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# COUNTY OF CUMBERLAND.

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LOCAL GOVERNMENT ACT, 1888.

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Summaries of the Annual Reports of the Medical Officers of Health of the Urban, Rural, and Port Sanitary Districts of Cumberland, for the year 1896, several tables of Vital Statistics, and Report thereon prepared by Henry Barnes, M.D., F.R.S.E., at the request of the General Purposes Committee.

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## REPORT OF DR. BARNES.

To the General Purposes Committee of the Cumberland  
County Council.

MR. CHAIRMAN AND GENTLEMEN,—

In accordance with your instructions I have prepared summaries of the Annual Reports of the Medical Officers of Health of the Sanitary Districts of Cumberland for the year 1896. The same plan has been followed as in the last three years, but it will be observed that the summaries are for the most part longer than usual. There are two reasons for this. In the first place many of the reports are fuller than usual, and contain details of much useful sanitary work which I have found it difficult to compress, and in the second place the resolution passed at your recent meeting rendered it necessary that more information should be given on certain points in some of the reports. I shall deal with this subject at greater length after mentioning those points which are brought out by a general consideration of the summaries. I have, as in former years, compiled several tables illustrating the vital statistics of the county.

The number of Sanitary Districts is the same as last year, but there appears to have been a change in the area of the Penrith Rural District. Last year it was stated as containing 127,575 acres, this year the area is given 161,293 acres. In 1880 the area was given as 180,674 acres. I cannot account for this discrepancy.

For the purposes of sanitary administration the County is divided into 26 districts. There are 15 Urban, 10 Rural, and 1 Port Sanitary Districts. The 15 Urban Districts have an area of 61,324 acres, and an estimated population of 161,679. The population of Whitehaven is lower by 236 than in the previous year, and an increase in the population is considered to have taken place in Carlisle, Cocker-mouth, Keswick, Millom, and Penrith, the largest increase being in Carlisle, where the population is estimated to have increased by 500.

The area of the Rural Districts is stated at 900,434 acres, and the estimated population for the year is 110,462, being an increase of 682 over the figures estimated last year. The population in Bootle and Penrith Districts has diminished, but an increase is noted in the Cockermouth and Whitehaven Rural Districts.

The total estimated increase in the population of the county since 1891 is 2,550.

Since that date there has been an alteration in the area of some of the districts, for example, a portion has been taken from the adjoining Rural District and added to Keswick Urban District, and the Aspatria Urban District has been formed from the Wigton Rural District. This accounts for the large discrepancy in the population of these districts at the two periods as shown in Table I.



In comparing the vital statistics of the year with those of the year preceding it will be seen that there is abundant ground for satisfaction. The number of births registered during the year was 7,594, of these 4,884 were in Urban Districts, and 2,710 in Rural Districts. The total number of deaths registered was 4,207, there being 2,704 in Urban Districts, and 1,503 in Rural Districts. The excess of births over deaths during the year was therefore 3,387. The average death rate in Urban Districts was 18.07 in 1895, while in 1896 it has fallen to 15.73. In only one year since I commenced to tabulate these averages has it been lower, and that was in 1894, a year in which the death rate was exceptionally low all over the country, when it fell to 14.51.

The highest death rate in the Urban Districts was at Whitehaven where it reached 19.36, and the lowest at Holme Cultram, which includes Silloth within its area, where it stood at 12.50.

The average death rate in Rural Districts for last year was 14.86, a lower record than has been reached in any previous year. The two Alston Districts have respectively the highest and lowest death rates of the Rural Districts of the county, No. I being the highest, viz., 18.13, and No. II. the lowest, 10.10. The highest infantile mortality was at Harrington, 215.50, and was due mainly to scarlet fever and whooping cough. It is satisfactory to note the opinion of the Medical Officer of this district that the death rate does not appear to owe much to local non-sanitary conditions. At Egremont, where the death rate in children under one year was nearly as high as at Harrington, the excessive rate was due mainly to whooping cough, a disease which is extremely fatal in very young children. The lowest infantile death rate in Urban Districts was at Holme Cultram, viz., 78.70. The highest infantile death rate in Rural Districts was in the Whitehaven District, and was also mainly due to whooping cough. The lowest infantile death rate, 34.00, was in Alston No. I. District. The average infantile rate for Urban Districts was 153.47 and for Rural Districts, 83.60.

The birth rate in Urban Districts is slightly lower than in the previous year, being 29.44, as against 30.73 in 1895; and in Rural Districts it is considerably lower, viz., 22.47 as against 25.25.

The average zymotic rate in Urban Districts for the year was 1.87 as against 2.40 in 1895, and in Rural Districts it was 0.77 as against 1.21, a considerable fall in both instances. In 1895, the highest zymotic rate recorded was 6.53 at Harrington and 6.52 at Whitehaven. Last year the highest zymotic rate recorded was again at Harrington, viz., 3.40. In the Alston No. I. District the zymotic rate last year was *nil*, and the highest recorded zymotic rate in Rural Districts was in the Cockermouth District where it reached 1.68.



The death rate from phthisis in Urban Districts was 1.28, only about one-half of what it was in 1895, and in Rural Districts 1.14, as against 1.21 in the preceding year. The death rate from respiratory diseases was highest in some of the West Cumberland Districts, viz., Whitehaven (U) 4.21, Millom 4.19, and Egremont 4.10, and Whitehaven (R) 3.54.

In order to compare the Urban and Rural Districts of the county, as regards their vital statistics with other parts of the country, I have compiled the following table. These figures show that the county compares favourably with other districts as regards its vital statistics. Its birth rate is nearly equal to that of England and Wales, and its death rate and zymotic rate in both Urban and Rural Districts is decidedly lower:—

				Birth rate per 1000 of the population.	Death rate per 1000 of the population.	Zymotic rate per 1000 of the population.	Infantile Mortality : rate of deaths under one year to 1000 births.
London	...	...	...	30.2	18.2	3.11	160
Thirty-three Towns, including London	...	...	...	30.7	18.9	2.86	167
Thirty-two large Provincial Towns	...	...	...	31.1	19.1	2.67	172
England and Wales	...	...	...	29.7	17.1	2.18	
County of Dumfries (landward)				24.94	16.012	1.216	
County of Cumberland	{	Urban	..	29.44	15.73	1.87	153.47
		Rural	...	22.47	14.86	0.77	83.60

*The Infectious Diseases (Notification) Act of 1889* is now in force in all the districts except three, viz., Aspatria (Urban), Wigton (Urban), and Bootle (Rural). It has been adopted during the past year in two districts, viz., Alston No. I. and Alston II. Many medical officers speak of its value and it works without friction. In giving early



notice of the outbreak of infectious diseases it enables Sanitary Authorities to take prompt measures to prevent the spread of infection, and it is obvious that the risk of infectious diseases spreading is a danger not merely to the place where the outbreak occurs, but also to adjoining districts.

*Scarlet Fever* was again the most prevalent infectious disease. It occurred in 21 Sanitary Districts and 2,045 cases were notified, being an increase of 89 over the number of cases notified in 1895. The disease was for the most part mild in type. Out of 256 cases notified at Millom there were only 4 deaths. In the Whitehaven Urban District out of 243 cases notified there were 13 deaths. At Workington out of 414 cases there were 15 deaths.

*Measles* occurred in 11 Sanitary Districts. It is only notified in one District (the Carlisle Rural) and 56 cases were reported in this district during the year. In Maryport there were 6 deaths from measles. The disease was also prevalent in certain townships of the Cockermouth Rural District.

*Typhus fever* is again only reported from one district—the same as last year, viz., Whitehaven. The patient was at once removed to the Isolation Hospital and recovered.

*Enteric fever* is reported from 19 Sanitary Districts. There were 103 cases notified, as against 117 in 1895, when it occurred in 17 Sanitary Districts. The largest number of cases occurred in Carlisle (Urban), Millom, Workington, Cockermouth (Rural), and Penrith (Rural). The three first named had a large prevalence in the previous year. In addition to the above mentioned number, 18 cases occurred at Aspatria, but the Notification Act is not in force.

*Diphtheria and membranous croup* was reported in 20 districts, being the same number as in 1895. There were 125 cases reported, and Carlisle Urban and Rural Districts account for 51 of these cases.

*Whooping Cough* occurred in 20 Sanitary Districts. It caused a heavy mortality among young children, and fully accounts for the heavy infantile mortality in some of the districts. At Workington 15 children died from the disease; at Maryport there were 19 deaths; at Carlisle there were 20 deaths, and at Whitehaven there were 16 deaths from the same cause.

*Diarrhœa* prevailed in 14 districts. It was again epidemic in the Alston II. District.

*Puerperal Fever* is reported in 9 districts. There were 21 notifications received of this disease, Carlisle, Maryport, and Whitehaven supplying more than half the total number of cases reported.

*Erysipelas* occurred in 18 districts, and 245 cases were notified. It was most prevalent at Carlisle, Whitehaven, and Workington.



*Smallpox* only gave rise to one notification. The case occurred in Carlisle, and the infection was imported from Gloucester. The patient being promptly isolated, and special measures being taken no spread occurred.

*Influenza* of a mild type occurred in several districts at different periods of the year, but can hardly have been said to have assumed the proportions of a serious epidemic in any district.

The resolution of your Committee, to which I have referred in a previous part of this report, specially requests me to direct the attention of the Committee to such points as appear to me call for the interference of the Local Government Board. By the Local Government Board Act of 1888 the obligation appears to be imposed on the County Council of making representations to the Local Government Board, if the Council are satisfied from a perusal of the reports sent in by the medical officers of health, that the Public Health Act, 1875, has not been properly put in force within the district to which the report relates, or that any other matter affecting the public health of the district requires to be remedied. It is not an easy matter to say without adequate local knowledge whether the points which I have noted in perusing the reports are of sufficient importance to justify representations being made to the Local Government Board, but they seem to my mind sufficiently important to warrant further enquiries being directed to the District Councils on the subject, and if satisfactory explanations are not given, then representations may be made to the supreme authority. I propose to take the reports *seriatim*, and I am prepared to give additional information if required.

1. In the Arlecdon and Frizington Urban District a special report was made last June, stating that several water closets had recently been built, none of which had been provided with a window or efficient ventilation. These omissions in the construction were a direct contravention of the Councils Bye-laws. It is not stated if any action was taken in consequence of this report.

2. In the Aspatria Urban District, between February and August, 18 cases of enteric fever occurred and 4 deaths resulted. There is no isolation hospital. The first case was imported, and if hospital accommodation had been available, the disease would probably have been arrested. The nearest isolation hospital is 20 miles distant, and the notification of infectious diseases is not compulsory. The attention of the District Council should be called to this matter.

