systems for Melkridge, Greenhead, Longbyre, Rowfoot and Featherstone and improvements in the Haltwhistle sewage disposal system which continued to be most unsatisfactory.

The making up of streets in Haltwhistle.

The paving of all back-yards for new houses and of many yards of existing houses where paving is absent or defective.

The abolition of insanitary privy middens which still exist, and the provision of more sanitary structures, w.c.'s or earth closets. The medical officer, in alluding to the above, remarks, "Confined areas, in which are situate large privy middens tend to foster disease. In all such cases I would suggest the compulsory use of bins in place of ashpits, as in that case much of the rubbish which goes to create the nuisance would be burnt, or removed at much shorter intervals."

Alluding to ashpits in other situations the medical officer states:—"There are still a good many requiring attention, in fact, the sooner the whole are cleared out, and water closets substituted, the better. In regard to ashpits, the covering in of each one should be insisted upon, and where found to be of such dimensions as likely to create a nuisance, steps should be taken to have them made to a reasonable size."

More efficient scavenging of the streets in the most populous parts of the district was advisable, *e.g.*, East View, Newton Street, Bridge Street and the road leading past the Barracks.

The medical officer also advises the council to adopt a regular system of veterinary inspection of the dairy cows in the district with a view to removing dangers arising from tuberculous milk.

The old standing need of some provision for isolating patients suffering from infectious disease in this district was still in evidence.

The five forms provided by the Local Government Board and the form provided by the Home Office should be reproduced (the former in full and the latter abridged) in the medical officer's report. Those provided by the Local Government Board, when filled up, contain information of considerable value which should be accessible to ratepayers.

#### HEXHAM.

Medical Officer of Health, T. CUNNINGHAM PENFOLD, M.B., C.M.,  
M.R.C.S., L.R.C.P., D.P.H.

Area, 200,700 acres; estimated population, 28,142; birth rate, 26.08; general death rate, \*13.60; zymotic death rate, 0.85; infant mortality rate (per 1,000 births), 104.90; Phthisis death rate, 1.17; death rate from respiratory diseases, 1.74.

In comparison with last year's rates the birth rate, the zymotic death rate and the Phthisis death rate have increased by 0.98, 0.25 and 0.18 respectively; the remaining rates have decreased as follows:—General death rate 0.06, infant mortality rate 15.66 and the respiratory death rate 0.11.



Seven hundred and thirty-four births were registered during the year and three hundred and eighty-three deaths; of the latter seventy-seven were of children under one year and one hundred and forty-two of persons sixty-five years and upwards.

Two hundred and seventy-nine cases of infectious disease were notified as follows:—Diphtheria 115, Erysipelas 36, Scarlet fever 119 and Enteric fever 9.

Twenty-four deaths occurred from zymotic disease, viz.:—Measles 6, Whooping Cough 6, Diphtheria 1, Enteric fever 1, Diarrhoea 10 (including 4 deaths from infantile Enteritis).

Phthisis caused 33 deaths, respiratory diseases 49, heart diseases 49, accidents 13 and premature birth 17.

The birth rate for the whole district was higher than it has been since the year 1904, and was also the third highest recorded in rural districts. It was considerably above the average for the whole district in the Bywell division and below the average in the remaining sub-districts.

The general death rate, which was the highest recorded in any rural district was above the average for the whole district in Allendale and Bywell, and below in the Chollerton and Hexham divisions; the same remark applies to the infant mortality rate which was the third highest recorded in rural districts.

The zymotic death rate, which was also the third highest in rural districts, was more than twice as high in the Bywell as in the other divisions. In the Chollerton sub-district no deaths occurred from zymotic disease.

The Phthisis and respiratory death rates were each the third highest recorded in rural districts.

The attack rate per 1,000 population from infectious diseases was higher than the average for the whole district in the Bywell and Hexham divisions, and below the average in the other sub-districts. As usual, the highest infant mortality rate, zymotic death rate and attack rate from notifiable diseases, were recorded in the Bywell division.

The following table gives, for each sub-district, the population, the birth rate, the various mortality rates, the number of infectious diseases notified, and the attack rate of the latter per 1,000 of the population:—

Sub-district.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Allendale ...	4,778	101	21.1	75	15.7	11	108.9	3	0.62	42	8.8
Bywell ...	13,509	445	32.9	207	15.3	56	125.8	20	1.48	181	13.3
Chollerton ...	5,438	117	21.5	59	10.8	8	68.3	—	—	10	1.8
Hexham ...	4,417	71	16.0	42	9.5	2	28.1	1	0.22	46	10.4
Whole district	28,142	734	26.08	383	13.60	77	104.9	24	0.85	279	9.9

*Infectious Diseases (Notifiable).*—Scarlet fever was the disease most frequently notified and the chief incidence of the disease was upon the Bywell sub-district. Prudhoe and Mickley were responsible for most notifications. No deaths occurred from Scarlet fever nor was this disease, at any time, the cause of school closure.

Diphtheria was most prevalent in the Bywell and Allendale sub-districts. One death occurred from this disease and one school at



Haydon Bridge was closed for a month. Referring to the remarkably low case mortality (1 in 115 cases) from Diphtheria, the medical officer gratefully acknowledges the valuable assistance provided by the county council, in arriving at an early diagnosis of this disease, and emphasises the necessity for the early use of anti-toxin.

*Enteric Fever.*—Of the nine cases of this disease, four occurred in the Bywell and five in the Hexham division. Sixteen cases of Diphtheria, nine of Scarlet fever and two of Enteric fever were treated in hospital.

Thirty-one of the 36 cases of Erysipelas, 107 of the 119 cases of Scarlet fever, 39 of the 115 Diphtheria cases and four of the nine cases of Enteric fever occurred in the Bywell sub-division.

*Infectious Diseases (Non-notifiable).*—Measles was very prevalent in several parts of the district, especially at Horsley, Eltringham, Mickley, Great Whittington, Halton Shields, Chollerton, Sandhoe and Haydon Bridge. At all the places above-named recourse was had to school closure for varying periods during the months of April, May and June. Whooping cough was prevalent during January, February, March, May, August and November. Schools were closed, on account of this disease, at Sinderhope, Allendale Town and Corbridge during May, July, August and November.

The National School at Acomb was closed during March on account of Chicken-pox.

Four of the six deaths from Measles, five of the six deaths from Whooping cough and all the six deaths from Diarrhoea occurred in the Bywell division; also, thirty-one of the thirty-six cases of Erysipelas.

