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MEDICAL REPORT  
ON THE  
SANITARY CONDITION  
OF  
CARLISLE

*DURING THE YEAR 1898,*

With an Account of the Carlisle Regulations for  
the Prevention of Tuberculosis,

BY

WILLIAM BROWN, F. R. C. S. E.,  
*MEDICAL OFFICER OF HEALTH.*

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CARLISLE URBAN DISTRICT COUNCIL.

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*Annual Report of the Medical Officer of Health.*

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TO THE CARLISLE URBAN DISTRICT COUNCIL.

Gentlemen,

I have the honour of submitting to you my Annual Report on the Health of Carlisle during the year 1898, with an account of the sanitary work performed.

STATISTICAL SUMMARY.

(Compared with that of 1897.)

	1898	1897
Area of District in Acres ... ..	2,029	2,029
Estimated Population at Midsummer...	42,100	41,700
Density of Population per acre ... ..	20·7	20·5
Inhabited Houses (1891 census) ... ..	7,624	7,624
Rateable Value of District ... ..	£184,030	£179,783
Births ... ..	1,311	1,324
Birth-rate ... ..	31·1	31·7
Deaths ... ..	935	811
Death-rate ... ..	22·2	19·4
Zymotic Deaths ... ..	103	54
Zymotic Death-rate ... ..	2·4	1·3
Infant Mortality ... ..	240	178
Ratio of Infant Deaths to Births per 1,000 ... ..	183	134



	1898	1897
Infectious Cases Notified ... ..	298	431
Infectious Cases Isolated at Crozier Lodge Fever Hospital ... ..	52	98

## REGISTRATION SUB-DISTRICTS.

	1898	1897
St. Mary's Sub-District—Population	25,587	25,344
St. Cuthbert's do. do. ...	16,513	16,356

## VITAL STATISTICS.

During the year the births of 1,311 children have been registered. Of these 685 were boys and 626 girls. The total gives a rate of 31.1 per 1,000 of the estimated population. Last year the birth-rate was 31.7 per 1,000 of the estimated population.

## MORTAL STATISTICS.

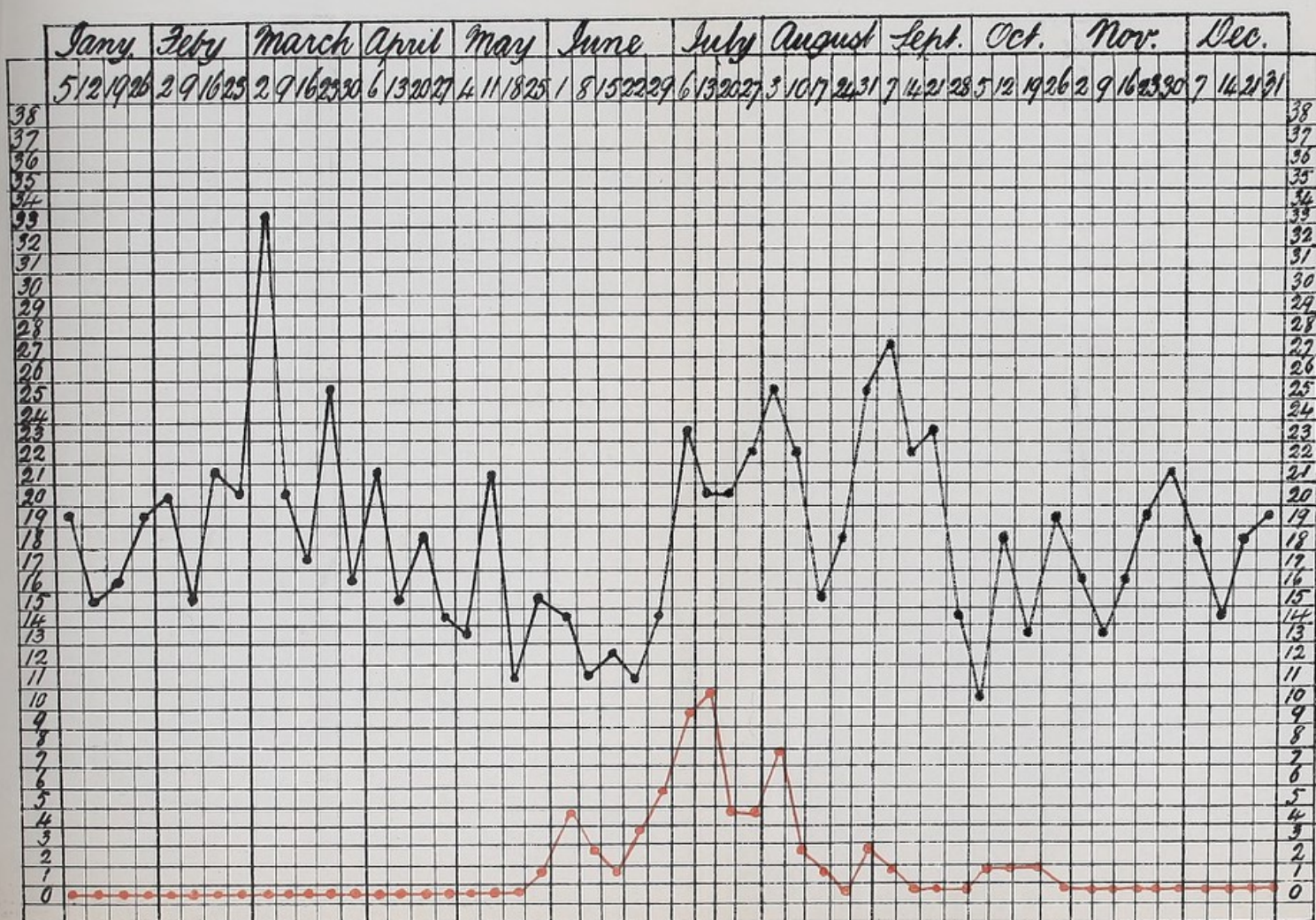
During the year ending December 31st, 935 deaths were registered in the Carlisle Urban Sanitary District. Of these 459 were males and 476 were females. The death-rate is equal to 22.2 per 1,000 of the population estimated to the middle of the year. Last year (1897) 811 deaths were registered, the death-rate being equal to 19.4 per 1000 of the estimated population. The following table gives the deaths of persons not belonging to the Carlisle Urban District. Making allowance for such deaths a death-rate of 21.2 is obtained:—