3. There is nothing in the report of the Carlisle Urban District calling for special remark.



4. Several houses in the Cleator Moor Urban District are condemned as unfit for habitation. An enquiry should be made as to whether anything has been done to improve the sanitary condition of these houses, or whether they have been closed.

5. There is no isolation hospital in the Cockermouth Urban District. The population is 5,400. Some insanitary dwellings which have been reported do not seem to have received attention. These dwellings are specified in the report.

6. Special attention is called in the report of the Egremont District to a considerable number of houses defective in a hygienic standpoint. There are a number of privies over one large ashpit. Attention was called to this matter last year, and it is not reported what has been done.

7. The water supply of Harrington is reported as only "fairly satisfactory."

8. In the report of the Holme Cultram District (Urban) it is stated that a good deal of friction exists in Silloth in regard to the emptying of ashpits. Some nuisances were reported at the Straits, notices were served, but the nuisances remain. A similar report is made regarding some property at Kingside Hill, where a case of typhoid fever occurred early in the year.

9. In the Keswick report there is nothing calling for enquiry.

10. In the Maryport Urban District the water supply seems liable to pollution at several places. It is not stated what steps are being taken to prevent contamination. Attention is called to some insanitary houses, and a reconsideration of one matter is urged.

11. There is nothing calling for enquiry in the Millom report.

12. In the Penrith (Urban) report it is stated that there is no change in the water supply. In previous reports it has been pointed out that the supply is liable to sewage contamination.

13. In the Whitehaven (Urban) report for 1895, attention was called to the necessity of some alterations in the Hospital. The necessity was admitted, plans were obtained, but nothing has been done.

14. The Medical Officer of the Wigton Urban District calls attention to the fact his district has not adopted the Infectious Diseases (Notification) Act, and that there is no provision in the district for the isolation of persons suffering from infectious diseases. During the year enteric fever attacked 9 out of 12 persons occupying one house. There is also no provision for the filtration of the water supply of the town.



15. In the Workington report attention is called to the defective water supply of many houses at Annie Pit Row. The paving, draining, and general cleansing of many back lanes require attention.

16. In 1892, 1895, and last year Alston No. 1 District had the highest death rate of all the Rural Districts in the county. In the first named year its death rate was higher than any other district in the county, whether Urban or Rural. Last year it was stated in my report that nothing had been done. Something has been done to improve the water supply, but there are complaints of failure of supply at the upper end of the town. The foul smelling unsightly accumulations at Burn Bank still exist. In my report for 1892 I called attention to the disgraceful and dangerous condition of this nuisance as described in Medical Officer's report; and almost each year since attention has been called to it.

17. In the report for Alston No. II. District, which has frequently had a high death rate, but this year had the lowest death rate in the county, attention is called to a report containing the results of an inspection. The defective water supply at Hillersdon, the defective drainage and unsatisfactory condition of the water closets at the school, and the need for improved privy accommodation were duly set forth, but no steps have been taken to remedy these sanitary defects. The water supply from the new pipes at Nenthead is liable to contamination. Two houses at Tynehead are unfit for habitation.

18. In the report for the Bootle District in 1895 attention was called to some insanitary conditions existing at Silecroft. Attention is again called to them, and the Authority is reminded that a grave responsibility rests upon them in delaying to remedy these conditions. The Notification Act is not in force in this District. As Seascale is within the area of the District, it is specially important to have early intimation of the outbreak of infectious diseases. Two cases of scarlet fever occurred there last year.

19. In the Brampton District it is stated that the villages, which have been reported in previous years as being without a sufficient water supply and sewerage system, are having the consideration of the Council. There seems a prospect of a combined gravitation scheme.

20. There is nothing of special importance calling for comment in the report of the Carlisle Rural District. Much progress is reported,



21. In the Cockermouth Rural District there is no provision for the isolation of infectious disease. There is a population estimated at 26,180, and if to this be added the population of the Cockermouth Urban District, in which, as I have stated above, there is also no provision for isolating infectious cases, we have a population of 31,500 who have no means of effectually dealing with outbreaks of infectious diseases. In these two districts there were last year 146 notifications of infectious disease. This want has repeatedly been urged on both authorities. Nothing has been done to improve the sanitary condition of Bothel. Injurious nuisances exist at Dearham. There are several villages and hamlets in need of a good water supply.

22. In the Longtown report, the chief complaint is of defective water supply. The railway cottages near Mossband Hall need good water. The pump at Lynebank is out of order, and the water liable to pollution; the supply at Dodgsonstown is defective, and nothing has been done to provide a supply to Moorhead Cottages and Birney's Hill.

23. A list is appended to the Penrith Rural District Report of nuisances which have been reported, and in which nothing has been done. These include a house at Renwick, condemned as unfit for habitation; a lodging house at Kirkoswald, licensed for too great a number of persons; filthy condition of yard of slaughter house at Hesket; liquid manure running past cottages on road at Low Hesket; and other nuisances at Dacre, Newbiggin, Hutton Soil, and Skelton.

24. There is nothing calling for special comment in the report of the Whitehaven Rural District.

25. In the report of the Wigton Rural District attention is called to the very serious need there is for a Steam Disinfector in the District. Many serious defects remain in the drainage of Kirkbride, and no drainage has been done at Ruthwaite. There are still many defects at Yearngill and Westnewton.

26. In the Workington Port Sanitary District it is stated that the hospital is not in a fit state for the reception of patients; this state of things should not be allowed to continue.



Many important sanitary improvements have been carried out during the year. Much attention has been given to insanitary dwellings, especially in Rural Districts. New drainage works have been carried out in many villages, and the water supply of several have been greatly improved. An isolation hospital has been obtained at Keswick. In the Summaries all these matters are fully referred to, as well as many schemes for sanitary improvement which are under consideration.

There is no increase in the number of printed reports. The Holme Cultram, Maryport, Wigton (Urban), Alston No. I., Alston No. II., Brampton, Carlisle (Rural), and Workington (Port), send in written or typewritten reports.

I have the honour to be,

Mr. Chairman and Gentlemen,

Your obedient servant,

HENRY BARNES, M.D.

Carlisle, April 30th, 1897.

NOTE.—The following is the Section of the Local Government Act, 1888, to which I have referred :—

Section 19 (1).—Every Medical Officer of Health for a district in any county shall send to the County Council a copy of every periodical report of which a copy is for the time being required by the regulations of the Local Government Board to be sent to the Board, and if a Medical Officer fails to send such copy, the County Council may refuse to pay any contribution, which otherwise the Council would in pursuance of this Act pay, towards the salary of such medical officer.

(2) If it appears to the County Council from any such report that the Public Health Act, 1875, has not been properly put in force within the district to which the report relates, or that any other matter affecting the public health of the district requires to be remedied, the Council may cause a representation to be made to the Local Government Board.



TABLE I.

*Vital Statistics relating to*

District.	Medical Officer of Health.	Area in Acres.	Population at all ages.	
			Census 1891	Estimated to middle of 1896
<i>Urban.</i>				
Arlecdon and Frizington } -	Jas. J. Lace -	5,556	5,697	5,750
Aspatria - -	W. P. Briggs -	3,550	2,900	3,000
Carlisle - -	Wm. Brown -	2,029	39,200	41,300
Cleator Moor -	J. Eaton -	2,946	9,464	9,464
Cockermouth -	J. Robertson -	2,424	5,320	5,401
Egremont -	G. Calderwood -	2,755.25	6,300	6,300
Harrington -	J. Dick -	2,359.5	3,517	3,517
Holme Cultram	Geo. Hill -	24,826	4,559	4,559
Keswick - -	C. Gore Ring (decd.)	1,258	4,346	4,800
Maryport - -	J. Little -	1,528	12,520	12,520
Millom - -	P. Butler Stoney	1,311	8,857	9,803
Penrith - -	D. G. P. Thomson	7,587	8,981	9,300
Whitehaven -	J. B. Fisher -	723	19,236	19,000
Wigton - -	T. A. Palm -	777	3,965	3,965
Workington -	John Highet -	1,695	23,490	23,000
Average Rates of 15 Urban Districts ...				
<i>Rural.</i>				
Alston, I -	S. Carson -	12,000	1,709	1,709
Alston, II -	E. W. Short -	24,000	1,675	1,675
Bootle - -	E. Eden Cass -	91,688	5,982	5,967
Brampton -	W. Symington -	97,705	9,754	9,754
Carlisle - -	J. A. Macdonald	67,898	16,009	16,009
Cockermouth -	J. Robertson -	164,081	29,427	26,180
Longtown -	S. F. Mc.Lachlan	94,173	7,181	7,181
Penrith - -	F. Haswell -	161,293	13,595	13,351
Whitehaven -	J. B. Fisher -	78,678	15,071	15,500
Wigton - -	W. P. Briggs -	108,918	15,936	13,136
Average Rates of 10 Rural Districts ...				



TABLE I.

*Cumberland in 1896.*

Rates per 1,000 of Estimated Population.					Infantile Mortality. Deaths under One Year, per 1,000 Births.
Birth Rate.	Death Rate.	Zymotic Rate.	Death Rate from Phthisis.	DeathRate from Respiratory Diseases.	
28.00	12.52	0.86	1.04	1.72	142.00
31.60	16.00	1.60	3.00	2.00	168.00
30.10	18.20	0.70	1.76	2.85	137.00
26.90	15.20	2.10	1.58	2.74	141.00
24.20	15.30	1.11	1.85	3.51	145.00
32.38	15.87	1.26	0.95	4.10	200.90
32.94	17.61	3.40	0.85	3.40	215.50
27.80	12.50	1.09	0.65	1.97	78.70
21.87	13.00	2.91	1.04	1.66	161.00
29.23	14.69	2.55	1.03	2.31	139.30
31.31	16.42	3.26	0.51	4.19	123.70
26.12	17.95	1.29	1.26	1.26	168.70
32.78	19.36	2.21	1.15	4.21	138.04
32.78	15.64	2.27	1.79	2.02	169.23
33.70	15.80	1.50	0.82	3.00	174.00
29.44	15.73	1.87	1.28	2.72	153.47
16.90	18.13	nil	2.30	2.30	34.00
19.70	10.10	0.59	0.59	1.18	60.60
21.10	12.20	0.50	1.00	1.50	70.00
13.12	26.04	0.20	1.33	1.02	102.36
25.90	15.10	1.40	1.90	1.80	86.70
27.57	12.50	1.68	0.57	1.90	124.60
25.48	13.36	0.41	0.97	2.08	76.50
24.99	12.09	0.82	1.04	2.02	63.63
25.61	16.64	1.61	0.77	3.54	146.70
24.40	12.50	0.50	0.98	1.52	71.00
22.47	14.86	0.77	1.14	1.88	83.60



TABLE II.