*Factories and Workshops.*—Ninety-eight workshops were on the register; how many of these were bakehouses is not stated. One hundred and eighty-four visits of inspection were paid, one hundred and nineteen of which were to workshops and sixty-five to factories. Fifty-two defects or contraventions of the Act were dealt with and, with one exception, all had been remedied at the end of the year.

*Homeworkers.*—The medical officer's report states that "none of the industries enumerated in the form supplied by the Home Office are carried on in the district"; it would, therefore, appear that there are no persons employed in the making of wearing apparel at their own homes.

*Dairies and Cowsheds.*—One hundred and one cowsheds were registered, an increase of three compared with the previous year. Frequent visits, the total number of which is not stated, were made, and several defects, chiefly relating to badly laid floors and the need of limewashing were met with and remedied.

*Slaughter Houses.*—There were thirty-eight slaughter houses in the district. Frequent visits of inspection were paid, and the premises were found, speaking generally, to be kept in a cleanly condition. Seventeen notices were served on occupiers requiring the removal of offensive refuse.

*Improvements.*—Plans for the erection of a considerable number of houses and for additions to, and improvements of, existing houses were passed by the council and forty-three new houses were occupied during the year.

The following improvements in water supplies were effected:—A reservoir, having a capacity of 95,000 gallons was constructed at Corbridge, and the water pipes at the Shaw Well springs were thoroughly repaired. A new water scheme was carried out for the village of Wall, including a storage reservoir of 8,000 gallons capacity, the laying of over 1,100 yards of water mains, the fixing of several standpipes and fire plugs in the village, and the laying on of private services to some of the houses. At Allenheads where, in previous years, it was neces-



sary to carry water for considerable distances, a new water supply was provided; a reservoir, having a capacity of 11,000 gallons was constructed and nearly 800 yards of water mains were laid; standpipes and fire hydrants were provided at various points, and several houses received a direct supply. Ropehaugh and Doves Pool were supplied from this system. The Haydon Bridge water scheme was commenced, but was not completed during the year.

An Inquiry was held by one of the Inspectors of the Local Government Board in consequence of an application by the district council for sanction to borrow £3,800 for purposes of water supply for Haydon Bridge. A Local Government Board Inquiry was also held in connection with an application by the district council to borrow £400 for purposes of water supply at Wall.

In two instances notice was given to owners to carry out works necessary for the protection of private water supplies.

**Sewerage.**—Several improvements were effected in the sewerage and drainage of various localities. At Corbridge a defective sewer 250 yards in length was taken up and relaid (in part by cast iron pipes) in accordance with modern requirements. An offensive open ditch by the roadside, at Coal Lane, Ovington, into which the sewage from a number of houses was discharged, was filled in, and a 12 inch sewer 250 yards in length was constructed; an old stone conduit sewer at Wall Mill was replaced by a sewer constructed with sanitary pipes; at Wylam a defective sewer outlet was extended and improved. The Broomley sewerage scheme was being actively proceeded with at the end of the year. Plans for sewerage and sewage disposal schemes were prepared for Acomb, Riding Mill and Broomhaugh and, with respect to the two places last-mentioned, the council was awaiting a Local Government Board Inquiry.

Included in the report is a detailed list of nuisances and other defects which necessitated the issuing of 456 notices to owners and occupiers. Doubtless, much of the work involved in remedying the defective conditions complained of was carried out and, if this were the case an appreciable improvement in the houses and their surroundings would result, but the table given would have possessed still greater interest and value if the number of notices *complied with* had also been given. The report does not state whether the notices were "informal" or "statutory." Sixty drains of houses and other premises were tested, but in only five cases were defects found.

One hundred and seventy-one notices were served requiring the disinfection of dwelling houses, schools, etc.

**Requirements.**—**Water Supply.**—Several houses on the south side of the river at Corbridge were greatly in need of an improved water supply and, at High Mickley, the supply continued to be in the same unsatisfactory condition as before.

**Sewerage and Drainage.**—The condition of the sewerage systems for many of the villages, notwithstanding improvements which, from time to time, have been effected, was still far from satisfactory:—At Corbridge a number of stone conduit sewers still remained, and the medical officer was of opinion that the persistence of Typhoid Fever at Corbridge was, to some extent, connected with defects in sewerage and drainage. At the end of the year, sewers for which the local authority were directly responsible discharged crude sewage into the rivers Tyne, North and South Tyne or their tributaries at Streethouses, Wylam, Hagg Bank, the Hagg Cottages, Ovington (Cockermere Burn), Riding Mill, Bromhaugh, Corbridge, Dilston Bridge, Warden, High Warden, Hardhaugh, Fourstones, Newbrough, Elrington, Haydon Bridge (especially the south side), Acomb (Red Burn), Wall, Humshaugh, Barrasford, Gunnerton and many other places.



In the county medical officer's annual report for 1908 allusion was made to the unsatisfactory condition of the sanitary conveniences in various parts of this district; to the insanitary condition of numerous yards, partially or entirely unpaved; to insufficient house drainage and to the unsatisfactory condition of many slaughter houses and cowsheds. In the case of two cowsheds at Horsley water was derived from a draw-well, and at High Mickley four cowsheds were supplied from Cuddy's Well which, the medical officer states "is not above suspicion"; in the case of other cowsheds it was necessary to carry water considerable distances. At the end of the year 1909 most of the above-named conditions were unchanged and were urgently in need of alteration.

**Refuse Disposal.**—A most unsatisfactory feature of the sanitary administration in this district, especially in villages and the more populous places, is the method adopted for carrying out the work of scavenging. Except in Prudhoe and West Wylam, the occupier is, speaking generally, responsible for carrying out this work, and in places such as Wylam, Corbridge, Haydon Bridge, etc., the arrangement is generally so unsatisfactory that the local authority would be well advised in taking immediate steps for scavenging operations in the localities named to be carried out by their own workmen. Also, "there is," remarks the medical officer, "a great want of satisfactory refuse tips throughout the district," a condition indicated by the fact that the sanitary inspector on twenty-one occasions served notices on occupiers to "cease depositing refuse on or by the side of public roads" and on twenty-four occasions to "cease depositing ashpit refuse too near dwelling houses." There are also, in this district, many instances of watercourses being grossly polluted by occupiers of houses adjacent throwing in household refuse of every description. This custom is, no doubt, the result of placing the responsibility upon occupiers of carrying out scavenging operations and, at Haydon Bridge (Pandon), Allerwash Cottages, Settling Stones, Newbrough, Brokenheugh, Fourstones, Hardhaugh, Acomb and Alnmouth Terraces near Acomb, Simonburn and Ovingham, the pollution of the streams by refuse is so pronounced that stringent measures should at once be adopted for preventing a continuation of the nuisance. The local authority have adopted Sec. 47 of the Public Health Act Amendment Act 1890, under which it is an offence to deposit refuse matters in any watercourse, but it is evident that the powers given under the above Section are not being made use of. The condition of many sanitary conveniences and the insufficiency of the accommodation provided in various parts of the district were also matters requiring the urgent attention of the council, *e.g.*, privies discharging into the River Tyne at Ovingham and Haydon Bridge, and, at the latter place, into Pandon Burn; also into the Red Burn at Acomb. At Dipton Mill some cottages have been unprovided with sanitary conveniences for several years.