Where Died.	Deaths of persons not belonging to the Carlisle Urban Sanitary District.
Cumberland Infirmary - - -	27
Fusehill Workhouse - - -	5
Fever Hospital, Crozier Lodge - -	2
Home for Incurables - - -	5
	—
	39
	—



# Chart

Weekly deaths from all causes - Black  
do. do. do. Measles - Red  
in the Urban District of Carlisle





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Table showing the death-rate of Carlisle from 1874 to 1898 inclusive:—

Year.	Deaths from all causes.		Deaths from Principal Zymotic Diseases.	
	No. Registered.	Rate per 1000 of Population.	No. Registered.	Rate per 1000 of Population.
1874	1055	32.6	367	11.3
1875	934	29.2	201	6.3
1876	800	25.0	100	3.0
1877	750	23.0	55	1.7
1878	828	23.5	83	2.3
1879	818	23.5	76	2.0
1880	777	22.2	106	3.0
1881	717	20.0	67	1.8
1882	852	23.6	189	5.0
1883	779	21.0	67	1.8
1884	783	21.0	38	1.0
1885	769	20.3	66	1.7
1886	745	19.4	62	1.6
1887	772	19.9	75	1.9
1888	722	18.5	59	1.5
1889	723	18.1	69	1.7
1890	792	19.5	65	1.6
1891	789	20.1	63	1.6
1892	805	20.2	55	1.3
1893	868	21.6	145	3.6
1894	780	19.2	44	1.1
1895	794	19.4	33	0.8
1896	753	18.2	30	0.7
1897	811	19.4	54	1.3
1898	935	22.2	103	2.4

#### DEATHS FROM THE EIGHT PRINCIPAL ZYMOTIC DISEASES.

The Returns show 103 deaths from the principal Zymotic Diseases, representing a Zymotic death-rate of 2.4 per 1,000 of the estimated population, the number registered from each Zymotic Disease being as follows:—

Small Pox	...	...	...	0
Measles	...	...	...	59
Scarlet Fever	...	...	...	8

Diphtheria	...	...	...	9
Whooping Cough	...	...	...	1
Typhus Fever	...	...	...	0
Enteric Fever	...	...	...	2
Diarrhœa and Dysentry	...	...	...	24
				<hr/>
				103
				<hr/>

### INFANT MORTALITY.

The deaths of 240 infants under one year of age have been registered. The ratio of infant deaths to births is 183 per 1,000 as compared with—

1897	...	...	...	134
1896	...	...	...	137
1895	...	...	...	142
1894	...	...	...	133
1893	..	...	...	178
1892	...	...	...	123
1891	...	...	...	137
1890	..	...	...	150
1889	...	...	...	142
1888	...	...	...	129
1887	...	...	...	141
1886	...	...	...	146
1885	...	...	...	164

### SCARLET FEVER.

120 cases of Scarlet Fever have been notified, as compared with 258 cases last year. The disease was most prevalent during the months of January and February. As to age prevalence 29 cases were in children from 3 to 6, and 31 in children from 6 to 9 years old. The mortality was 6.6 per cent. of the cases notified.

Table showing the number of cases of Scarlet Fever during the year 1898, arranged as to age :—

Under 1 year	...	...	...	0
From 1 to 2 years	...	...	...	3
"    2    "    3    "	...	...	...	8
"    3    "    4    "	...	...	...	11
"    4    "    5    "	...	...	...	8



From 5 to 6 years	...	...	...	10
" 6 " 7 "	...	...	...	11
" 7 " 8 "	...	...	...	7
" 8 " 9 "	...	...	...	13
" 9 " 10 "	...	...	...	7
" 10 " 11 "	...	...	...	2
" 11 " 12 "	...	...	...	3
" 12 " 13 "	...	...	...	4
" 13 " 14 "	...	...	...	2
" 14 " 15 "	...	...	...	0
" 15 " 16 "	...	...	...	2
" 16 " 17 "	...	...	...	0
" 17 " 18 "	...	...	...	1
" 18 " 19 "	...	...	...	3
" 19 " 20 "	...	...	...	1
Over 20 years ...	...	...	...	9
Age not ascertained	...	...	...	11
				<hr/>
				120
				<hr/>

Number of cases of Scarlet Fever reported each week  
from 1st January to 31st December, 1898 :—

1st January	...	...	1
Week ending 8th "	...	...	24
" " 15th "	...	...	10
" " 22nd "	...	...	11
" " 29th "	...	...	3
" " 5th February	...	...	10
" " 12th "	...	...	1
" " 19th "	...	...	4
" " 26th "	...	...	4
" " 5th March	...	...	1
" " 12th "	...	...	4
" " 19th "	...	...	3
" " 26th "	...	...	0
" " 2nd April	...	...	1
" " 9th "	...	...	1
" " 16th "	...	...	0

Week ending	23rd	April	...	...	4
"	"	30th	"	...	1
"	"	7th	May	...	3
"	"	14th	"	...	0
"	"	21st	"	...	4
"	"	28th	"	...	2
"	"	4th	June	...	0
"	"	11th	"	...	0
"	"	18th	"	...	0
"	"	25th	"	...	0
"	"	2nd	July	...	0
"	"	9th	"	...	3
"	"	16th	"	...	2
"	"	23rd	"	...	0
"	"	30th	"	...	2
"	"	6th	August	...	1
"	"	13th	"	...	1
"	"	20th	"	...	3
"	"	27th	"	...	1
"	"	3rd	September...	...	0
"	"	10th	"	...	0
"	"	17th	"	...	0
"	"	24th	"	...	1
"	"	1st	October	...	0
"	"	8th	"	...	2
"	"	15th	"	...	0
"	"	22nd	"	...	4
"	"	29th	"	...	1
"	"	5th	November	...	0
"	"	12th	"	...	0
"	"	19th	"	...	1
"	"	26th	"	...	0
"	"	3rd	December	...	1
"	"	10th	"	...	1
"	"	17th	"	...	1
"	"	24th	"	...	0
"	"	31st	"	...	3

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120

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### MEASLES.