*Table of Birth Rates in Cumberland for last five years.*

District.	BIRTH RATE.				
	1892.	1893.	1894.	1895.	1896.
<i>Urban</i>					
Arlecdon & Frizington	39.44	39.61	36.63	33.91	28.00
Aspatria - - -		26.89	40.00	37.00	31.60
Carlisle - - -	30.50	34.50	32.40	32.10	30.10
Cleator Moor - -	30.50	32.30	29.30	29.70	26.90
Cockermouth - -	29.20	29.70	27.30	27.10	24.20
Egremont - - -	31.74	32.53	33.01	32.06	32.38
Harrington - - -	37.52	28.42	35.53	31.52	32.94
Holme Cultram -	25.52	20.10	26.30	25.80	27.80
Keswick - - -	27.75	31.11	27.88	30.73	21.87
Maryport - - -	30.50	33.90	30.80	30.20	29.23
Millom - - -	38.35	36.40	36.84	33.20	31.31
Penrith - - -	25.60	30.63	27.16	29.11	26.12
Whitehaven - -	33.98	29.00	28.47	33.73	32.78
Wigton - - -	37.01	29.76	30.01	23.70	32.78
Workington - -	35.50	35.50	32.20	31.20	33.70
<i>Rural.</i>					
Alston, I - - -	18.10	21.00	19.30	21.60	16.90
Alston, II - - -	28.05	26.86	19.00	24.40	19.70
Bootle - - -	28.75	20.80	22.50	21.90	21.10
Brampton - - -	25.40	23.68	24.70	24.70	26.04
Carlisle - - -	25.60	26.00	24.00	25.20	25.90
Cockermouth - -	33.70	30.80	28.60	28.70	27.57
Longtown - - -	25.06	24.92	23.25	28.96	25.48
Penrith - - -	25.10	27.00	23.95	24.28	24.99
Whitehaven - -	31.72	29.33	30.86	27.20	25.61
Wigton - - -	31.20	25.10	26.70	25.60	24.40



TABLE III.

*Table of Death Rates in Cumberland for last five years.*

District.	DEATH RATE.				
	1892.	1893.	1894.	1895.	1896.
<i>Urban.</i>					
Arlecdon & Frizington	13.88	17.50	12.03	15.65	12.52
Aspatria - - -		19.30	13.30	15.60	16.00
Carlisle - - -	20.25	21.60	19.20	19.40	18.20
Cleator Moor - -	15.50	13.50	14.80	17.30	15.20
Cockermouth - -	17.80	18.50	16.90	13.70	15.30
Egremont - - -	16.34	16.19	10.79	15.39	15.87
Harrington - - -	17.34	14.48	11.93	22.72	17.61
Holme Cultram -	16.45	9.20	14.68	16.00	12.50
Keswick - - -	14.25	18.14	15.87	16.96	13.00
Maryport - - -	20.00	18.60	15.80	17.60	14.69
Millom - - -	13.06	18.00	12.33	15.82	16.42
Penrith - - -	16.00	19.22	15.33	19.26	17.95
Whitehaven - -	16.79	18.77	12.94	26.84	19.36
Wigton - - -	22.41	17.65	16.89	19.42	15.64
Workington - -	16.00	16.00	14.95	19.50	15.80
<i>Rural.</i>					
Alston, I. - - -	25.70	13.40	12.20	25.10	18.13
Alston, II. - - -	16.70	17.91	18.50	17.90	10.10
Bootle - - -	13.71	18.22	13.20	13.30	12.20
Brampton - - -	18.30	17.32	14.86	13.84	13.12
Carlisle - - -	21.30	19.40	20.50	17.30	15.10
Cockermouth - -	14.00	13.20	12.50	12.90	12.50
Longtown - - -	17.12	15.87	15.87	18.93	13.36
Penrith - - -	14.70	13.40	13.84	15.76	12.09
Whitehaven - -	14.63	16.09	15.66	17.60	16.64
Wigton - - -	16.40	13.70	12.20	17.80	12.50



TABLE IV.

*Table of Zymotic Rates in Cumberland for last five years.*

District.	ZYMOTIC RATE.				
	1892.	1893.	1894.	1895.	1896.
<i>Urban.</i>					
Arlecdon & Frizington	0.37	1.15	1.94	2.73	0.86
Aspatria - - -		1.03	0.30	<i>nil.</i>	1.60
Carlisle - - -	1.30	3.60	1.10	0.80	0.70
Cleator Moor - -	2.70	2.20	1.70	4.20	2.10
Cockermouth - -	0.93	2.05	1.86	0.93	1.11
Egremont - - -	2.06	0.79	0.95	1.58	1.26
Harrington - - -	1.99	0.85	0.28	6.53	3.40
Holme Cultram -	0.80	0.20	0.42	0.60	1.09
Keswick - - -	0.50	1.96	4.32	1.27	2.91
Maryport - - -	5.06	2.60	1.50	3.11	2.55
Millom - - -	0.50	3.80	0.83	1.23	3.26
Penrith - - -	0.60	2.07	1.19	0.32	1.29
Whitehaven - -	0.56	2.05	0.42	6.52	2.21
Wigton - - -	3.91	1.00	<i>nil.</i>	3.78	2.27
Workington - -	1.00	1.30	0.91	2.40	1.50
<i>Rural.</i>					
Alston, I - - -	0.58	1.17	0.58	2.30	<i>nil.</i>
Alston, II - - -	1.19	0.59	1.19	2.97	0.59
Bootle - - -	0.33	1.60	1.60	0.30	0.50
Brampton - - -	0.30	3.28	0.20	0.40	0.20
Carlisle - - -	0.90	0.90	0.90	0.50	1.40
Cockermouth - -	1.58	1.14	1.40	1.31	1.68
Longtown - - -	0.97	1.25	1.39	0.13	0.41
Penrith - - -	0.14	0.22	0.21	0.67	0.82
Whitehaven - -	0.52	0.99	1.33	3.00	1.61
Wigton - - -	0.80	0.39	0.68	0.60	0.50



TABLE V.

*Showing number of New Cases of Infectious Diseases notified in accordance with the Infectious Diseases Notification Act (1889).*

District.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Diphtheria and Membranous Group.	Erysipelas.	Puerperal Fever.	Small Pox.
<i>Urban.</i>							
Arlecdon & Frizington	95				3	1	
Aspatria	Notification not compulsory						
Carlisle	162		13	30	78	5	1
Cleator Moor	118		3	5	11	1	
Cockermouth	16		1	2	4		
Egremont	34			6	5		
Harrington	96			1	2		
Holme Cultram			2		7		
Keswick	10		3	8			
Maryport	21		1	1	5	4	
Millom	255		17	6	7		
Penrith	88		4	1	9	1	
Whitehaven	243	1	7	13	42	3	
Wigton	Notification not compulsory						
Workington	414		16	2	23	2	
<i>Rural.</i>							
Alston, I.	1				1		
Alston II.				1	1		
Bootle	Notification not compulsory						
Brampton	31			1	1		
Carlisle	95		7	21	18	2	
Cockermouth	90		14	6	11	2	
Longtown	8		1	5	1		
Penrith	59		10	2	3		
Whitehaven	154		1	5	9		
Wigton	55		3	9	4		
	2045	1	103	125	245	21	1



TABLE VI.

*Sanitary Districts in which the following Zymotic Diseases occurred during the year 1896.*

Scarlet Fever.	Typhus Fever	Enteric Fever	Measles.	Diphtheria and Membranous Croup.	Whooping Cough.	Diarrhoea.	Small Pox.	Puerperal Fever.	Erysipelas
Arlecdon and Frizington Carlisle U. Cleator Moor C'mouth U. Egremont Harrington Keswick Maryport Millom Penrith U. W'haven U. Wigton U. Alston I. Alston II. Bootle Brampton Carlisle R. C'mouth R. Longtown Penrith R. W'haven R. Wigton R.	W'haven U.	Aspatria Carlisle U. Cleator Moor C'mouth U. Egremont Holme Cul'm Keswick Maryport Millom Penrith U. W'haven U. Wigton U. Alston I. Carlisle R. C'mouth R. Longtown Penrith R. W'haven R. Wigton R.	Carlisle Cleator Moor C'mouth U. Holme Cul'm Maryport Millom W'haven U. Alston I. Bootle Brampton Carlisle R.	Carlisle U. Cleator Moor C'mouth U. Egremont Harrington Keswick Maryport Millom Penrith U. W'haven U. Wigton U. Alston I. Alston II. Brampton Carlisle R. C'mouth R. Longtown Penrith R. W'haven R. Wigton R.	Aspatria Carlisle U. Cleator Moor C'mouth U. Egremont Harrington Keswick Maryport Millom Penrith U. W'haven U. Wigton U. Alston I. Bootle Brampton Carlisle R. C'mouth R. Longtown Penrith R. W'haven R. Wigton R.	Cleator Moor C'mouth U. Keswick Maryport Millom Penrith U. W'haven U. Wigton U. Alston I. Alston II. Bootle C'mouth R. Penrith R. W'haven R.	Carlisle U.	Arlecdon and Frizington Carlisle U. Cleator Moor Maryport Penrith U. W'haven U. Carlisle R. Penrith R. W'haven R.	Arlecdon and Frizington Carlisle U. Cleator Moor C'mouth U. Harrington Holme Cul'm Maryport Millom Penrith U. W'haven U. Alston I. Alston II. Brampton Carlisle R. C'mouth R. Penrith R. W'haven R. Wigton R.



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SUMMARIES OF REPORTS  
OF  
**MEDICAL OFFICERS OF HEALTH**  
OF THE  
26 SANITARY DISTRICTS OF CUMBERLAND,  
*For 1896,*  
PREPARED BY  
HENRY BARNES, M.D., F.R.S.E.

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THE

# MEDICAL OFFICE OF HEALTH

OF THE DISTRICT OF COLUMBIA

HENRY HARRIS

THE DISTRICT OF COLUMBIA, D. C.,  
OFFICE OF THE COMMISSIONER OF HEALTH,  
WASHINGTON, D. C.,  
JANUARY 1, 1900.

SIR:

I have the honor to acknowledge the receipt of your letter of the 29th ultimo, in relation to the above-captioned subject, and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,  
Yours, very truly,  
HENRY HARRIS,  
Commissioner of Health.



## ARLECDON AND FRIZINGTON (URBAN).

*Medical Officer of Health* - - - JAS. J. LACE.

Area in acres, 5,556.340.

Population, census, 1891, 5,697; estimated to middle of 1896, 5,750.

Birth rate for entire district, 28.

Death rate, 12.52.

Zymotic rate, .86.

Death rate from phthisis 1.04, and from respiratory diseases 1.72; rate of deaths under one year to 1,000 births, 142.

The population of the district is stationary; it has increased by 100 at Arlecdon, but there has been a corresponding decrease at Frizington. A large amount of emigration from this district to South Africa is recorded.