**Disinfection.**—Provision for the more efficient disinfection of bedding, etc., at the Edgewell Hospital.

\* 13.75 if the deaths of three strangers occurring in the district be deducted, and if seven deaths of residents which took place without the district be added.

#### MORPETH.

Medical Officer of Health, J. P. PHILIP, M.D., D.P.H.

Area, 85,333 acres; estimated population, 18,200; birth rate, 27.91; general death rate, \*16.92; zymotic death rate, 0.60; infant mortality rate (per 1,000 births), 96.45; Phthisis death rate, 0.98; death rate from respiratory diseases, 0.82.

When compared with the corresponding rate for the previous year the Phthisis death rate has increased by 0.26; the remainder of the rates have decreased as follows:—Birth rate 0.97, general death rate 2.73, zymotic death rate 1.34, infant mortality rate 59.31 and the respiratory death rate 0.68.



Five hundred and eight births were registered during the year and three hundred and eight deaths; of the latter only one hundred and ninety-seven were of persons belonging to the district. Forty-nine deaths occurred of children under one year and forty-one of persons sixty-five years and upwards.

Two hundred and thirty-two cases of infectious disease were notified as follows:—Diphtheria, 65; Scarlet fever, 134; Erysipelas, 20 and Enteric fever 13.

Eleven deaths occurred from zymotic disease, viz:—Scarlet fever, 1; Diphtheria, 3; Whooping cough, 2 and Diarrhœa 5 (including one infantile death from Enteritis).

Phthisis caused 18 deaths, respiratory diseases 15, heart diseases 21, accidents 8 and premature birth 11.

The area of this sanitary district was diminished owing to the transfer to the Urban District of Ashington of about 165 acres which formed part of the parish of North Seaton.

The birth rate was the lowest recorded in this district since the year 1903, and was nearly three times as high in the colliery as in the agricultural district.

The general death rate was, after correction for non-residents, the lowest ever recorded, and was also the third lowest recorded in rural districts.

The infant mortality rate was also the lowest ever recorded in this district.

The death rate from respiratory diseases was the second lowest in rural districts.

The general death rate, the infant mortality rate and the zymotic death rate were all higher in the colliery than in the agricultural division, and the attack rate from infectious diseases was nearly twelve times as high in the former as in the latter sub-district.

The medical officer, for purposes of comparison, divides the district, as usual, into "colliery" and "agricultural," the dividing line being practically the main road between Morpeth and Felton, the colliery portion lying to the east.

The following table indicates, for each sub-division, the population, the vital statistics, the notifications of infectious disease and the attack rate of the latter per 1,000 of the population:—

Sub-districts.	Popu- lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Colliery districts	13,700	453	33.0	160	11.6	44	97.1	9	0.65	225	16.4
Agricultural „	4,500	55	12.2	37	8.2	5	90.9	2	0.44	7	1.5
Whole district	18,200	508	27.91	197	10.82	49	96.45	11	0.60	232	12.7

*Infectious Diseases (Notifiable).*—The cases of infectious disease notified were higher than ever before recorded, but a considerable diminution in the number of deaths from this cause was noticeable; only four deaths resulted from the 232 cases notified.

Scarlet fever was epidemic at Broomhill, Stobswood, Pegswood and North Seaton. Epidemics of Diphtheria occurred at Broomhill, Chevington Drift, Widdrington and North Seaton.



Thirteen cases of Enteric fever were notified (all in the colliery division) seven of which occurred at Broomhill, three at Chevington Drift and one at each of the following places:—Pegswood Railway Cottages, Linton Colliery and North Seaton.

The outbreak of Diphtheria, which lasted through eleven months of the year, was entirely confined to the colliery division—14 cases at Broomhill, a similar number at Pegswood, thirteen at Chevington Drift, three at Chevington Crescent, one at Chevington Wood Row and South Steads, six at North Seaton, two at Middle Steads, four at Widdrington Village, six at West Thirston and one at Newbiggin.

Scarlet fever was epidemic at North Seaton and Pegswood in January, February and March and again at Pegswood in June, August and September; at Broomhill, (including Chevington Drift) chiefly during March, April and May; at Stobswood during September and October and cases occurred later at Humble Steads and Houndalee Cottages. Isolated cases occurred at Parkhouse, Morpeth; Peacock Gap; West Thirston; Meldon and Wallington. Of the 134 cases notified, six occurred in the agricultural and 128 in the colliery division.

Of the 20 cases of Erysipelas, 19 occurred in the colliery and one in the agricultural division.

*Infectious Diseases (Non-notifiable).*—Measles was epidemic during the months of February, March, April and May, and cases of Whooping cough occurred during May and December; the latter disease was the cause of two deaths. Ellington School was closed in the early part of the year on account of an almost universal outbreak of Measles at Cresswell. The above-mentioned school and also thirteen dwelling-houses were disinfected under the supervision of the sanitary inspector.

*Factories and Workshops.*—These are not mentioned in the medical officer's report, nor does the form supplied by the Home Office accompany the report. In the surveyor's report it was stated that "the sanitary arrangements of the various . . . workshops and workplaces were found to be in a satisfactory condition on the dates of the several inspections made."

*Dairies and Cowsheds.*—The number on the register was not given; they were regularly inspected and are reported to have been in a satisfactory condition. The medical officer draws attention to the absolute necessity of extreme cleanliness in all milking operations, but from his subsequent remarks, it is evident that in this, as in most other districts, there is much room for improvement. The medical officer states "in this district I have tasted milk which not only smelt of, but even tasted of excreta. It does not occur to some people that cattle should be kept clean, and that cows should have the udder washed before each milking, also that the milker's hands should be cleansed. I wish that every cowkeeper would follow this out religiously. How many children are fed on cow's milk? Look at our high infant mortality amongst artificially fed children. Considering that milk is one of the best germ feeders, it should be most carefully guarded from sources of contamination. I have known a cowkeeper who visited her grandchildren when they had Scarlet fever; she milked her cows and distributed the milk, with the result that in every house to which the milk went, Scarlet fever followed. But Scarlet fever germs are not the most deadly germs that milk carries. There are germs of summer diarrhoea which are far more fatal and which find their way to milk much more readily. These are great enemies to children in a hot summer and autumn."