There was an epidemic of Measles during the months of June, July, and August. Fifty-nine deaths were registered from this disease from May 10th to October 26th. The high mortality from Measles has been the means

of raising both the general and zymotic death-rates to the extent of 1·4 per 1,000 per annum. In consequence of the great mortality from this disease the public schools of the City were closed by order of the Health Committee from July 25th to August 15th.

The mortality from the disease during the last 20 years has been as follows:—

1879	...	...	...	22
1880	...	...	...	4
1881	...	...	...	0
1882	...	...	...	36
1883	...	...	...	11
1884	...	...	...	0
1885	...	...	...	22
1886	...	...	...	4
1887	...	...	...	16
1888	...	...	...	3
1889	...	...	...	44
1890	...	...	...	1
1891	...	...	...	22
1892	...	...	...	3
1893	...	...	...	77
1894	...	...	...	20
1895	...	...	...	5
1896	...	...	...	1
1897	...	...	...	1
1898	...	...	...	59

#### SMALL POX.

Four cases of Small Pox and one of a modified form of the disease were notified during the year. The first case, notified on April 28th, was that of a tramp in a Common Lodging-House in Drover's Lane, who had imported the disease from West Cumberland. The second case was a cattle drover in the same lodging-house, who infected a clerk at one of the Cattle Auctions in the City. The fourth case occurred on June 3rd in the same lodging-house. The modified case was that of a girl, aged 13 years, who had been re-vaccinated on account of having been exposed to indirect infection from the third case.

All the cases were isolated at Crozier Lodge and made satisfactory recoveries.



# TYPHOID FEVER.

Twenty-two cases of Typhoid Fever have been notified as compared with 19 cases last year.

*Tabular Statement of Cases of Typhoid Fever during the year 1898, with the insanitary conditions present, and the action taken thereon.*

Date.	Locality.	Insanitary conditions present and action taken.	Result.
January..	Mary Street	Removed to Crozier Lodge. House disinfected	One case No extension
"	Charles Street	Instructions given as to disinfection	One case No extension
"	Cumberland Infirmary	Do.	One case No extension
March ...	Melbourne Road	Choked drains. Instructions given as to disinfection	One case Four extensions
April ...	Holme Head	Instructions given as to disinfection	One case No extension
May ...	Melbourne Road	Do.	Four cases No further extension
"	Petteril Street	Do.	One case No extension
"	Broad Street	Do.	One case No extension
July ...	Granville Road	Do.	One case No extension
August ...	Cecil Street	Do.	One case No extension
"	Greystone Road	Do.	One case No extension
"	Bowman Street	Defective bottom gully outlet. Instructions given as to disinfection	One case No extension
September	Clementina Terrace	Instructions given as to disinfection	One case No extension
"	Edward Street	Do.	One case No extension
October...	Harvey Street	Removed to Crozier Lodge. House disinfected	One case No extension
"	Petteril Street	Instructions given as to disinfection	One case No extension
"	Carlisle Barracks	Do.	One case No extension
November	South George Street	Instructions given as to disinfection	One case No extension
"	Queen Street	Removed to Crozier Lodge. House disinfected	One case No extension

## DIPHTHERIA.

Thirty-four cases in 31 houses have occurred, as compared with 37 cases in 33 houses last year. The mortality has been about 1 in 4 of the reported cases. In six of the houses minor sanitary defects were noticed.

*Tabular Statement of Cases of Diphtheria during the year 1898, with the insanitary conditions present and the action taken thereon.*

Date.	Locality.	Insanitary conditions present and action taken.	Result.
January...	Wood Street	Instructions given as to disinfection	One case No extension
"	Hartington Place	Do.	One case No extension
"	Nelson Street	Do.	Two cases No extension
"	Old Grapes Lane	Removed to Crozier Lodge. House disinfected	One case No extension
"	Lorne Street	Do.	One case No extension
"	Greystone Road	Defective drain. Instructions given as to disinfection.	One case No extension
February	Do.	Do.	One case No further extension
"	Shaddongate	Instructions given as to disinfection	One case No extension
"	Ashley Street	Do.	One case No extension
"	Wood Street	Do.	One case No extension
March ...	Gloucester Road	Water closet choked. Instructions given as to disinfection	One case No extension
"	East Norfolk Street	Instructions given as to disinfection	One case No extension
"	East Dale Street	Do.	One case No extension
April ...	Norfolk Road	Do.	One case No extension
"	Oswald Street	Do.	One case No extension
"	Bridge Street	Do.	One case No extension
"	Lorne Crescent	Do.	One case No extension
"	Petteril Street	Water closet defective. Instructions given as to disinfection	One case No extension



Date.	Locality.	Insanitary conditions present and action taken.	Result.
May ...	Trinity Buildings	Removed to Crozier Lodge. House disinfected.	One case No extension
"	Ashley Street	Instructions given as to disinfection	One case No extension
"	Norfolk Street	Do.	One case No extension
July ...	William Street	Do.	One case No extension
"	Shaddongate	Do.	One case No extension
September	Regent Street	Two defective bottom outlet gullies. Instructions given as to disinfection	One case No extension
"	Head Street	Instructions given as to disinfection	One case No extension
"	Clementina terrace	Do.	One case No extension
"	Hawick Street	Do.	One case No extension
October...	Westmorland Street	Small pantry damp. Instructions given as to disinfection	Two cases No extension
November	Oswald Street	Drain choked. Instructions given as to disinfection	One case No extension
December	Collin Place, New-town	Instructions given as to disinfection	One case No extension
"	Thomson Street	Do.	One case No extension
"	Nelson Street	(Probably imported from Longtown) Do.	One case No extension

### EPIDEMIC INFLUENZA.

Epidemic Influenza has prevailed to a slight extent during the year. Nine deaths were registered from the disease.