During the year there were 161 births, and the birth rate is lower than in any previous year since the district was constituted.

There were 72 deaths, and the death rate is lower by 3.13 than in 1895. Scarlatina was unusually prevalent during the greater part of the year at Frizington, and caused 4 deaths. Whooping cough appeared during the latter part of the year, and one death from it is recorded. Measles, chickenpox and mumps also prevailed, all mild in character, and no deaths were recorded.

The water supply of the district is exceptionally pure, abundant in quantity, and of excellent quality for dietetic purposes. The sewage is removed by the separate system, and is disposed of on the principle of broad irrigation.

The usual systematic inspections were made. Some progress has been made in drainage and ash-pit removals. One hundred and fifty yards of new main sewers have been laid, and 35 privies converted into water-closets. In a special report, presented to the Council in June, attention was called to several water-closets having recently been constructed without adequate ventilation, in direct contravention of the Council's bye-laws. Under sale of Food and Drugs Act, several samples were obtained by the County police, and submitted to the Analyst. There were 3 samples of milk, 2 of rum, 1 of whisky, 1 of mustard, 1 of sago, 1 of pepper, and 1 of vinegar. Each sample was genuine. The Sanitary Inspector made 1,319 inspections, reported 78 nuisances, and obtained abatement of 41 without notice; 35 ashpits were removed.

Rainfall at Braystones, 37.62; evaporation, 24.49. The rainfall was 7.21 inches more than in 1895, and 1.59 inches above average of previous 32 years.



# ASPATRIA (URBAN).

*Medical Officer of Health*

W. P. BRIGGS.

Area in acres, 3,550.

Population, census 1891, 2,900 ; estimated to middle of 1896, 3,000.

Birth rate, 31.6.

Death rate, 16.

Zymotic rate, 1.6.

Death rate from phthisis, 3.00, and from respiratory diseases 2.00 ; rate of deaths under one year to 1,000 births, 168.

During the year there were 95 births, and 49 deaths ; one of the latter being a non-resident killed in No. 3 Colliery. There were 4 deaths from typhoid fever and 1 from whooping cough. Attention is called to the infantile mortality, and careful investigation was made as to causes of death in infants. In no instance did the deaths result from insanitary conditions of the district, but, in the main, were due to improper feeding, and personal filthiness on the part of the parents. As milk is readily tainted if kept in badly ventilated places, it should never be stored in larders or sculleries. With exception of typhoid fever and whooping cough, no zymotic diseases prevailed. There were 18 cases of typhoid between February and August. The disease was originally imported from another district in October of the previous year, and if an isolation hospital had been available, probably no other cases would have occurred. The spread of the disease was due to emanations from ashpits containing evacuations of previous cases. In several cases onsets of symptoms were almost co-incident with emptying and removal of ashpits into which, in defiance of orders, typhoid excreta had been placed. The contagion of typhoid appears to grow in virulence under certain conditions, and ashpits appear to be favourable grounds for intensifying the poison. The Sanitary Inspector worked well, and deserves credit for his exertions in dealing with the epidemic. He collected the excreta night after night, disinfected them, and buried them. Before the Inspector commenced to bury the discharges, fresh cases were of weekly occurrence.

The water supply is sufficient in quantity, and there are no complaints of quality.

Sanitary work was stimulated by the epidemic. About a dozen notices were given to people keeping pigs and poultry. Two insanitary areas in Saw Mill Yard and Robinson's Yard were much improved. A 9 inch sewer was laid at Broat's Hill. Several ashpits



and privies were improved at New Town and the West End. Scavenging has been carried out fairly satisfactorily, and refuse is disposed of in tips outside the town.

The slaughter houses were regularly inspected, and were well kept. Factories and workshops are attended to in a proper manner. No action has been taken in regard to dairies, cowsheds, and milkshops.

Marked overcrowding and deficient ventilation occurs in many dwellings. This is looked upon as one of the chief causes of the high death-rate from consumption. The difficulty of obtaining healthy homes for the labouring classes is recognized. The cubic space for every individual should be 1,000 cubic feet, but 200 cubic feet, or less, is frequently found in the homes of the poor.



## CARLISLE (URBAN).

*Medical Officer of Health*

WM. BROWN.

Area in acres, 2,029.

Population, census 1891, 39,200; estimated to middle of 1896, 41,300; density of population per acre, 20.3; inhabited houses (census 1891), 7,624; rateable value of district, £176,948.

Birth rate, 30.1.

Death rate, 18.2.

Zymotic rate, 0.7.

Death rate from phthisis 1.76, and from respiratory diseases 2.85; rate of deaths under one year to 1,000 births, 137.

During the year 1,246 births were registered and there were 753 deaths. Deducting the deaths of those not belonging to the district the death rate is 17.3. The zymotic death rate is exceptionally low, and is in fact unprecedented. The deaths due to zymotic diseases were as follows:—Measles 1, scarlet fever 3, diphtheria 3, whooping cough 20, and enteric fever 3. There were 162 cases of scarlet fever notified as compared with 64 in the previous year. The disease was most prevalent in October and November. Most of the cases were in children between the ages of three and nine. One case of smallpox was imported from Gloucester; the patient was removed to the Fever Hospital, and efficient precautions taken to prevent the spread of infection. 13 cases of enteric fever were notified, and 5 cases were removed to Fever Hospital. No death was registered as due to diarrhœa, but there were 34 deaths from enteritis in which diarrhœa is usually a prominent symptom. Twenty-two cases of diphtheria in 20 houses occurred, as compared with 41 cases in 34 houses in 1895. Defective drains found in only two houses. Influenza prevailed in a mild type during the early part of the year, during the summer, and again at the close of the year. It caused one death. There were 288 cases of infectious disease notified, in four instances notifications of erysipelas were sent in relating to the same case. During the year 57 cases were isolated at the Fever Hospital, viz., 50 scarlet fever, 4 enteric fever, 2 diphtheria, and 1 smallpox.

The factories and workshops were found satisfactory; 220 workshops were inspected. The common lodging-houses were also inspected and their condition on the whole was satisfactory. One lodging-house was abolished, and proceedings were taken in several cases for overcrowding, &c. Proceedings were also taken against owners of insanitary property, with the result that two of the properties were closed and one made habitable.

During the year the carcasses of 35 oxen, 15 sheep, 10 lambs, and 2 pigs were examined, and 59 carcasses were pronounced unfit for human food, 32 of the carcasses of beef being affected with tuberculosis.



## CLEATOR MOOR (URBAN).

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*Medical Officer* - - - - - JOHN EATON.

Area in acres, 2,946.

Population, census 1891, 9,464; estimated in 1896, 9,464.

Birth rate, 26.9.

Death rate, 15.2.

Zymotic rate, 2.1.

Death rate from phthisis 1.58, and from respiratory diseases 2.74; rate of deaths under one year to 1,000 births, 141.

During the year there were 255 births and 144 deaths. Of the latter 7 were due to scarlet fever, 5 to whooping cough, 2 to membranous croup, 2 to diarrhœa, 2 to influenza, 1 to measles, and 1 to puerperal fever. The following notifications were received, viz.: Scarlet fever 118, whooping cough 30, erysipelas 11, chickenpox 7, influenza 5, diphtheria 4, typhoid fever 3, diarrhœa 3, membranous croup 1, and measles 1. More than half the cases of scarlet fever occurred during the first quarter of the year, and only 10 during the last quarter. The disease is obviously abating, but has been more or less prevalent since March, 1893. The birth rate is the lowest ever recorded in the district.

Several separate inspections of sections of the district were made and reports made. The Inspector of Nuisances states that 152 nuisances were reported during the year. There were 52 insanitary yards, 47 defective w.c.'s, 27 defective gullies, 21 choked sewers, 4 escapes of sewer gas, and 1 keeping of pigs in a dirty condition. Two cases of infectious disease were removed to Galemire Fever Hospital. All the nuisances reported were remedied. Defective water supply at 33 Queen Street and 2 Whitehaven Road were reported. It is not reported if this defect has been remedied. A special inspection of 18 houses in North Street, Wyndham Street, and Back Ennerdale Road, which have frequently been condemned as unfit for human habitation; some have been improved, but several are condemned and their closure recommended unless certain suggested alterations are made.



## COCKERMOUTH (URBAN).

*Medical Officer* - - - J. ROBERTSON.

Area in acres, 2,424.

Population, census 1891, 5,320; estimated to middle of 1896, 5,401.

Birth rate, 24.2.

Death rate, 15.3

Zymotic rate, 1.11.

Death rate from phthisis, 1.85, and from respiratory diseases, 3.51; rate of deaths under one year to 1,000 births, 145.

There were 131 births, and 83 deaths. The birth rate is lower than during preceding four years, and the death rate higher than in preceding year. Deaths from tuberculosis, acute pulmonary diseases, and infantile complaints, are more numerous. Whooping cough was epidemic in the last quarter. The deaths from zymotic diseases included 1 from measles, 1 from diphtheria, 2 from whooping cough, and 2 from diarrhoea. There was a limited outbreak of measles in St. Helen's Street, and a few cases of epidemic roseola. Cold and destitution is assigned as the cause of the diphtheria in the fatal case. Whooping cough began in the infant department of the National Schools, in September. A case of choleraic diarrhoea occurred in a house in Black Bull Yard, Main Street, and proved fatal. The house was condemned as unfit for habitation, and reported to the Council. Notifications were received of 16 cases of scarlet fever, 2 of membranous croup, 1 of enteric fever, and 4 of erysipelas. Scarlet fever prevailed at the early part, and at the close of the year, and was mild in type. In one case the infection was imported from Birmingham. Damp walls were found in a house where two cases of membranous croup occurred. One patient died, and the dwelling still continues in an unhygienic condition. A case of enteric fever in Henry Street was attributed to overcrowding in a room whose window was too near an insanitary open ashpit. Insanitary conditions were found in some of the dwellings where cases of tuberculosis occurred. Overcrowding was reported in several houses.

A systematic monthly inspection of the town was made. For the abatement of nuisances 96 statutory notices were served and 80 complied with. The sewerage is reported satisfactory, except in South and Sullart Streets, where the flushing is insufficient. House drainage was found defective in many instances.

The water supply generally has been satisfactory; 32 service pipes were renewed owing to obstruction from corrosion. Workshops, lodging-houses, dairies, cowsheds, milkshops and slaughter-houses were regularly inspected.

Special attention is again called to the need for an isolation hospital. Several statistical tables and a tabular statement by the Inspector of Nuisances is appended.



## EGREMONT (URBAN).

*Medical Officer of Health* - - G. CALDERWOOD.

Area in acres, 2,755.25.

Population, 6,300, estimated to middle of 1896, 6,300.