*Slaughter Houses.*—The number is not given in the report, but the medical officer stated that they were regularly inspected and found to be in a satisfactory condition.



*Improvements.*—Twenty-three new houses were erected and occupied and plans for the erection of 745 dwelling-houses, and alterations and additions to forty-nine others were passed by the sanitary committee during the year. Several improvements to existing houses were effected. At North Seaton Colliery forty single room cottages were converted into three room houses. At Bus Square, five single room houses were converted into two good cottages. Other improvements were effected to houses in Stone Row, Broomhill; to some extent at Chevington Drift and at Stobswood Wood Houses.

*Water Supplies.*—Notwithstanding the many instances of inadequate water supplies in this district, the only improvement recorded is the extension of a water main at North Seaton Links.

*Sewerage and Drainage.*—Commendable activity was shown in the direction of improvements in sewerage and drainage, the following having been effected:—At Mitford, new main sewer and small sewage disposal works; improvements in several private drainage systems in the village. At North Broomhill, abolition of the open channel sewer which has been the cause of numerous complaints and the substitution of a covered sewer. At North Steads and Houndalee Cottages new drainage systems, including, in each case, a settling tank and filter bed for treating the sewage. At Pegswood new drains for several houses, also new sewage disposal works consisting of a septic tank followed by land irrigation of the effluent. At Red Row the filter beds were reconstructed and two rotary distributors were fixed. At Widdrington Colliery three settling tanks and filter beds were provided for Bus Row, Cement Row and the Stores Row. A pipe sewer with drain connections and trapped gullies was provided for Stobswood Wood Houses.

A marked diminution is observable in the number of nuisances found during the ordinary inspections of the district compared with previous years; in only fifteen cases was it necessary to serve notices, and the sanitary inspector expresses the opinion that the strict supervision of drainage work that has been rendered possible by the building bye-laws has undoubtedly accounted for the reduced number of notices required in connection with defective drains.

*Requirements.*—Although many improvements in housing conditions have been effected during recent years "much remains to be done." There is a lack of housing accommodation in many of the colliery villages and, consequently, much overcrowding exists; the medical officer suggests, as a remedy for the overcrowding, the provision of "good lodging houses, registered and well inspected, since, under existing conditions single men are taken in as lodgers when the accommodation for the family is already limited. Some provision such as the above would not only relieve much of the congestion but would effect a great moral improvement." Additional accommodation was especially needed at Broomhill, Chevington Drift, Widdrington Colliery, Stobswood and North Seaton. Many of the older houses are very unsatisfactory, notably in the Widdrington Colliery district. The medical officer's report on the above conditions is corroborated by the sanitary inspector who states that "the worst conditions are to be found at Widdrington in the houses of the miners, and the council will have to concentrate its attention on this place to obtain the necessary improvements to the houses and their sanitary requirements. A great many of the dwellings are of the single room cottage type and are in a state of general decay. In many cases, to get further accommodation, the roof space has been converted into a bedroom, access to which is invariably by means of a dangerous ladder. These so-called bedrooms have a mean height of about four feet, are without any means of proper ventilation and, in most cases, have only a single glass tile for lighting purposes."



The water supply for several of the houses in this district needed augmentation and improvement, especially at Longhirst, Hartburn, Middleton and Chevington Drift. At the place last-mentioned, the only water supply for nearly three hundred houses was obtained from thirteen standpipes, the average flow of each of which is reported to have been only one gallon per minute.

The sewerage and drainage in many localities continued to be most unsatisfactory—Widdrington Stamp Steads and Chevington Wood Houses were still without any drainage system; numerous examples of open surface channel sewers still existed and, as has been repeatedly pointed out are not only a source of constantly recurring nuisance and, as such, sources of danger to the public health, but are a direct contravention of the Public Health Act, 1875. In several other localities the means of drainage provided are totally inadequate and especially as regards the removal of roof and surface water, the above-named conditions frequently bringing about such a state of dampness in houses as to be directly prejudicial to the health of the inmates. A long continued instance of the conditions alluded to is mentioned by the medical officer of health:—"Nothing but a revolution in the sanitary arrangements of Chevington Drift will do any good; the drains are too far from the houses and are, consequently, of no use for carrying off rain-water, so that the footpaths and some of the houses are flooded after rain." At Ellington sewage was still being discharged into a roadside ditch.

Measures should also be adopted to prevent the pollution of watercourses by sewage, of which there are many instances in this district, and considerable improvement is desirable in other cases where the methods adopted for the treatment of sewage are unsatisfactory.

The abolition of many insanitary uncovered privy middens which still exist in nearly all parts of the district, and the substitution of more modern arrangements.

Scavenging by the council's own men, which has been proved to be the only way of getting the work carried out with regularity and thoroughness.

Improvements in the condition of roads and footpaths are especially desirable in the colliery villages, notably at Chevington Drift and at Widdrington, Stobswood and North Seaton Colliery.

\*10'82 if 115 deaths of persons not belonging to the district which took place in public institutions in the district be deducted, and if the deaths of four residents occurring outside the district be added.

#### NORHAM AND ISLANDSHIRES.

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

Area, 47,072 acres; estimated population, 6,054; birth rate, 24.11; general death rate, 13.37; zymotic death rate, 0.99; infant mortality rate (per 1,000 births), 75.34; Phthisis death rate, 1.32; death rate from respiratory diseases, 1.32.

As compared with the corresponding rates for the preceding year the birth rate, the general death rate and the infant mortality rate decreased by 0.83, 2.32 and 17.37 respectively; the remaining rates increased as follows:—Zymotic death rate 0.66, Phthisis death rate 0.17 and the respiratory death rate 0.33.

One hundred and forty-six births were registered during the year and eighty-one deaths; of the latter eleven were of children under one year and thirty-one of persons sixty-five years and upwards.



Thirty-six cases of infectious disease were notified as follows:—Diphtheria 20, Erysipelas 3, Scarlet fever 12 and Enteric fever 1.

Six deaths occurred from zymotic disease, viz.:—Whooping cough 1, Diphtheria 4 and Diarrhoea (infantile Enteritis) 1.

Phthisis caused 8 deaths, respiratory disease 8, heart diseases 14, accidents 2 and premature birth 1.

It is estimated that the population has remained stationary since 1901.