### NOTIFICATION OF INFECTIOUS DISEASES.

298 cases of Infectious Diseases have been notified, as compared with 431 cases during the year 1897. The following table gives the number of cases registered during each quarter of the year.

*Table showing the number of Notifications to the Sanitary Authority, during the year, of each disease specified in the Act.*

Nature of Infectious Disease.	Number of Notifications sent in.				Totals.
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	
Small Pox ...	0	5	0	0	5
Diphtheria ...	14	8	6	6	34
Membranous Croup ...	2	4	1	2	9
Erysipelas ...	45	16	12	31	104
Scarlet Fever & Scarlatina	77	15	14	14	120
Typhoid or Enteric Fever	4	7	6	5	22
Typhus Fever ...	0	0	0	0	0
Relapsing Fever ...	0	0	0	0	0
Continued Fever ...	0	0	0	1	1
Puerperal Fever ...	0	1	0	2	3
Totals ...	142	56	39	61	298

#### ISOLATION OF INFECTIOUS DISEASES.

The Sanitary Authority has isolated, at Crozier Lodge, 54 cases of Infectious Diseases during the year, consisting of 40 of Scarlet Fever, 4 of Small Pox, 3 of Diphtheria, 3 of Typhoid Fever, 2 of Measles, 1 of Membranous Croup, and 1 of Erysipelas. Last year 98 cases of Infectious Diseases were isolated, viz.:—85 of Scarlet Fever, 5 of Typhoid Fever, 7 of Diphtheria, and 1 of Membranous Croup.

#### FACTORIES AND WORKSHOPS ACTS, 1891 AND 1895.

The Factories and Workshops in the City have all been visited, no serious contravention of the Bye-laws being discovered, and were found, on the whole, to be in a satisfactory condition.

#### COMMON LODGING-HOUSES.

The Common Lodging-Houses have received the usual amount of attention, and are now in a fairly satisfactory condition.



## MEAT INSPECTION.

During the past year I have been called to examine the carcasses of 50 oxen, 17 sheep, 4 lambs, 6 calves, 6 pigs, and 1 goat, as compared with 47 oxen, 4 sheep, 2 lambs, and 1 pig last year; 73 of the carcasses were pronounced unfit for human food; 40 carcasses of beef were affected with tuberculosis.

## THE CARLISLE REGULATIONS FOR THE PREVENTION OF TUBERCULOSIS.

In January of last year, three months before the publication of the Report of the Royal Commission on Tuberculosis, I had the honour of submitting to the consideration of the Carlisle Urban District Council three important measures for the prevention of tuberculosis in Carlisle. The recommendations were :—

- (1.)—That all dairy cattle from which milk is derived for distribution in the Carlisle Urban Sanitary District be subjected to regular veterinary inspection.
- (2.)—That a more rigid enforcement of the City Bye-laws as to the cubic space of the Carlisle Cowsheds be carried out.
- (3.)—That, as an auxiliary measure, the Carlisle Urban District Council extend the provisions of the Infectious Diseases Notification Act to pulmonary phthisis, tubercular meningitis, and tabes mesenterica.

These proposals were unanimously adopted by the Health Committee, and subsequently by the Council at a Meeting held on April 12th, a high-spirited policy, which was much lauded by the *British Medical Journal*, the *Journal of State Medicine*, and some of the leading daily papers of the country.

At the end of March a Conference on Tuberculosis was held at Keswick under the auspices of Canon Rawnsley, who was much interested in the subject and thoroughly conversant with all the scientific aspects of the question. Professor Delepine, of Owen's College, Manchester, a



great authority on tuberculosis, at the request of Canon Rawnsley gave an address, and I was invited to read a paper on the Carlisle Regulations for the Prevention of Human and Bovine Tuberculosis. There was a large attendance, including many of the Medical Officers of Health, Medical Practitioners, Veterinary Surgeons, and public men of the county, and the meeting did much to confirm the action which the Health Committee had then taken with regard to the prevention of tuberculosis within their district.

Mr. R. Craig Robinson, M.R.C.V.S., who has had a practical training on the subject of Cattle Tuberculosis under Professor Nocard, at the Ecole Vétérinaire, Alford, near Paris, was appointed Veterinary Inspector of the dairy cattle on the 14th May, and commenced his duties on June 1st. His inspection has extended over a period of seven months, and has consisted of the regular examination of all dairy cattle in Carlisle at intervals of three weeks, and at shorter periods when found necessary, and a careful examination of all new cows received into the Carlisle cowsheds. The diseases detected as affecting the milk secretion were six cases of tuberculosis of the udder and six cases of mammitis or inflammation of the udder. I am informed that acute inflammation of the udder has been very prevalent in the neighbourhood of Carlisle during the past year. This affection is accompanied in the first stage by the presence of blood in the milk, and subsequently by a shedding of pus or matter from the milk gland. Hence the importance of taking measures for preventing the sale of the milk in such cases.