Birth rate, 32.38.

Death rate, 15.87.

Zymotic rate, 1.26.

Death rate from phthisis, 0.95, and from respiratory diseases, 4.10; rate of deaths under one year to 1000 births, 200.9.

There were 204 births and 100 deaths in the year. There were 34 cases of scarlet fever, 6 of croup, 5 of erysipelas, 1 of typhoid fever, and 208 of whooping cough. The case of typhoid fever was imported.

The death rate in Egremont was 12.85; in Moor Row and Scalegill, 21.91; and in Bigrigg, 21.87. The high death rate in the latter two places is caused entirely by the excess of deaths in children under 5 years of age, chiefly from whooping cough.

Considerable sanitary improvements have been carried out by converting privies into water closets, about 100 having been converted with most satisfactory results. Bigrigg has been immensely improved by the removal of a number of offensive privies. The row of houses on the east side of Scalegill have privies objectionably near, and it is recommended that water closets be put in. Several houses in the oldest part of Egremont have defective ventilation, and there are a number of privies over one large ashpit. It is recommended that the privies be abolished. A house to house inspection of the whole district has been made, and a steady improvement is noticed. The Sanitary Inspector served 65 printed notices, 4 written ones, and gave 30 verbal ones, most of which were attended to.

Rainfall at Braystones, 37.62; evaporation, 24.49.



## HARRINGTON (URBAN).

*Medical Officer of Health* - - - JAS. DICK.

Area in acres, 2,359.5.

Population, census 1891, 3,517; estimated to middle of 1896, 3,517.

Birth rate, 32.94.

Death rate, 17.61.

Zymotic rate, 3.40.

Death rate from phthisis, 0.85, and from respiratory diseases 3.40; rate of deaths under one year to 1,000 births, 215.5.

There were 116 births and 62 deaths registered. The deaths under 1 year, and between 1 year and under 5, were responsible for half the total death rate. Scarletina and whooping cough are the principal causes of these deaths. The death rate does not appear to owe much to local non-sanitary conditions.

The water supply has been completed, and is now fairly satisfactory.

The sewerage system is being extended to the higher parts of the township of Harrington.

The local nuisances have not been numerous, and have been abated at once.

Some statistical tables are added.



## HOLME CULTRAM (URBAN).

*Medical Officer of Health*

- - - GEO. HILL.

Area in acres, 24,826.

Population, census 1891, 4,559; estimated to middle of 1896, 4,559.

Birth rate, 27.8.

Death rate, 12.5.

Zymotic rate, 1.09.

Death rate from phthisis 0.65, and from respiratory diseases 1.97; rate of deaths under one year to 1,000 births, 78.7.

There were 127 births and 57 deaths. The death rate is considerably lower than in 1895. Measles was epidemic in a mild form in the early part of the year. Only 9 cases of infectious disease were reported, 7 being cases of erysipelas, with 1 death, and 2 typhoid fever, 1 being fatal. Nearly half the population reside in Silloth, and the district is practically free from infectious disease. Possibly notifications may be suppressed. There were 31 deaths in Holme Low, which includes Silloth. There was 1 death from measles, 2 from pneumonia, 1 from enteric fever, and 2 from phthisis.

Several nuisances were observed and rectified. The common lodging houses at Silloth are kept fairly clean. The two slaughter houses are kept in a good sanitary condition; one slaughter house license has been withdrawn. A well in Solway Street is unfit for use. The water-closet and cisterns in the same building were defective. These defects have been reported, but as the property has changed hands nothing has been done. Some property at Greenrow was frequently under notice and reported time after time; in August the proprietor was summoned and fined £2. Much friction exists in Silloth regarding emptying of ash-pits; the work ought to be undertaken by the Council. A farm building at Calvo was reported.

There were 9 deaths at Holm Abbey—2 from erysipelas. A property in the "Straits" was reported as having no privy accommodation. A public well was reported at Aldoth, and has been put in proper order. A farm building at Hill House has been declared unfit for habitation and new buildings erected. A case of typhoid fever was reported at Kingside Hill; the property was found insanitary and reported, but nothing has been done. The nuisance at Brewery Lane, Abbey Town, has been abated.

There were 8 deaths at Holm St. Cuthbert's—1 from puerperal fever. Some insanitary property at Edderside was reported and notices served. There were 9 deaths at Holme East Waver and this district had the highest death-rate of all the four divisions.



## KESWICK (URBAN).

*Medical Officer of Health* - - C. GORE RING (Decd.)

Area in acres, 1,258.

Population, census 1891, 4,346; estimated to middle of 1896, 4,800.

Birth rate, 21.87.

Death rate, 13.

Zymotic rate, 2.91.

Death rate from phthisis 1.04, and from respiratory diseases, 1.66; rate of deaths under one year to 1,000 births, 161.

There were 105 births and 63 deaths. The death rate is lower than any previously recorded. Diphtheria was the cause of 2 deaths and membranous croup of 1 death. Three children died of whooping cough and 8 children, all under five, from diarrhœa. The deaths from diphtheria and membranous croup all occurred when scarlet fever was prevalent. The necessity of isolating patients with whooping cough is indicated. There were four inquests on children. The infantile death rate is high. There were 8 deaths from bowel complaints:—2 in the early part of the year and 6 children in the summer when an outbreak of diarrhœa occurred. There were 21 notifications, viz.: Scarlet fever 10, diphtheria 8, and enteric fever 3. Scarlet fever had been continuously present during the previous year. The 3 cases of enteric fever were all in one family. No cause could be found. Important measures of sanitary progress are noted. Of primary importance is the acquisition of an Isolation Hospital. The "Travellers' Rest," on Whinlatter, has been purchased, and has unusual capabilities for being adapted; it is three miles outside the boundary, but has good air and good water supply; it has accommodation for eight patients. Land has been purchased and an important improvement will be obtained by making a new street between the Station Road and Back Lane. Several courts in the town have been re-paved.

Every week a return is made to the Local Government Board, giving particulars of any cases of infectious disease which may have been notified during the previous week. These returns are now sent by the Medical Officers of Health in nearly all large towns, as well as in a few selected smaller ones, of which Keswick is one. The other towns in Cumberland furnishing these returns are Carlisle, Workington, Penrith and Whitehaven. Each Medical Officer of Health receives later in the week a summary of the returns from all returns included in the arrangement. This will be very valuable as giving evidence of the approach of epidemics of infectious disease.



## MARYPORT (URBAN).

*Medical Officer of Health* - - - JAMES LITTLE.

Area in acres, 1,528.

Population, census 1891, 12,520; estimated to middle of 1896, 12,520.

Birth rate, 29.23.

Death rate, 14.69.

Zymotic rate, 2.55.

Death rate from phthisis, 1.03, and from respiratory diseases, 2.31; rate of deaths under one year to 1,000 births, 139.3.

There were 366 births and 184 deaths. The death rate is much below any previously recorded. There were 32 deaths from zymotic diseases. A large proportion of these was due to measles and whooping cough, there being 6 deaths from measles and 19 from whooping cough. There were 5 deaths from diarrhoea, 1 from puerperal fever, and 1 from membranous croup. The Notification of Infectious Diseases Act has been of great service. On several occasions outbreaks of scarlatina have been notified, and by prompt action the spread of the disease has been checked. Only 1 case of enteric fever was reported. Three cases of scarlet fever were sent to the Infectious Hospital, all with good result.

The annual inspection of the sources of the water supply was made on June 24th. The reservoirs at Hayborough and Belle Vue, the engines etc., at the pumping station were found satisfactory. The condition of the intake is much improved, but the surface water from the Papcastle and Goat finds its way into the stream above the intake. The farm yard nuisance at Isel Mill has been to a great extent abated. The Portinscale sewerage is in an unsatisfactory state. There was no actual overflow into the river at the time of visit, but there was a large pool of sewage between the main and the river which would overflow in wet weather. It is doubtful whether it will ever be satisfactory in its present situation, being too near the river and the amount of land insufficient. The Keswick Sewerage Works were visited. There is only one settling tank, and when this is being cleaned out the sewage is turned directly into the streams flowing into the river. The condition of the river above the lake is much improved.

Children were excluded from school by order, if coming from infected houses.

Several properties were inspected and reported on. Some were condemned for damp, want of proper water supply, or other sanitary defects. Important alterations were made in some cases.



## MILLOM (URBAN).

*Medical Officer of Health* - - P. BUTLER STONEY.

Area in acres, 1,311.

Population, census 1891, 8,857, estimated to middle of 1896, 9,803.

Birth rate, 31.31.

Death rate, 16.42.

Zymotic rate, 3.26.

Death rate from phthisis, 0.51, and from respiratory diseases, 4.19; rate of deaths under one year to 1,000 births, 123.7.

There were 307 births and 161 deaths. Zymotic disease caused 31 deaths. There were 4 deaths from scarlet fever out of 256 cases. There were 17 cases of enteric fever, and 2 deaths. They were all sporadic in their origin, and could not be traced to any definite source. One was supposed to be imported. There were 3 deaths from diphtheria, and 3 from croup. There were 7 cases of erysipelas and 1 death. Whooping cough was very prevalent, and caused 12 deaths.

The water supply is good in quantity and quality. There is no bad meat, nor any offensive trades. The sewerage is very satisfactory. The scavenging continues to give satisfaction, 11,100 privies having been emptied during the year, an increase of 756.

There are 1,776 houses in the district, and a house to house visitation was made. A special visit was made when any nuisance was reported. Four common lodging houses, and 12 slaughter houses were inspected.

The department of the Inspector of Nuisances continues to give every satisfaction.



## PENRITH (URBAN).

*Medical Officer of Health* - - D. G. PEARCE THOMSON.

Area in acres, 7,587.

Population, census 1891, 8,981, estimated to middle of 1896, 9,300.

Birth rate, 26.12.

Death rate, 17.95.

Zymotic rate, 1.29.

Death rate from phthisis 1.26, and from respiratory diseases, 1.26 ; rate of deaths under one year to 1,000 births, 168.7.

There were 243 births, and 177 deaths. The death rate is below the average of 11 years. There were only 4 deaths from the seven principal zymotic diseases, viz.: 1 from scarlet fever, 1 from typhoid fever, 1 from puerperal fever, and 1 from erysipelas, equal to 0.43. In addition, there were 6 deaths from whooping cough, and 2 from diarrhœa. An epidemic of whooping cough took place in the earlier part of the year. Scarlet fever was epidemic all the year. The schools were closed for six weeks with some advantage. There were 88 cases notified ; all the cases were visited, and where the accommodation and isolation were not satisfactory, the cases were removed to the hospital. Of the cases notified 48 were removed to hospital. Four cases of enteric fever were notified, one of which was in the workhouse. One of the other cases was imported, insanitary conditions accounted for the third, and for the fourth no cause could be assigned. There were 9 cases of erysipelas, 1 case of puerperal fever, and 1 of diphtheria.