The general death rate was the third highest and the zymotic and Phthisis death rates were each the second highest recorded in rural districts.

*Infectious Diseases (Notifiable).*—Cases of Diphtheria and Scarlet fever were more numerous than during the previous year. Only one case of Enteric fever was notified and Erysipelas was much less in evidence.

*Infectious Diseases (Non-notifiable).*—Measles, Whooping cough and Mumps were all prevalent for varying periods during the year and, together with Scarlet fever, were the cause of school closure at Duddo, Cornhill and Holy Island.

*Factories and Workshops.*—Eighteen premises were on the register, four being factories and fourteen workshops. Forty visits of inspection to workshops and twenty-two to factories were paid, no defects or contraventions of the Act being found.

*Dairies and Cowsheds.*—The number of cowkeepers on the register was not stated in the report, but the name of one additional cowkeeper was added during the year. All the cowsheds were visited periodically and are stated to have been kept in good order. A case of Diphtheria occurred at one of the dairies; the precautions taken with a view to preventing the spread of the disease proved successful.

*Improvements.*—Plans for the erection of two houses and improvements to two others were passed by the council during the year.

The school at Horncliffe was improved by the provision of a new cloakroom, the enlargement of the boys' cloakroom and infants' school-room, and the provision of additional means of lighting and ventilation. A house at Yard Ford Fishery Shiel was closed as unfit for human habitation and plans were approved for its rebuilding.

Samples of the water supplied to Horncliffe and Norham were submitted for analysis, and the results were reported to be satisfactory. Improvements to water supply were effected at Scremerston. The water mains at Norham were renewed in several places.

The council resolved that application be made to the Local Government Board for power to borrow a sum of £800 for a proposed sewerage and drainage scheme for Norham. The Board's sanction was not obtained. Improvements to the drainage of Bridge Mill Farm cottages were carried out. A public tip for the disposal of house refuse was provided at Norham.

*Requirements.*—Improved water supplies for Castle Heaton and New Heaton were urgently needed. The sewerage and drainage systems at Norham and Cornhill were still most unsatisfactory and improvements were much needed. The open channel sewers which still exist in this district should be replaced by modern covered sewers. Many of the house drains are in a very insanitary condition, and crude sewage is discharged directly or indirectly into the River Tweed.

The scavenging arrangements at Norham were the cause of many complaints, and it would be a decided improvement if this work was carried out in future by the local authority.



The provision of a new school at Norham was still greatly needed.

The official tables required by the Local Government Board and Home Office should be printed with the medical officer's annual report; without these the report is incomplete.

#### ROTHBURY.

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

Area, 166,904 acres; estimated population, 4,780; birth rate, 20.08; general death rate, \*12.34; zymotic death rate, nil; infant mortality rate (per 1,000 births), 41.66; Phthisis death rate, 1.04; death rate from respiratory diseases, 0.62.

When comparison is made with the corresponding rates for the preceding year, the Phthisis death rate alone shows an increase, viz., of 0.22. The remaining rates show decreases as follows:—Birth rate, 0.62; general death rate, 1.33; zymotic death rate, 0.20; infant mortality rate, 68.34; respiratory death rate, 0.41. The general death rate and also the birth rate were the lowest recorded during the past ten years. Ninety-six births were registered during the year and fifty-nine deaths; of the latter four were of children under one year and twenty-nine of persons sixty-five years and upwards.

Twenty-one cases of infectious disease were notified as follows:—Scarlet Fever, 9; Diphtheria, 8; Erysipelas, 4.

No deaths occurred from zymotic disease.

Phthisis caused 5 deaths; respiratory diseases, 3; heart diseases, 7; accidents, 2; premature births, 3.

The birth rate was the second lowest recorded in rural districts and the third lowest in any urban or rural district; it was also the lowest recorded in this district during the last ten years.

The infant mortality rate was the lowest recorded in rural and the second lowest in any district. In four sub-districts no deaths under twelve months occurred.

The general death rate was the lowest recorded since the year 1899. The lowest rates were recorded in Long Framlington, Long Horsley and Netherwitton, and Cambo and Elsdon, and the highest in Alnham and Brinkburn.

The zymotic death rate was nil, a distinction shared with the Belford rural and the Seghill urban districts only.

The death rate from respiratory diseases (exclusive of Phthisis) was the lowest recorded in rural, and the third lowest in any district.

*Infectious diseases (notifiable).*—The district was entirely free from both Enteric and Puerperal Fever. Of the eight cases of Diphtheria, seven occurred in the Whittingham and one in the Long Framlington division. Of the nine cases of Scarlet Fever, one was in Long Framlington and eight in the Cambo and Elsdon sub-division. None of the above were removed to hospital. In three sub-divisions no cases of infectious disease were notified.

*Infectious diseases (non-notifiable).*—Measles was prevalent in the Lee School district at Rothley Shield and at Greenleighton. Whooping Cough was the cause of school closure at Netherton. Influenza was prevalent throughout the year, especially in the Alnham, Netherton and Holystone districts.

The medical officer divided his district into seven localities, and the following table indicates the birth rate and the various mortality rates which obtained in each of the seven sub-districts, and also the attack rate per 1,000 of the population from notifiable infectious disease:—



Sub-districts.	Popu-lation.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious dis-eases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1,000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Rothbury (Rural portion)	1,290	22	17.0	15	11.6	—	—	—	—	3	2.3
Alwinton ...	870	13	14.9	11	12.6	1	76.9	—	—	—	—
Whittingham	780	16	20.5	10	12.8	—	—	—	—	7	8.9
Long Fram- lington	490	9	18.3	3	6.1	—	—	—	—	3	6.1
Alnham and Brinkburn	370	12	32.4	7	18.9	2	166.6	—	—	—	—
Cambo and Elsdon	580	14	24.1	5	8.6	—	—	—	—	8	13.7
Longhorsley & Netherwitton	400	10	25.0	3	7.5	1	100.0	—	—	—	—
Whole district	4,780	96	20.08	54	11.29	4	41.66	—	—	21	4.3

*Factories and Workshops.*—At the end of the year, twelve workshops were on the register, three having been added during the year. A corresponding number of inspections were made and, in one case, notice was given to remedy defects relating to the sanitary accommodation provided. This defect, however, had not been remedied when the medical officer's report was issued.

*Dairies and Cowsheds.*—The number of premises registered, and of inspections made, are not given in the report. Notices were given, in two instances, one with regard to paving of floors and drainage, and one requiring the removal of swine from the cowshed.