The tuberculin test, to which dairymen were at first somewhat opposed, is now being looked upon with favour, inasmuch as it can be quickly carried out without inconvenience or loss, and gives the owner the important information as to whether his cow is tubercular or not. Such information enables the owner to deal with the animal



in the best way available before the disease is sufficiently advanced to render the animal unfit for milking purposes or for human food. The following case shows the advantages and accuracy of the test. The veterinary surgeon, in the course of his inspection, found a milch cow in an extreme state of emaciation, and so lethargic that it could not be urged to move from the ground on which it was lying. Beyond a few unnatural chest sounds and the animal's emaciation there was no positive signs of tuberculosis. The animal was being milked and yielded six quarts per day. It was injected with a dose of tuberculin at 6 p.m., its temperature at the time of injection being  $101.4^{\circ}$  F. The injection was followed by a marked re-action, and on the following morning the temperature reached  $106^{\circ}$  F. The owner was advised to slaughter the animal, and this was done. Tuberculosis of the lungs in the form of numerous tubercular nodules, each enclosed in a dense fibrous covering, was found to exist. Had this animal been tested before emaciation had commenced, the carcass might have passed as fit for human food according to the recommendations of the last Royal Commission.

The cows found to be suffering from tuberculosis of the udder were either slaughtered or removed from the Carlisle Urban District by the owners. Unfortunately the Carlisle Urban District Council have no jurisdiction over the dairies outside their district, and as a large quantity of milk distributed in Carlisle is derived from such dairies, it is important to have Veterinary supervision over them. This subject is at present under the consideration of the County Council.

On July 8th the Health Committee had under their consideration the cubic air space in cowsheds, and decided that in future it should not be less than 600 cubic feet for each animal. This recommendation was adopted by the Council, and the dairymen were acquainted of the altered regulation. Satisfactory steps have been taken by the Carlisle dairymen to carry into effect the modified Bye-laws as to air space.



I introduce to your notice the following extract from a letter of mine which appeared recently in the local papers in connection with this subject of cubic space in cowsheds:—

“Animal tuberculosis is, as a rule, a chronic disease as to its course, always being present with us, and so widely diffused over the globe as to be named the ‘universal pan<sup>n</sup>zootic.’ Its natural tendency is to increase rather than decrease under the present conditions of cattle housing in this country. It may spread from animals to man and from man to animals.

While fully admitting that the Government ought to do its utmost to lessen this bovine scourge, I think, with Canon Rawnsley, that much may be done by individual effort on the part of cattle owners to mitigate the evil. One important fact which statistics at the Carlisle Public Slaughter-house have always brought out is that general tuberculosis, in the great majority of cases, is among old cows of the Shorthorn breed, which have been enfeebled by prolonged lactation, improper housing and improper feeding.

As public opinion is now sufficiently advanced on the subject of tuberculosis to demand a pure milk and meat supply, it behoves dairymen to select some other breed of animals which is less liable to tuberculosis than the Shorthorn, and, having made this selection, to feed and house their cattle under more natural conditions. Such a breed is to be found in the Scotch Galloway or the cross-bred Blue-grey. The yield of milk from Galloways or Blue-greys is not so great as from Shorthorns, but still they can be made profitable milkers.

An interesting feature of human mortal statistics in this country is that there has been a decline in the rate from pulmonary consumption and other tubercular diseases to the extent of 50 per cent. during the past 50 years. This has, no doubt, been due to improved sanitation, better feeding, improved treatment, and increased knowledge of



hygienic laws. In the same way we may expect a corresponding decline in cattle tuberculosis when more attention is bestowed upon the health of the bovine species. Should the Government ever be induced to give compensation for compulsory slaughter of tuberculous dairy cattle, they ought to insist upon hardy breeds being used as milkers, and enforce strict regulations as to housing and feeding."

The Local Government Board, unfortunately, could not see their way to confirm the decision of the Council as to the last regulation. There are, possibly, difficulties in the way of giving this recommendation practical effect, but for my own part I do not see any more objection to the notification of the three tubercular diseases mentioned than there is to the notification of Diarrhœa, which is recommended by the Local Government Board as a temporary expedient when Asiatic Cholera threatens to invade this country. If there be insuperable difficulties in the way of including the principal tubercular diseases in the Infectious Diseases Notification Act, there can be none to a voluntary notification from medical men connected with public medical charities and from Poor Law medical officers, among whose patients tubercular diseases chiefly prevail. I feel sure such medical officers would willingly give the Corporation the necessary information for a merely nominal sum. The information obtained in this way would afford valuable data as a basis for future action, such as the distribution of printed instructions for the prevention of pulmonary phthisis, the disinfection of premises recently vacated by consumptive patients, and the improvement of the sanitary state of dwellings.

I am, Gentlemen,

Your obedient Servant,

WILLIAM BROWN,

*Medical Officer of Health.*

CARLISLE,

*January 18th, 1899.*

TABLE I.  
BIRTHS, 1898.

QUARTER ENDING.	ST. MARY.			ST. CUTHBERT.			TOTALS FOR CITY.
	Males.	Females.	Totals.	Males.	Females.	Totals.	
March 31 .....	91	79	170	73	64	137	307
June 30.....	131	91	222	62	73	135	357
September 30	94	89	183	86	88	174	357
December 31...	92	75	167	56	67	123	290
Totals.....	408	334	742	277	292	569	1311

TABLE II.  
DEATHS, 1898.

QUARTER ENDING.	ST. MARY.					ST. CUTHBERT.					TOTALS FOR CITY.
	Males.		Females.		Totals.	Males.		Females.		Totals.	
	Under 5 years	5 and above	Under 5 years	5 and above		Under 5 years	5 and above	Under 5 years	5 and above		
March 31	27	44	23	50	144	16	38	13	45	112	256
June 30	20	33	15	47	115	16	22	16	21	75	190
Sept. 30	41	31	44	35	151	33	29	35	28	125	276
Dec. 31	29	37	25	45	136	19	24	15	19	77	213
TOTALS	117	145	107	177	546	84	113	79	112	389	935



TABLE III

Table showing the Annual Birth-rate, Rate of Mortality, Death-rates among Children, Deaths in Public Institutions, and Deaths from Seven Principal Zymotic Diseases, for the Year 1898, and Ten Years preceding.