There has been no change in the water supply.

Some improvements have been carried out in the Isolation Hospital, which have added to the comfort of the inmates. The question of re-sewering the whole town, and the disposal of the sewage has been under consideration, and an engineer has reported.

Numerous sanitary inspections have been made. The village of Carleton has been twice inspected, and is now in good condition. The sanitary condition of the town has been much improved. The bakehouses, workshops, lodging houses, dairies, and cowsheds have been inspected.



## WHITEHAVEN (URBAN).

*Medical Officer of Health* - - - J. B. FISHER.

Area in acres, 723.

Population, census 1891, 19,236 ; estimated to middle of 1896, 19,000.

Birth rate, 32.78.

Death rate 19.36.

Zymotic rate, 2.21.

Death rate from phthisis 1.15, and from respiratory diseases 4.21 ; rate of deaths under one year to 1,000 births, 138.04.

There were 623 births and 368 deaths. The death rate is below the average of the 8 preceding years. The infantile death rate is below the average also. The senile death rate is slightly above the average. There were 310 cases notified, of which 243 were scarlet fever, 42 erysipelas, 9 diphtheria, 7 enteric fever, 4 membranous croup, 3 puerperal fever, 1 typhus, and 1 continued fever. There were sent to the Bransty Hospital 27 cases of scarlet fever, 5 of enteric fever, and 1 of typhus. No case has occurred in which infection has been conveyed to their homes by patients leaving the hospital. Two cases were isolated in the hospital notified as having fever, but did not develop the disease. The continued use of Reck's Disinfecter erected at the hospital, both for disinfection of bedding, clothes, etc., of those coming to the hospital, or those coming in contact with patients outside, has given the greatest satisfaction.

Some protection is needed in the hospital for attendants going from the nurses' rooms to the one and two bedded wards on each side of the south pavilion. Plans have been obtained, but the work has not been proceeded with.

Four of the cases of enteric fever were directly traceable to the cases admitted in November and December, 1895, from the same neighbourhood, which owed their origin to defective backyard gully-traps, as stated in last Annual Report. An attendant in the hospital contracted the disease. The case of typhus occurred in a boy, aged 16 years ; he was sent to hospital and recovered. The cases not removed to hospital were visited, and instructions and disinfectants, where necessary, were supplied.

Regular and frequent inspections have been made, and a considerable number of nuisances discovered and remedied. Ten houses have been closed as unfit for habitation, and 13 others, found in a dilapidated, damp, or dirty state, were subsequently put in repair, and rendered fit for habitation.



## WIGTON (URBAN).

*Medical Officer of Health* - - - - T. A. PALM.

Area in acres, 777.

Population, census 1891, 3,965; estimated to middle of 1896, 3,965.

Birth rate, 32.78.

Death rate, 15.64.

Zymotic rate, 2.27.

Death rate from phthisis, 1.79, and from respiratory diseases, 2.02; rate of deaths under one year to 1,000 births, 169.23.

There were 130 births and 67 deaths. Of the latter, 7 occurred in the Workhouse, and 5 of these were from parts of the Union outside the Urban District. The death rate is lower than for six years. The infantile mortality is still too high, and is attributed to faulty habits of personal hygiene,—to poverty, ignorance, and a low morale. Whooping cough was epidemic in the early part of the year, and caused 8 deaths. There was 1 death from influenza. Owing to the absence of any notification of infectious diseases no accurate report of outbreaks of such diseases can be given. One outbreak of enteric fever occurred in which 9 out of 12 inmates of a four-roomed cottage were attacked. The origin was not traced, but probably was due to importation, and it spread through overcrowding. An outbreak of scarlet fever occurred at Brookfield School, but owing to the provision for prompt isolation it did not spread. Influenza and chicken pox prevailed during the latter part of the year.

Several nuisances have been abated. The common lodging-houses and some of the slaughter houses have been visited.

The district remains without any provision for the isolation of persons suffering from infectious diseases, and there is no provision for the filtration of its water supply.



## WORKINGTON (URBAN).

*Medical Officer of Health* - - - - JOHN HIGHET.

Area in acres, 1,695.

Population, census 1891, 23,490; estimated to middle of 1896, 23,000.

Birth rate, 33.7.

Death rate, 15.8.

Zymotic rate, 1.5.

Death rate from phthisis is 0.82, and from respiratory diseases 3.00; rate of deaths under one year to 1,000 births, 174.

There were 775 births and 364 deaths. The death rate is lower than in the previous year, and there is also a fall in the infantile mortality, but this is higher than it should be. There were 135 deaths under one year; many probably arose from the exhibition of unsuitable food and the inhalation of impure air. There were 15 deaths from scarlet fever, 2 from enteric fever, 1 from diphtheria, 1 from measles, 15 from whooping cough, 1 from puerperal fever, and 1 from diarrhœa. There were 458 notifications, including 1 from continued fever. The epidemic of scarlet fever is markedly on the decline; in January there were 120 cases, and in December only 4. During the year 16 cases were sent to the infectious hospital—13 of scarlet fever, 2 of enteric fever, and 1 of measles. A Thresh disinfecter has been fitted up at Ellerbeck, and it answers admirably the purposes for which it was purchased. Extensive alterations are contemplated in the hospital, and now await the approval of the Local Government Board.

During the year the Authority adopted "The Public Health Amendment Act, 1890," and "The Infectious Diseases Prevention Act, 1890." The increased powers which these Acts give are described, and much advantage is anticipated from their adoption.

The housing of the working classes is a large question demanding consideration. The number of back-to-back houses is very considerable; the dangers of such houses are described. It is recommended that a special committee be appointed to deal with the matter.

Much sanitary progress is reported. The New Yard district has been improved. The back lanes and yards in the district leave much to be desired. The water supply to many of the houses at Annie Pit Row is very defective; closets cannot be flushed. A summary of the work of the Inspector of Nuisances is given. A special report on the King Street property is also submitted.



## ALSTON (RURAL) No. I DISTRICT.

*Medical Officer of Health* - - - - S. CARSON.

Area in acres, 12,000.

Population, census 1891, 1,709; estimated to middle of 1896, 1,709.

Birth rate, 16.9.

Death rate, 18.13.

Zymotic rate, *nil*.

Death rate from phthisis, 2.3, and from respiratory diseases, 2.3 ; rate of deaths under one year to 1,000 births, 34.

There were 31 deaths and 29 births. The deaths included 2 from cancer, 4 from phthisis, 6 from heart disease, and 1 from croup. At 65 years of age and upwards there were 15 deaths. There was 1 birth and no deaths in the Workhouse during the year. The Infectious Diseases (Notification) Act was adopted during the year, and came into force on August 16. Only 1 case was notified under it—a case of erysipelas. Two cases of diphtheria were observed. One was evidently due to a defective closet, and the defect was remedied ; the other seemed to be due to re-occupation of a house which had been closed for some months. Three isolated cases of erysipelas occurred during the year. A mild case of enteric fever was observed, probably due to insufficient flush for closet. Measles was imported from Byker by a visitor in July. A second case occurred, but further extension was prevented by measures adopted. Influenza was prevalent, and caused 1 death. Diarrhœa was also prevalent, but not severe. The Church Schools were closed owing to an epidemic of a contagious form of skin disease. Pneumonia was unusually common during the year.

Water supply has been provided during the year from the village of Leadgate and the Workhouse. The supply is excellent. A fountain has been placed in Kate's Lane. Complaints have been made of failure of supply at the top of the town. This is due to the fact that the water scheme, which was commenced six years ago, has never been completed. It has stopped short at Chapel Road. The completion of the water service is under consideration. A house to house inspection was made. There are many houses without closet accommodation. A considerable number of those provided are faulty in construction. The almost universal neglect to provide ash-pits led to serious nuisances. Many houses have not an inch of ground on which these conveniences could be erected. A proposal is made that owners should combine to provide ash-pits in certain parts of the town. Until some action is taken these nuisances continue to exist as an eyesore, and a grave danger to the town, polluting Millburn, and causing the unsightly foul smelling accumulations at Burn Bank, Clitheroe, and elsewhere.



## ALSTON (RURAL) No. II DISTRICT.

*Medical Officer of Health*

E. W. SHORT.

Area in acres, 24,000.

Population, census 1891, 1,675; estimated to middle of 1896, 1,675,

Birth rate 19.7.

Death rate 10.1.

Zymotic rate c.59.

Death rate from phthisis. 0.59, and from respiratory diseases, 1.18; rate of deaths under one year to 1,000 births, 60.6.

There were 33 births and 19 deaths. There were two deaths of persons not belonging to the district. The death rate has never been so low. The population of Nenthead has increased since the Vieille Montagne Coy. took over the mines. The death rate at Nenthead was 13.8, and at Garrigill 7.5. The larger mortality in the former place was attributed mainly to influenza and heart disease. There were 3 deaths from influenza, and 2 from pneumonia. Whooping cough was imported from Edinburgh and Newcastle. One death from it occurred at Garrigill. The following infectious diseases were notified, viz.: erysipelas 1, scarlet fever 1. The Act only came in force in August, and much benefit is expected from its adoption. Diarrhœa of a mild type occurred in the autumn. There has been an increase in the mortality from heart disease. There were 2 deaths from cancer.

A house-to-house inspection was made at Nenthead. A report was made showing need for improved privy accommodation, and the erection of middens. Attention was also called to the defective water supply at Hillersdon, and the defective drainage, and unsatisfactory condition of the waterclosets at the School. No steps appear to have been taken to remedy these defects, and attention is again strongly called to them. A scheme for the improvement of the water supply of Nenthead and Garrigill is under consideration, and is much needed. The new pipes at Nenthead are not satisfactory. Contamination is apt to occur during heavy rains, probably from leakage.

Two houses at Tynehead are condemned as unfit for habitation owing to dampness arising from imperfect drainage. A death occurred in one of the houses, accelerated by the condition of the house. It is at present unoccupied.



## BOOTLE (RURAL).

*Medical Officer of Health* - - - E. EDEN CASS.

Area in acres, 91,688.

Population, census 1891, 5,982; estimated to middle of 1896, 5,967.

Birth rate, 21.1.

Death rate, 12.2.

Zymotic rate, 0.5.

Death rate from phthisis 1.00, and from respiratory diseases 1.50.

Rate of deaths under one year to 1,000 births, 70.

There were 126 births and 73 deaths. A mild epidemic of measles was prevalent during the spring and early part of summer. There were two cases of scarlet fever at Seascale, traced to insanitary conditions of the surroundings during the hot part of summer. Owing to strict precautions no spread occurred. There were two cases at Eskdale, imported from Whitehaven. There is an increase in the number of deaths from malignant disease over the previous year.