*Slaughter Houses.*—The number of slaughter houses in the district is not stated, though allusion is made to three such premises in the report. Two of these were said to be in a satisfactory condition, but the other "necessitated a caution." No action was taken under the unsound meat clauses of the Public Health Acts.

*Improvements.*—Two cottages at Whitton, which had previously been closed, was put into a good sanitary condition.

The water supplies for Whittingham Grange Cottages and for houses at Sharperton Edge were improved.

Drainage was improved at Harbottle, Long Framlington, Alnham, Whitton, Whittingham, Thrunton Low Field and Bridge of Aln.

Defects in sanitary accommodation of houses and other premises were remedied at Whittingham and Rothley Shiels.

All cases of Phthisis, notified by the Poor Law Authorities, were supplied with expectoration flasks, disinfectants and printed instructions as to the necessary measures required to be taken with a view to prevent the spread of infection.

*Requirements.*—The medical officer gives a long list of requirements, more particularly relating to insufficient or defective conditions of house drainage and sanitary accommodation. It is extremely desirable that the powers which the council possess as regards the remedying of these conditions should be fully exercised.

The water supply at Harbottle is in need of some protection against admixture with storm water.

The roadside gutter at Sharperton should be covered in.



The sewerage and sewage disposal of the village of Elsdon is also a matter demanding urgent attention so as to secure the abatement of the nuisances which the present system entails, and the removal of the gross pollution of the Elsdon Burn which exists.

Various alterations in drainage are needed at Whittingham, Eslington West Cottage, Sharperton, Harbottle, Alwinton, Long Framlington and Little Tosson.

Attention to privy middens, spouting, etc., was needed in several places, e.g. Whittingham, Sharperton, Harbottle, Charity Hall, Long Framlington, Elsdon, Checkgate, Little Tosson.

Some of the cowsheds require better flooring, lighting and drainage.

An abridged copy of the form supplied by the Home Office relating to factories and workshops should be included in the report.

*Meteorology.* The rainfall and sunshine record for this furnished by Mr. Bertram of Craggside, is included, as in former years in this report. The total rainfall for the year was 35.14 inches, as compared with 30.96 inches for the previous year and an average, for the preceding ten years, of 38.0 inches. March was the wettest month with a rainfall of 6.65 inches, and November the driest, during which only 0.74 inches were registered.

The total hours of sunshine numbered 1,520, as against 1,414 for the year 1908.

\* 11.29 of the deaths of five "non-residents" which occurred in the district be deducted.

#### TYNEMOUTH, No. 1.

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

Area, 7,929 acres; estimated population, 11,946; birth rate, 28.04; general death rate, 13.64; zymotic death rate, 0.50; infant mortality rate (per 1,000 births), 119.40; Phthisis death rate, 1.00; death rate from respiratory diseases, 1.74.

Of the above rates the zymotic death rate and infant mortality rate have decreased, in comparison with the corresponding rates of the previous year, by 1.04 and 23.92 respectively; the remaining rates have increased as follows:—Birth rate 1.75, general death rate 0.20, Phthisis death rate 0.06 and the death rate from respiratory disease 0.20.

Three hundred and thirty-five births were registered during the year and one hundred and sixty-three deaths; of the latter, forty were of children under one year and thirty-three of persons sixty-five years and upwards.

One hundred and fifty cases of infectious disease were notified as follows:—Diphtheria 16, Erysipelas 16, Scarlet fever 109, Enteric fever 6, Continued fever 1 and Puerperal fever 2.

Six deaths occurred from zymotic disease, viz.:—Whooping cough 1, Diphtheria 1 and Diarrhoea 4 (including three infantile deaths from Enteritis).

Phthisis caused 12 deaths, respiratory diseases 21, heart diseases 9, accidents 10 and premature birth 8.

The birth rate was the highest recorded since 1905 and was the second highest among rural districts in the year under review.

The general death rate was highest in the Horton division, and lowest in Hartford West. For the whole district the rate was 1.50 lower than the average for the previous ten years and was the second highest recorded in rural districts.

The infant mortality rate, which was the lowest recorded since the year 1902, was, however, the highest in any rural district in 1909. As usual, it showed considerable variation in the different sub-divisions,



being especially high in Hartford East and Horton; the lowest infant mortality rate was recorded in the Seaton Delaval division.

*Infectious Diseases (Notifiable).*—As during the previous year, no cases occurred in either Hartford West or Bebside, and in the last-named division, for the third year in succession, there were also no births, and no deaths from any cause.

Of the sixteen cases of Diphtheria, nine occurred in Horton.

The great majority of the Scarlet fever cases were notified from Seaton Delaval, Hartley and Horton.

Five of the six cases of Enteric fever occurred in the Seaton Delaval division. During 1908, of the twenty-one cases of this disease, twenty occurred in the Seaton Delaval sub-district.

Nine cases of infectious disease were treated in hospital.

*Infectious Diseases (Non-notifiable).*—Whooping cough, Chicken-pox, Diarrhœa and Influenza were all prevalent, and were the cause of five deaths.

The subjoined table indicates the number of notifiable diseases which occurred in each sub-district:—

Diseases notified.	Seaton Delaval.	Hartley.	Horton.	Hartford West.	Hartford East.	Bebside.	Totals.
Scarlet fever ... ..	49	36	15	—	9	—	109
Diphtheria ... ..	4	1	9	—	2	—	16
Erysipelas ... ..	11	4	—	—	1	—	16
Enteric fever ... ..	5	—	1	—	—	—	6
Puerperal fever ... ..	—	2	—	—	—	—	2
Continued fever ... ..	—	1	—	—	—	—	1
Totals ... ..	69	44	25	—	12	—	150

The five cases of Enteric fever which occurred at Seaton Delaval were attributed to defects in drainage which were subsequently remedied. One of the cases of Puerperal fever (which proved fatal) occurred in a house which was in a most insanitary condition; the house was condemned and afterwards demolished.

The following table contains statistical information of considerable interest relating to the district as a whole, and also to each sub-division:—

Sub-districts.	Population.	Births.		Deaths.		Infant Deaths.		Zymotic Deaths.		Infectious Diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Seaton Delaval ...	5,755	152	26·3	73	12·6	12	78·9	2	0·34	69	11·9
Hartley ... ..	1,911	63	32·1	28	14·6	8	126·9	3	1·57	44	23·0
Horton ... ..	2,397	59	25·6	37	15·4	8	135·5	—	—	25	10·4
Hartford West ...	84	2	23·7	1	11·9	—	—	—	—	—	—
Hartford East ...	1,721	59	34·2	24	13·9	12	203·3	1	0·58	12	6·9
Bebside ... ..	58	—	—	—	—	—	—	—	—	—	—
Whole district ...	11,946	335	28·04	163	13·64	40	119·4	6	0·50	150	12·5

*Factories and Workshops.*—The factories numbered four and the workshops twenty-six. The visits of inspection made during the year totalled forty-four. Five of the workshops were retail bakehouses. Two contraventions of the Act were met with, both of which were remedied. It is reported that there were no "outworkers" in the district.