Year.	Births.		Deaths.		Deaths of Children under one year.			Deaths of Children under 5 years.		Deaths in Public Institutions	Deaths from 7 Principal Zymotic Diseases.	
	No. Registered.	Rate per 1000 of Population.	No. Registered.	Rate per 1000 of Population.	No. Registered.	Per centage of Total Deaths.	Per centage of Registered Births.	No. Registered.	Per centage of Total Deaths.		No. Registered.	Rate per 1000 of Population.
1898	1311	31.1	935	22.2	240	25.6	18.3	387	41.3	133	103	2.4
1897	1324	31.7	811	19.4	178	21.9	13.4	250	30.8	142	54	1.3
1896	1246	30.1	753	18.2	171	22.7	13.7	250	33.2	123	30	.7
1895	1311	32.1	794	19.4	186	23.4	14.2	270	34.0	123	33	.8
1894	1315	32.4	780	19.2	174	22.3	13.2	256	32.8	132	44	1.1
1893	1389	34.5	868	21.6	248	28.5	17.8	416	47.9	117	145	3.6
1892	1213	30.5	805	20.2	150	18.6	12.3	235	29.2	124	55	1.3
1891	1207	30.8	789	20.1	166	21.0	13.4	245	31.0	114	63	1.6
1890	1215	30.0	792	19.5	183	23.1	15.7	275	34.7	85	65	1.6
1889	1224	30.6	723	18.1	174	24.1	14.2	270	37.3	105	69	1.7
1888	1307	33.5	722	18.5	169	23.4	12.9	253	35.0	95	59	1.5
Average of 10 years 1888-1897	1275	31.6	783	19.4	179	22.9	14.0	272	34.5	116	61	1.5

TABLE IV.

Showing the number of Deaths at all ages in 1898, from certain groups of Diseases, and proportions to 1,000 of Population, and to 1,000 Deaths from all causes ; also the number of Deaths of Infants under one year of age from other groups of Diseases, and proportions to 1,000 Births and to 1,000 Deaths from all causes under one year.

Division I. (Adults).	Total Deaths.	Deaths per 1000 of Population, at all ages.	Deaths per 1000 of Total Deaths at all ages.
1. Principal Zymotic Diseases ...	103	2.4	110
2. Pulmonary Diseases ...	153	3.6	163
3. Principal Tubercular Diseases	129	3.0	137
Division II. (Infants under one year).	Total Deaths.	Deaths per 1000 of Births.	Deaths per 1000 of Total Deaths under one year.
4. Wasting Diseases ...	74	56.4	308
5. Convulsive Diseases ...	19	14.4	79

1—Includes Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Typhus, Enteric (or Typhoid), and Simple Continued Fevers, and Diarrhœa.

3—Includes Phthisis, Scrofula, Tuberculosis, Rickets, and Tabes.

4—Includes Marasmus, Atrophy, Debility, Want of Breast Milk, and Premature Birth.

5—Includes Hydrocephalus Infantile Meningitis, Convulsions and Teething.



TABLE V.

Table showing the Number of Deaths from the principal Zymotic Diseases in the 10 Years 1888 to 1897 and in the Year 1898.

DISEASE.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	Annual Average of 10 Years 1888—1897	Proportion of Deaths to 1000 Deaths in 10 years, 1888—1897.	Total Deaths, in 1898.	Proportion of Deaths to 1000 Deaths in 1898.
Smallpox .. .	2	...	...	...	...	1	...	..	...	...	.3	.4	..	..
Measles .....	3	44	1	22	3	77	20	5	1	1	17.7	22.5	59	63.1
Scarlet Fever .....	...	...	22	21	4	11	2	2	3	7	7.2	9.1	8	8.5
Diphtheria .....	...	5	6	2	14	11	4	5	2	10	6.0	7.6	9	9.6
Whooping Cough .....	32	8	12	7	23	20	12	7	20	24	16.5	21.0	1	1.0
Is { Typhus .....	1	...	...	...	4	...	...	...	...	...	.5	.6	...	...
Is { Enteric .....	8	1	2	2	3	5	2	4	3	3	3.3	4.2	2	2.1
Is { Simple continued ..	...	...	...	...	...	...	...	..	...	...	..	...	...	...
Diarrhoea .....	13	11	22	9	4	20	4	10	...	9	10.2	13.0	24	25.6
Totals .....	59	69	65	63	55	145	44	33	30	54	61.7	78.7	103	110.1
Rate per 1000 of population .....	1.5	1.7	1.6	1.6	1.3	3.6	1.1	.8	.7	1.3	1.4	...	2.4	...

TABLE VI—Table of Deaths during the year 1898 in the Urban Sanitary District of Carlisle, classified according to Diseases, Ages, and Localities.