The Infectious Diseases (Notification) Act is not in force. It is only by courtesy that the medical practitioners of the district forward a report of any outbreak. The advantages to be obtained from the adoption of the act are strongly urged. Until it is adopted no accurate record of the prevalence of infectious diseases in the district can be formed, and epidemics often become formidable from want of proper control at the outbreak.

Some insanitary conditions mentioned in last report have been rectified, and mention is made of those at Beckfoot in Broughton-in-Furness, the extension of the main sewer at Seascale, and the Hill Marsh Extension Water Supply. Notices have been served on owners of houses at Drigg having impure water supply, and to those having no water, to make better and safer provision. The insanitary conditions at Silecroft, mentioned in last report, have not been wholly rectified, and there are some which require immediate attention. A grave responsibility rests on the Authority in delaying the remedying of these conditions.



## BRAMPTON (RURAL).

*Medical Officer of Health* - - - W. SYMINGTON.

Area in acres, 97,705.

Population, census 1891, 9,754; estimated to middle of 1896, 9,754.

Birth rate, 26.04.

Death rate, 13.12.

Zymotic rate, 0.2.

Death rate from phthisis, 1.33, and from respiratory diseases, 1.02; Rate of deaths under one year to 1,000 births 102.36.

There were 254 births and 128 deaths. There were only 2 deaths due to zymotic diseases, viz.:—measles 1, whooping cough 1. Several outbreaks of scarlet fever occurred; in one case at Upper Denton, in February, the infection was imported from Newcastle; one case was reported from Hallbank gate, where the privies and ashpits were found in a filthy condition; four cases occurred in Walton, and two were reported from Kingwater; in May, two other cases were reported from Upper Denton, the infection being imported from Newcastle; in a case at Hayton the infection was imported from Hesket; in July, an epidemic occurred at Corby Hill, the infection having spread from an adjoining district,—the epidemic was of a mild type; in December, two cases were imported to Brampton from Stapleton. A case of diphtheria occurred at Lanercost, the infection probably coming from Stapleton. One case of erysipelas was reported. Several cases of measles and whooping cough occurred, and there were two deaths from bronchitic complications in very young children.

The villages which have been reported in previous years as being without a sufficient water supply and sewerage, are having the consideration of the Council. There is a prospect of a larger gravitation scheme for the supply of water to Hayton, Irthington, and Castlecarrock. The sewerage of the Eastern portion of Upper Denton is under consideration. A large number of inspections were made and many nuisances abated. The sanitary condition of the district generally is good.

Particulars are given of the deaths in each division of the district, as well as the birth rates in each division. There were 11 deaths in the workhouse during the year.



## CARLISLE (RURAL).

*Medical Officer of Health*

J. A. MACDONALD.

Area in acres, 67,898.

Population, census 1891, 16,009; estimated to middle of 1896, 16,009.

Birth rate, 25.9.

Death rate, 15.1.

Zymotic rate, 1.4.

Death rate from phthisis 1.9, and from respiratory diseases, 1.8; rate of deaths under one year to 1,000 births, 86.7.

There were 415 births, and 242 deaths. The death rate is the lowest yet recorded. The average rate between 1886 and 1895 was 19.6. There were 199 cases of infectious disease notified, viz.: scarlet fever 95, measles 56, diphtheria 20, typhoid fever 7, erysipelas 18, puerperal fever 2, and membranous croup 1. Scarlet fever was most prevalent at Wetheral and Dalston, there being 50 cases at the former place, and 25 at the latter. The infection at Wetheral was imported from Carlisle, and spread to Warwick and Cumwhinton chiefly through school attendance. The disease was of a mild type. There was no evidence of wilful infringement of the Notification Act. In March, an outbreak of diphtheria occurred at Stanwix, and the school was closed for a limited period. The zymotic mortality is the lowest ever recorded. There were 24 cases, mostly of a severe type, treated in the City Hospital.

In two instances, house property at Kingstown was reported unfit for habitation. Notices were served, but the tenants left, and both properties remain untenanted. Sanitary improvements have been carried out at Durdar. Three additional ashpits and privies have been introduced, and the old sewer re-laid. Steps are being taken to improve the water supply. Additional ashpits and privies have been introduced at Low Moorhouse, near Burgh. A drinking pond for cattle, at Cumwhinton, was the subject of complaint. It was found that liquid sewage was passing into the pond. The sewerage was



diverted. The occurrence of a case of diphtheria at Stainton drew attention to some insanitary conditions of drainage. The old drain was taken up, and a new socket-jointed pipe laid down, with apparently good results. In connection with a case of diphtheria, at the Caledonian Buildings, a very insanitary condition of privies and ashpits was found. On attention being called to it, the Railway Company promptly dealt with the nuisance. The ashpits of Stanwix have been a frequent source of complaint, and an arrangement with the Parish Council has led to satisfactory results.

Considerable progress has been made with new water supplies. At Corby and Wetheral many additional houses have received the water from the Cowran Cut. The supply to Beaumont was completed in November, and the village has now an abundant supply of pure spring water. The mains from the Cowran Cut have been extended to Burnriggs and Broadwath, and a new supply for Cotehill and Cocklakes is under consideration.

The slaughter houses and dairies have been periodically inspected, and the result was uniformly satisfactory.



## COCKERMOUTH (RURAL).

*Medical Officer of Health* - - - J. ROBERTSON.

Area in acres, 164,081.

Population, census 1891, 29,427; estimated to middle of 1896, 26,180.

Birth rate, 27.57.

Death-rate, 12.5.

Zymotic rate, 1.68.

Death rate from phthisis, 0.57, and from respiratory diseases 1.90; rate of deaths under one year to 1,000 births, 124.6.

There were 722 births and 328 deaths. Measles, scarlet fever, and whooping cough prevailed during the year. Keswick Rural District, with a population of 3,410, had the unprecedentedly low death rate of 6.74. There was an almost entire absence of infectious disease except two imported cases of scarlet fever in St. John's Vale and Wythop, and slight outbreaks of the disease at Portinscale in January, and Rosthwaite in December. In Cockermouth Rural District, with an estimated population of 6,518, the death rate was 12.58. Measles and whooping cough were prevalent in certain townships. In Workington Rural District, with an estimated population of 7,024, the death rate was 12.24. Measles prevailed at Seaton, and scarlet fever at West Seaton, Winscales, and Furnace Row. Whooping cough was very prevalent late in the year, and several schools were closed. In Maryport Rural District, with an estimated population of 9,228, the death rate was 14.84. There were 22 deaths from infectious disease at Flimby, chiefly from measles and whooping cough. In reference to the zymotic rate the mortality from scarlet fever, diphtheria, and enteric fever has increased, and that from membranous croup and diarrhoea has declined. Measles return exactly the same number of deaths. Scarlet fever prevailed especially in Maryport and Workington sub districts. It was generally of a mild type, but there were 4 deaths. In three of the fatal cases insanitary conditions in the surroundings were reported. A prosecution was instituted for unlawful exposure in a public place while in an infectious state, and a conviction obtained. In a case of diphtheria at Tower Yard, Portinscale, foul emanations from a manure midden were blamed. In two fatal cases at High Flatt, Gilcrux, the disease was attributed to a damp dwelling, impure water, and defective drainage. These defects were subsequently rectified. Whooping cough caused 10 deaths. Several Day and Sunday Schools were closed from four to six weeks with



beneficial results. Investigations were made into all outbreaks of infectious disease. Epidemic roseola prevailed during May and June.

There is no provision made in this populous district for the isolation of cases of dangerous infectious disease.

Insanitary dwellings were reported on at Workington Rural, Winscales, Seaton, Greysouthen, Dovenby, Gilcrux, Allerby, &c. Many improvements were effected, and overcrowding abated. An insanitary farm-honse at Birkby was closed by order of the Magistrates at Cockermouth. Structural defects in 100 houses were repaired, overcrowding was abated in 12, 25 were sewered, and 3 were closed as unfit for habitation. An enquiry for sanction to borrow money for sewerage works was held at Crosby. The sewer at Parker Terrace, Flimby, was completed at a cost of £60 4s. 6d.; and at Seaton the road-side channels for the disposal of slop water were improved at a cost of £23. Crosby Sewerage, No. 1 outlet, with two acres of land for sewage disposal, is completed at a cost of £250. The estimate for No. 2 and No. 3 outlets is £350. Public sewers are to be constructed at Allerby and Oughterside. It is intended to sewer Threapland and Bewaldeth. Nothing has been done to improve the sanitary condition of Bothel since the inspection by a Committee. An inspection of Brigham sewerage was made, and it is proposed to divert one section of the sewer. Dearham remains unsewered and injurious nuisances exist.

In August the Crummock Water supply was seriously defective at Furnace Row. The defect was rectified. Afterwards there was defective supply and scarcity of water, owing to leakage in supply pipe to the Brigham reservoir. There are several villages and hamlets in urgent need of good water supply. The three farmhouses at The Howe, Portinscale, are being connected with the Portinscale gravitation main. Three houses at Rosthwaite are obtaining a supply from the gravitation main. Nine houses in the district have had their water supply improved. Threapland is practically without a water supply during the summer months. It is proposed to obtain a supply at an estimated cost of £100.

There were 54 purveyors of milk on the register, and the bye-laws were duly observed.

The usual systematic inspections were made, and insanitary conditions prejudicial to public health duly reported.



## LONGTOWN (RURAL).

*Medical Officer of Health* - - S. F. Mc.LACHLAN.

Area in acres, 94,173.

Population, census 1891, 7,181; estimated to middle of 1896, 7,181.

Birth rate, 25.48.

Death rate, 13.36.

Zymotic rate, 0.41.

Death rate from phthisis 0.97, and from respiratory diseases 2.08; rate of deaths under one year to 1,000 births, 76.50.

There were 183 births and 96 deaths. In the High District the death rate was 10.35, and the birth rate 24.95. In the Low District, including the Workhouse, the death rate was 14.63, and the birth rate 25.70. In Longtown the death rate was 26.25. The number of deaths from zymotic diseases was 3, viz., 1 from diphtheria, 1 from membranous croup, and 1 from whooping cough. The lowest death rate in 1896 was in Bewcastle, where the rate was 8.75, and the highest in Arthuret, including the Workhouse, where it was 15.99. The death rate for the year is the lowest of which there is any record. If those not belonging to the district be excluded the death rate is 12.95. The proportion of deaths among old people is still large. There were 15 notifications of infectious disease. There were 3 cases of scarlet fever in the High District at Riggfoot. There were 3 cases at Prior House Cottages, 1 at Henry's Hill, and 1 at the Firs. There was a case of enteric fever at Barracks, Stapleton, and the insanitary conditions reported were remedied. There was 1 case of erysipelas at Longtown. There was 1 case of diphtheria at Snouts Bewcastle, and the sanitary defects reported have only partially been carried out. A case occurred at Burnhill, Scaleby, and 2 mild cases at Barclose, Scaleby. The sanitary defects were remedied. Whooping cough prevailed during the last quarter in Longtown.