*Dairies and Cowsheds.*—Sixteen cowsheds were on the register, and the total number of dairy cows kept was one hundred and fifty-three. The premises were all inspected, and are reported to have been found in a satisfactory condition.

*Improvements.*—Sixty-one new houses were occupied during the year under review—thirty-seven at New Delaval, twenty-three at Seaton Delaval and one at East Hartford. Five insanitary houses at Seaton Sluice were demolished, and four at the Blue Bell yard, in the same locality, were closed. Six insanitary houses at Silver Hill, Hartley, were repaired and rendered fit for habitation. One case of overcrowding was remedied.

The following improvements relating to water supplies were carried out:—Hastings Terrace, Shankhouse; Bebside Cottages, Horton, houses in the higher part of Seaton Delaval parish, and cowsheds at Shankhouse, were supplied with water from the Tynemouth Corporation mains, and arrangements were made for supplying the whole of the parish of Seaton Delaval with water instead of from the boilers at the colliery. The laying of a water main from the Tynemouth Corporation main to the new houses at New Delaval was commenced.

The sanitary inspector's report, which is appended to that of the medical officer, gives an interesting tabulation of various structural improvements which were carried out in compliance with ninety-seven notices requiring the abatement of sundry nuisances. Amongst these improvements are included the relaying or repair of house drains in six instances; the fixing of suitable traps, provision of drains or inspection chambers, and the repair, etc., of soil pipes in twenty-nine cases; the abolition of seven ashpits and privies and the repairing of a similar number; the provision of two additional water closets and seven ash closets.

New sewers were laid at Seaton Delaval, others were extended, and an old brick sewer at Double Row was laid with sanitary pipes. Another section of the Avenue sewer at Seaton Delaval was covered in.

The hospital accommodation and equipment was improved by the building of two contact wards at the Small-pox Hospital, Scaffold Hill, and the provision of telephonic communication between the hospital, the sanitary inspector's house and the trunk line.

*Requirements.*—The conversion of many back-to-back houses into through houses, notably at Camp Terrace and Double Row, Seaton Delaval, and the provision of an improved means of ventilation and lighting in many of the upstairs rooms of houses in nearly all the subdivisions of the district.

*Water Supply.*—This should be obtained for New Delaval and Seaton Delaval from the mains of the Tynemouth Corporation.

The abolition of the many insanitary uncovered privy ashpits which still exist, and the substitution of water closets or ash-closets, especially at South Row, Percy Row and Brick Row, Seaton Delaval; also the roofing over of all uncovered ashpits which are not otherwise dealt with, so as to conform with the provisions of Section 36 of the Public Health Act, 1875.

Improvements in the sewerage system were still urgently needed, more especially in the localities where open channel sewers still exist; the conditions last referred to are the cause of distinct and constantly recurring nuisances, and can only be remedied by the provision of pipe sewers with properly trapped drain connections. The completion of the work of covering in the Avenue sewer from Seaton Delaval to the sea.

The provision of a steam disinfecter in order that bulky articles can be efficiently dealt with.

An observation ward at the Earsdon Grange Hospital.



## TYNEMOUTH, No. 2.

Medical Officer of Health, J. R. BURN, M.B., B.S.

Area, 7,240 acres; estimated population, 15,856; birth rate, 33.42; general rate, \*11.54; zymotic death rate, 1.38; infant mortality rate (per 1,000 births), 108.20; Phthisis death rate, 0.56; death rate from respiratory diseases, 1.76.

As compared with the rates for the preceding year all the above rates have decreased as follows:—Birth rate 0.49, general death rate 2.37, zymotic death rate 0.73, infant mortality rate 61.72, Phthisis death rate 0.36 and the death rate from respiratory diseases 1.08. The general death rate is the lowest recorded in this district during the last eleven years.

Five hundred and thirty births were registered during the year and one hundred and eighty-three deaths; of the latter, fifty-eight were of children under one year and fifty of persons sixty-five years and upwards.

One hundred and fifty-seven cases of infectious disease were notified as follows:—Diphtheria 33, Erysipelas 24, Scarlet fever 91 and Enteric fever 9.

Twenty-two deaths occurred from zymotic disease, viz.:—Whooping cough 2, Scarlet fever 1, Diphtheria 3, Enteric fever 2 and Diarrhoea 14 (including 3 infantile deaths from Enteritis and 1 from Gastritis).

Phthisis caused 9 deaths, respiratory diseases 28, heart diseases 12, accidents 4 and premature birth 9.

The following table contains statistical information of considerable interest relating to the district as a whole, and also to each sub-division.

Sub-districts.	Population.	Births.		Deaths.		Infant deaths.		Zymotic deaths.		Infectious diseases.	
		No.	Rate per 1000 pop.	No.	Rate per 1000 pop.	No.	Rate per 1000 births.	No.	Rate per 1000 pop.	No. notified.	Attack rate per 1000 pop.
Longbenton ...	10,979	369	33.6	128	11.6	40	108.4	16	1.45	117	10.6
Burradon and Camperdown...	2,495	73	29.2	25	10.0	9	123.2	5	2.00	12	4.8
Willington and Rosehill ...	2,382	88	36.9	32	13.4	9	102.2	1	0.42	28	11.7
Whole district...	15,856	530	33.42	185	11.6	58	108.2	22	1.38	157	9.9

The birth rate has shown but little variation during the last eleven years; in the years 1899 and 1900 the rate was 30.3 and 33.8 per 1,000 respectively. In 1909 the rate was 33.4 (the highest recorded in rural districts), and the average rate for the previous ten years was 33.8.

The general death rate was the lowest recorded during the past eleven years, and was 4.0 per 1,000 lower than the average for the years 1899-1908.

The zymotic death rate was the highest recorded in rural districts.

The infant mortality rate was (with the exception of the year 1907) 41.6 per 1,000 births lower than any recorded during the previous ten years and 63 per 1,000 births lower than the average for the ten years 1899-1908; it was, however, the second highest recorded in rural districts in the year under review.

The death rate from respiratory diseases was the second highest though the Phthisis rate was the third lowest recorded among rural districts in the county.