Mortality from all Causes at subjoined Ages.										Mortality from subjoined Causes, distinguishing Deaths of Children under Five Years of Age.																					
Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities.	At all Ages.								9	Fevers.										23	24	25	26	Heart Disease.	Influenza.	Injuries.	All other Diseases.	TOTAL.			
	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.		Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Krysipelas.	Measles.										Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.
1	2	3	4	5	6	7	8	Under 5 5 upwds.	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	216	
St. Mary Sub-Dist.	459	137	79	13	22	115	93	Under 5 5 upwds.	...	...	4	...	...	...	...	...	...	...	...	33	11	...	2	52	...	...	1	5	108	216	
Cumberland (S. Mary) Infirmary	71	1	3	7	12	41	7	Under 5 5 upwds.	...	...	1	...	...	1	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	243	
Fever Hospital	8	...	4	3	...	1	...	Under 5 5 upwds.	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	
Home for Incurables	8	...	...	1	...	5	2	Under 5 5 upwds.	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	
S. Cuthbert S.-Dist.	343	99	61	13	15	104	51	Under 5 5 upwds.	...	...	1	...	...	...	...	...	...	...	...	22	6	...	2	38	...	...	1	1	...	...	...
Fusehill (S. Cuthbert) Workhouse	46	3	...	...	...	20	23	Under 5 5 upwds.	...	...	1	...	...	...	...	...	...	...	...	4	2	...	36	22	41	3	4	68	183		
TOTALS	935	240	147	37	49	286	176	Under 5 5 upwds.	3	5	7	...	...	2	...	...	...	...	...	55	17	...	4	90	...	...	2	8	201	387	
The subjoined numbers have also to be taken into account in judging the above records of mortality.																															
Deaths occurring outside the District among persons belonging thereto.	...	...	...	...	...	...	...	Under 5 5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Deaths occurring within the district among persons not belonging thereto.	39	1	3	3	3	21	8	Under 5 5 upwds.	...	2	...	...	...	1	...	...	...	...	...	...	...	...	2	2	3	2	...	...	2	35	



TABLE VII.  
Mortality from Diarrhoea and Typhoid Fever, 1874—1898.

Year.	DEATHS FROM DIARRHŒA.															Deaths from Typhoid Fever.
	Autumn Quarter.	Rate per-1000 of population	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for Year.	
	No. Registered.															
1874	35	1.50	2	2	2	..	1	1	6	20	9	6	..	3	50	23
1875	27	1.30	2	..	..	..	2	4	5	12	10	2	..	2	44	24
1876	12	1.10	3	1	3	1	1	..	2	5	5	1	6	7	37	10
1877	10	.84	2	1	2	1	2	3	2	6	2	1	3	4	28	5
1878	26	1.10	1	2	1	1	3	3	9	8	9	1	1	1	40	11
1879	4	.34	2	1	1	1	..	2	2	2	..	..	1	..	12	11
1880	31	1.20	..	..	5	..	..	..	3	7	21	5	1	..	42	15
1881	7	.50	..	2	..	2	..	2	2	2	3	3	1	2	18	7
1882	17	.55	..	1	..	..	..	1	5	7	5	1	..	..	20	9
1883	8	.45	..	2	..	..	..	..	..	3	5	6	1	..	17	8
1884	14	.61	2	..	..	1	1	1	7	3	4	3	1	..	23	7
1885	4	.26	1	1	1	..	..	1	2	2	..	..	1	1	10	1
1886	8	.60	1	2	..	..	..	2	1	1	6	7	1	2	23	6
1887	7	.36	1	..	1	2	..	2	..	5	2	1	..	..	14	17
1888	8	.33	1	..	1	1	..	..	..	3	5	1	..	1	13	8
1889	6	.27	2	1	..	..	..	..	..	5	1	1	..	1	11	1
1890	15	.54	..	..	2	..	1	..	1	7	8	1	1	1	22	2
1891	5	.22	1	..	..	..	..	1	1	2	2	2	..	..	9	2
1892	2	.10	1	..	..	..	..	..	..	..	2	1	..	..	4	3
1893	9	.49	..	2	2	2	..	2	..	2	7	1	2	..	20	5
1894	1	.09	..	..	..	..	..	..	..	..	1	1	2	..	4	2
1895	3	.24	2	1	..	1	..	..	1	..	2	3	..	..	10	4
1896	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
1897	4	.21	..	..	2	1	..	..	1	..	3	2	..	..	9	3
1898	15	.57	..	..	2	..	1	1	1	4	11	2	1	1	24	2
Average for 25 years 1874—1898	11.1	.55	.8	.7	1.0	.6	.4	1.0	2.0	4.2	4.9	1.0	.8	1.0	20.1	7.5





TABLE IX.  
CARLISLE URBAN SANITARY AUTHORITY.  
*Deaths Registered from all Causes during the year 1898.*

CAUSE OF DEATH.	AGES.											TOTALS.
	0	1	5	15	25	35	45	55	65	75	85	
	to 1	to 5	to 15	to 25	to 35	to 45	to 55	to 65	to 75	to 85	to 95	
CLASSES.												
I. SPECIFIC FEBRILE, OR ZYMOTIC DISEASES	34	51	9	5	3	...	6	...	4	5	117	
II. PARASITIC DISEASES	...	...	...	...	...	...	...	...	...	...	...	
III. DIETIC DISEASES	...	...	...	...	1	...	1	1	...	...	3	
IV. CONSTITUTIONAL DISEASES	15	21	11	26	15	24	31	24	12	6	185	
V. DEVELOPMENTAL DISEASES	30	...	...	...	...	...	...	5	8	23	75	
VI. LOCAL DISEASES	110	70	16	14	14	31	42	70	56	44	471	
VII. DEATHS FROM VIOLENCE	5	3	1	4	3	5	3	3	1	1	29	
VIII. DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES	46	2	...	...	...	2	1	1	2	...	55	
TOTALS	240	147	37	49	36	62	84	104	83	79	935	
I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES.												
1.—Miasmatic Diseases.												
Smallpox { Vaccinated	...	...	...	...	...	...	...	...	...	...	...	
Unvaccinated	...	...	...	...	...	...	...	...	...	...	...	
No statement	...	...	...	...	...	...	...	...	...	...	...	
Measles	20	35	3	1	...	...	...	...	...	...	59	
Scarlet Fever	...	3	4	1	...	...	...	...	...	...	8	
Typhus	...	...	...	...	...	...	...	...	...	...	...	
Whooping Cough	...	1	...	...	...	...	...	...	...	...	1	
Diphtheria	...	6	2	...	...	...	...	...	...	...	9	
Simple, Continued, and Ill-defined Fever	1	...	...	...	...	...	...	...	...	...	...	
Enteric or Typhoid Fever	...	...	...	1	...	...	...	...	...	...	2	
Other Miasmatic Diseases, Influenza, &c.	1	1	...	...	1	...	3	...	1	2	9	