Some good sanitary work has been done, which will have a favourable influence on the public health. In the monthly reports attention has been called to the results of inspections. The common lodging houses, bakehouses, and slaughter houses have been kept in fairly good order. Ventilation has been improved in three houses. Seventeen new privies have been erected, and others repaired. The water supply in a yard has been saved from contamination. Some



sanitary defects at Stoneflatts were remedied. A considerable number of instances are reported where defects have been reported and remedied during the year.

In 1895 the want of a water supply for the railway cottages at Mossband Hall was reported. The Railway Company sank a well, but the water was unfit for use. The Company has promised to obtain a supply of pure water. The condition of the water supply at Newtown Farm has been remedied. The pump at Kinkry Hill is now in good working order. In March the pump at Lynebank was reported out of order. The situation is bad, and liable to contamination. Nothing has been done. The want of a sufficient supply of water at Dodgsonstown, within a convenient distance, was reported, but the Council declined to take any steps in the matter. Nothing has been done to provide a proper water supply to Moorhead Cottages and Birney's Hill. Steps are being taken to get good water for Whiteclose. The well at Moorcock has been cleaned.



## PENRITH (RURAL).

*Medical Officer of Health* - - - - F. HASWELL.

Area in acres, 161,293.

Population, census 1891, 13,595; estimated to middle of 1896, 13,351.

Birth rate, 24.99.

Death rate, 12.09.

Zymotic rate, 0.82.

Death rate from phthisis, 1.04, and from respiratory diseases 2.02; rate of deaths under one year to 1,000 births, 63.63.

There were 330 births, and 163 deaths. The number of deaths is lower than any yet recorded. Influenza was certified as the cause of death in a child of one year. There were 18 deaths from cancer, and 12 from phthisis. There were 59 cases of scarlet fever, 7 being sent to hospital. Epidemics of this disease took place at Calthwaite, Catterlen, Newbiggin, and Raughtonhead. At Catterlen the infection was probably imported from London. There were 42 houses infected by it. There have been 2 cases of diphtheria, 1 at Greystoke, and the other at Skelton. The latter occurred in a house where there were several sanitary defects. Arrangements have been made to supply anti-diphtheritic serum, and microscopical examinations of the membrane made. There were 3 cases of enteric fever at Greystoke, 1 imported from Carlisle. There was 1 case at Kirkoswald, where no sanitary convenience existed. This want has since been supplied. There were 3 cases at Edenhall; the defective condition of the school drains was sufficient to account for the disease. These have since been remedied. Filth accumulation probably accounted for one case at Stainton. At Skirwith, a blocked slop-drain, and filth accumulation, against the house wall, accounted for a case. At Langwathby, a cesspool, without efficient cover, was blamed for a case. There were 3 cases of erysipelas, and 1 of puerperal fever. Whooping cough caused 1 death, and diarrhoea and enteritis, 8 deaths.

A house-to-house inspection was made at Edenhall, Laithes, Ousby, Penruddock, Matterdale End, Glassonby, and Dacre, and a large number of inspections for special purposes were made. Many nuisances were reported, and a list is appended of those in which nothing has been done.

During the last year, works have been completed for supplying water to Hunsonby, Winskill, and Ousby. Private supplies have



been obtained for Edenhall, Croglin, and Greystoke. A loan has been obtained for works for a supply to Melmerby, and a scheme is under consideration for supplying High Hesket, Armathwaite, and adjacent parts. Several samples of water were examined. Those from Hutton Moor, Threlkeld, and Ousby were unsatisfactory. In the latter case the well has been closed by order of the Council. Samples from 3 wells at Newbiggin were unsatisfactory in April, but great improvement was noticed in October, after steps had been taken to protect the wells.

Scavenging is done privately; the system works fairly well, but more attention should be given to cleansing of privies—especially in schools. Sewers have been laid in several villages; last year Langwathby and Glassonby were provided with a sewer. The scheme for Threlkeld is delayed, owing to the difficulty in obtaining ground suitable for irrigation.

The Rural District Council, by arrangement, use the hospital of the Urban District Council, and also the Recks steam disinfecter when required. An Equifex sprayer has been obtained for house-disinfection, and works satisfactorily.

Model bye-laws have been drafted, and await sanction of Local Government Board.

There is only one common lodging-house in the district; it is registered for 20, but ought only to have 14; some of its arrangements are objectionable. It was reported, but nothing has been done; the Council are again urged to take action in the matter. The Public Health Amendment Act, 1890, has been adopted, and came into force on January 31st 1897. The Infectious Disease (Prevention) Act is recommended for adoption.



## WHITEHAVEN (RURAL).

*Medical Officer of Health* . . . . J. B. FISHER.

Area in acres, 78,678.

Population, census 1891, 15,071; estimated to middle of 1896, 15,500.

Birth rate, 25.61.

Death rate, 16.64.

Zymotic rate, 1.61.

Death rate from phthisis, 0.77, and from respiratory diseases, 3.54; rate of deaths under one year to 1,000 births, 146.7.

There were 397 births and 258 deaths. The birth rate is the lowest yet recorded, and 6.37 below the average of the last 10 years. Forty-three of the deaths occurred in the Workhouse and Galemire Hospital of persons not belonging to the district, and deducting these gives a death rate of 14.14. Of the three registration sub-districts the highest death rate occurred at Harrington, viz., 16.67. In St. Bees sub-district it was 13.48, and in Egremont 9.06. There is a slight increase in the zymotic rate over the 10 years' average. There were 12 deaths from whooping cough. Attention is again called to the fact that the Education Department make allowance for absence from school, on medical certificate, of children from infected houses. In dealing with outbreaks of measles and whooping cough this is of great importance. Scarlet fever caused 6 deaths. There were 3 deaths from croup, 1 from diarrhoea, 1 from continued fever, 1 from puerperal fever, and 1 from enteric fever. One hundred and fifty-four cases of scarlet fever were notified, three were in the Workhouse. Seven cases were sent to hospital. The largest number were at Hensingham, Moresby, and Moresby Parks.

Special and general inspections of the district have been made. Forty-eight notices for the abatement of nuisances, 28 notices of defective or insufficient closet accommodation, and 82 notices to make sewer connections have been served during the year, all of which have received attention. A large number of minor nuisances were abated on verbal notice.

The water supply of Far Preston Hows, Hutbank, and neighbourhood is under consideration.

The question of sewerage at Distington is still unsettled. The Local Government Board propose holding an Inquiry before deciding upon the plans submitted for their approval.



## WIGTON (RURAL).

*Medical Officer of Health* - - - W. P. BRIGGS.

Area in acres, 108,918.

Population, census 1891, 15,936; estimated to middle of 1896, 13,136.

Birth rate, 24.4.

Death rate, 12.5.

Zymotic rate, 0.5.

Death rate from phthisis, 0.98, and from respiratory diseases, 1.52; rate of deaths under one year to 1,000 births, 71.

There were 321 births and 165 deaths. The death rate is lowered in each division of the district; in the Wigton district it is 12.8, in the Aspatria district 12.7, and in Caldbeck district 11.9. There is a marked fall in the infantile death rate. There were 7 deaths due to zymotic disease, viz., 3 from diphtheria, 3 from scarlet fever, and 1 from whooping cough. There were 71 notifications during the year, viz., 55 of scarlet fever, 9 of diphtheria, 3 of typhoid fever, and 4 of erysipelas. Scarlet fever prevailed in the villages of the Wigton district, especially at Gamblesby, Wiggonby, Biglands, and Moorhouse. Every case notified is carefully investigated as regards its surroundings, and careful instructions given as to limiting the spread of infection. There is no steam disinfecter in the district, and consequently bedding and clothing cannot be thoroughly disinfected. The outbreaks of diphtheria occurred at Torpenhow, Waverton, and Newlands, near Sebergham. In all the cases foul accumulations in the soil round the dwellings were observed, combined with very damp weather. Heavy rainfall and polluted soil are looked upon as potent factors in causing the disease. Ordinary sore throats among school children often precede notifications of diphtheria. School officials should notify the Medical Officer of any unusual prevalence of sore throat. There were 3 cases of enteric fever; in one of the houses there were drainage defects, and in another the infection was imported.

The sanitary condition of Biglands received attention in January, and, as a result, a sewer has been laid. In February diphtheria broke out at Torpenhow, and some improvements were effected in the drainage at the west end of the village. A number of defects at Gamblesby were rectified. In March defects in drainage, privy accommodation, &c., were reported at Whitriggles, Wiggonby, Whelpo, Caldbeck, and Studholme. Something has been done at all these places. In April attention was called to the drainage of Westnewton, Langrigg, and High Ireby. The drainage of many



cottages at Yearngill and Westnewton has been improved, but many defects remain. Langrigg is still under consideration. In May a meeting was held with the members of the Thursby Parish Council, and, as a result, a proper sewer has been laid, and certain properties improved and renovated. In June a fatal case of diphtheria occurred at Newlands. There is dampness and polluted soil around the house, and the well is polluted. The latter is better protected now, but not quite satisfactory. The drainage is very rudimentary. Glasson has been sewered. Many serious defects were found at Kirkbride; some remain as they were. At Ruthwaite no drainage has been done, but greater cleanliness is observed. An extension of the sewer at Allonby has been completed.

Several samples of suspected water have been examined. Many complaints were made during summer months as to scarcity, but no bad results could be shown to be due to scarcity. An attempt has been made to obtain a supply for Fletchertown, but the object has not been accomplished. In sparsely populated districts, the difficulties of obtaining an adequate supply of pure water are very considerable. Many of the wells are too shallow and liable to pollution. In many rural districts the best plan is to sink wells, and place pumps at a fair distance from the houses, and sink deep enough to go through the soil that is saturated with sewage. The slaughter houses were regularly inspected. During the year the Inspector reports 18 new privies have been built, 10 renovated, and 12 gully-traps substituted for open gratings and cesspits.



WORKINGTON (PORT).

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*Medical Officer of Health*

T. C. HODGSON.

During the year no case of infectious or epidemic disease entered the ports of Workington or Harrington; 31 foreign vessels and 701 coasting vessels have arrived at Workington, and 722 coasting vessels arrived at Harrington. All foreign vessels, and a considerable number of coasters were carefully inspected. With few exceptions, they were found in good sanitary condition. Some required cleansing, which was done as soon as ordered. The hospital is not in a fit state for the reception of patients. Tenders are being invited for placing it in an efficient state of repair.