The subjoined table indicates the number of notifiable diseases which occurred in each sub-district:—

Sub-districts.	Scarlet fever.	Diphtheria.	Enteric fever.	Erysipelas.	Totals.
Longbenton ... ..	75	23	3	16	117
Burradon and Camperdown ...	4	3	5	—	12
Willington and Rosehill ...	12	7	1	8	28
Whole district ... ..	91	33	9	24	157

*Infectious Diseases (Notifiable).*—Of the thirty-three cases of Diphtheria, twenty-three occurred in the Longbenton division, as did seventy-five of the ninety-one cases of Scarlet fever and sixteen of the twenty-four cases of Erysipelas.

Both Diphtheria and Scarlet fever occurred in each sub-division. There was not the almost entire immunity from Enteric fever enjoyed during the previous year, and nine cases of this disease were spread over all three divisions.

Eighteen cases of Scarlet fever, ten of Diphtheria and four of Enteric fever were treated in hospital.

Longbenton C. of E. School was closed in consequence of the prevalence of Scarlet fever

*Infectious Diseases (Non-notifiable).*—Whooping cough was epidemic during the first half of the year.

Measles was prevalent during the months of January, February, March, May and September. Influenza was prevalent during nearly every month and Mumps occurred during the last quarter.

Holystone Council School was closed on account of the last-mentioned disease, and Bigges Main C. of E. School in consequence of Measles.

*Factories and Workshops.*—Sixty-three workshops were on the register, of which twenty-nine were bakehouses. One hundred and twenty-six visits of inspection were paid to workshops, and fourteen factory inspections were made; one contravention of the Act (defective sanitary accommodation) was met with and remedied. In none of the workshops were more than four workers employed.

*Dairies and Cowsheds.*—Thirty-four cowkeepers were on the register in this district, and the total number of dairy cows kept was three hundred and ninety. Two cowkeepers were added to the register during the year. Verbal notices requiring limewashing and cleansing were given in several instances, and seven written notices were served requiring structural alterations. In five of the instances last-named, the work required was carried out, and consisted of improvements in the lighting, ventilation, drainage, water supply and the paving of floors. The remaining two cases were under consideration at the end of the year.

*Improvements.*—The activity shown as regards improvements effected in the housing conditions of this district stands out as a valuable object lesson to other and less enthusiastic authorities, in whose districts the need for similar improvements is acute. One hundred and twenty-one back-to-back houses at East Gosforth were closed, as also was one insanitary house at Saw Mills, Forest Hall. Forty-seven houses were repaired and rendered fit for habitation; included in these repairs was the work of relaying several floors, the provision of dry areas, cementing of yards and renewing and repairing of spouting, etc., at Wapping Square. Two hundred and seventy-four new houses were built, 266 in the Longbenton division (171 of these were provided at



Forest Hall for the displaced tenants from East Gosforth), five at Burradon and three at Camperdown. Seven cases of overcrowding were remedied.

**Water Supply.**—The mains of the Newcastle and Gateshead Water Company were extended to nine houses at Willington High Row, and to Hill Head Farm, Camperdown.

New street works, about a mile in length, were completed at Longbenton, and works were in progress for about three quarters of a mile in length at West Allotment and West Moor. The streets in front of the new houses at Forest Hall, and most of the back streets were completed, viz., Oswin's Road, Lansdowne Road and Edwin's Avenue. New Street of works at Willington-Rosehill were also being carried out.

Various extensions of the sewerage system were carried out in the Longbenton district, a total of 1,200 yards of new sewers being laid. The sewerage and sewage disposal scheme for Bigges Main was completed at a cost of about £900, with satisfactory results. Considerable improvements to house drainage were carried out under notice from the Sanitary Inspector; 1,012 yards of drains were relaid, 121 gullies and other traps were fixed, 23 inspection chambers were built and 97 defective drains were repaired.

The praiseworthy action of the council and its officials in securing the improvement of the sanitary accommodation for houses in this district, which has been the subject of comment in previous reports, was continued, as is evidenced by the following record for the year:—Combined ashpits and privies abolished 50, ash closets provided 76, water closets provided and refixed 34, ashpits and privies repaired 28.

The lavatory accommodation at Benton Square schools was improved by the provision of seven new basins.

Twenty nuisances arising from accumulations of manure, and the keeping of animals, were remedied.

The scavenging of the district continued to be carried out in a most efficient manner, as during the previous five years, by the council's workmen, under the supervision of the Sanitary Inspector. A valuable report, by this officer, was presented, as in former years, in which the cost of scavenging, in the sub-districts of Longbenton and Burradon and Camperdown is set out, and comparisons are made with the cost under the contract system which prevailed prior to 1904. The average cost per house for the year was 6s. 4d., varying from 9s. 8½d. at Burradon to 5s. 8½d. at Longbenton. The report further shows that, after paying off a sum of nearly £400 (capital and expenditure) the saving to the district has been no less than £735 for the six years, in spite of the fact that the number of houses scavenged has increased by 556, and 132 privy ashpits, which were scavenged once a month under the old regime have been replaced by 190 ash closets which are now scavenged at least once a week.

*Requirements.*—Notwithstanding the many important improvements effected in housing conditions, there still exists, in this district, a number of houses in a most unsatisfactory and insanitary condition, i.e., houses built back-to-back and others with no through ventilation; houses where the only sleeping accommodation other than the living room is a small low ceiled attic insufficiently lighted and ventilated, unprovided with a fireplace, and frequently having a leaky roof and damp walls owing to the dilapidated condition or total absence of spouting. It is to be hoped that the council will lose no time in utilising the increased powers given to them by the provisions of the Housing, Town Planning, etc., Act, 1909, to remedy the conditions above-named; especially is this desirable in the case of West Row and Fryer's Terrace, Camperdown, Billy Pit, Benton Square and Bigges Main.



The provision of a satisfactory water supply was still needed at Coatham House, Swiss Villa and Haslam's Cottages, and improved distribution of the water supply was needed for colliery houses in several localities.

The condition of streets and roads in many parts of the district was very unsatisfactory, notably at West and Lane Rows, Camperdown; Killingworth Road and Gallalaw Terrace, East Gosforth, and Tynedale Terrace, Benton. The vigorous action of the Council and its officials in reducing the number of insanitary privy ashpits should not be relaxed until the long delayed improvements at West Row, Camperdown; Bigges Main; Benton Square, etc., have been effected.

The provision of a steam disinfecter, and the building of an observation ward at the Earsdon Grange Hospital were also much needed.

\* 11'60 if the death of one non-resident occurring in the district be deducted, and if two deaths of residents which took place outside the district be added.