TABLE IX—*continued*.  
CARLISLE URBAN SANITARY AUTHORITY.  
*Deaths registered from all Causes during the year 1898.*

CAUSE OF DEATH.	AGES.											TOTALS.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards	
IV.—CONSTITUTIONAL DISEASES— <i>continued</i> .												
Rheumatism ... ..	...	...	1	...	...	...	..	1	1	1	...	4
Gout ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Rickets ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Cancer, Malignant Disease ... ..	...	...	...	...	...	5	9	15	7	5	...	41
Tabes Mesenterica ... ..	...	...	...	...	...	...	1	...	...	...	...	12
Tubercular Meningitis, Hydrocephalus	7	3	...	1	...	...	...	...	...	...	...	22
Phthisis ... ..	6	13	2	23	13	14	18	7	1	...	...	88
Other Forms of Tuberculosis, Scrofula	1	3	8	1	...	...	1	1	1	...	...	7
Purpura, Hæmorrhagic Diathesis ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Anæmia, Chlorosis, Leucocythæmia ... ..	...	...	...	...	...	3	2	...	...	...	...	...
Glycosuria, Diabetes Mellitus ... ..	...	...	...	1	...	1	...	...	1	...	...	5
Other Constitutional Diseases ... ..	...	...	...	...	...	...	...	...	...	...	...	3
V.—DEVELOPMENTAL DISEASES.												
Premature Birth ... ..	27	...	...	...	...	...	...	...	...	...	...	27
Atelectasis ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Malformations ... ..	3	...	...	...	...	...	...	...	...	...	...	3
Old Age ... ..	...	...	...	...	...	...	...	5	8	23	9	45
VI.—LOCAL DISEASES.												
<i>I.—Diseases of Nervous System.</i>												
Inflammation of Brain or Membranes...	...	...	...	...	...	...	...	...	...	...	...	...
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis ... ..	...	...	1	...	...	...	3	15	4	17	...	44











TABLE IX—*continued.*  
 CARLISLE URBAN SANITARY DISTRICT.  
*Deaths registered from all Causes during the year 1898.*

CAUSE OF DEATH	AGES.											TOTALS.
	AGES.											
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards	
VII.—DEATHS FROM VIOLENCE—continued.												
Poison ... ..	...	...	...	...	1	...	...	...	...	...	...	1
Drowning ... ..	...	...	...	...	...	1	...	...	...	...	...	1
Hanging ... ..	...	...	...	...	...	1	2	...	...	...	...	3
Otherwise ... ..	...	...	...	...	1	...	...	...	...	...	...	1
4—Execution												
Hanging ... ..	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.												
Dropsy ... ..	...	...	...	...	...	...	...	1	...	...	...	1
Debility, Atrophy, Inanition, Marasmus	45	2	...	...	...	...	...	...	...	...	1	48
Mortification ... ..	...	...	...	...	...	...	...	...	1	...	...	...
Tumour ... ..	...	...	...	...	...	1	...	...	...	...	...	...
Abscess ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Hæmorrhage ... ..	1	...	...	...	...	...	...	...	...	...	...	1
Sudden Death (cause not ascertained)	...	...	...	...	...	...	...	...	...	...	...	...
Causes not Specified or Ill-defined ...	...	...	...	...	1	...	...	...	1	...	...	2

## SUMMARY OF TABLE IX.

	No. of Deaths.
<b>I.—Specific Febrile, or Zymotic Diseases—</b>	
1. Miasmatic Diseases ... ..	88
2. Diarrhoeal " ... ..	24
3. Malarial " ... ..	...
4. Zoogenous " ... ..	...
5. Venereal " ... ..	...
6. Septic " ... ..	5
<b>II.—Parasitic Diseases</b> ... ..	...
<b>III.—Dietic Diseases</b> ... ..	3
<b>IV.—Constitutional Diseases</b> ... ..	185
<b>V.—Developmental Diseases</b> ... ..	75
<b>VI.—Local Diseases—</b>	
1. Diseases of Nervous System ... ..	88
2. Diseases of Organs of Special Sense ... ..	2
3. Diseases of Circulatory System ... ..	115
4. Diseases of Respiratory System ... ..	153
5. Diseases of Digestive System ... ..	86
6. Diseases of Lymphatic System ... ..	...
7. Diseases of Gland-like Organs of Uncertain Use ... ..	...
8. Diseases of Urinary System ... ..	19
9. Diseases of Reproductive System—	
(a). Diseases of Organs of Generation ... ..	...
(b). Diseases of Parturition ... ..	3
10. Diseases of Bones and Joints ... ..	5
11. Diseases of Integumentary System ... ..	...
<b>VII.—Violence—</b>	
1. Accident or Negligence ... ..	23
2. Homicide ... ..	...
3. Suicide ... ..	6
4. Execution ... ..	...
<b>VIII.—Ill-defined and not Specified Causes</b> ..	55
Total	935



TABLE X.  
LOCALITIES OF DEATHS FROM PRINCIPAL ZYMOTIC  
DISEASES.

LOCALITY.	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Typhoid Fever	Diarrhoea
<i>St. Mary Sub-District—</i>								
Abbey Street...	...	...	...	...	...	...	...	1
Annetwell Street	...	1	...	...	...	...	...	..
Ashley Street..	...	...	...	2	...	...	...	1
Back Duke Street	...	2	...	...	...	...	...	..
Bread Street ...	...	1	...	...	...	...	...	...
Bridge Lane ...	...	...	...	...	...	...	...	1
Bridge Street...	...	1	...	...	...	...	...	...
Broad Street ...	...	...	...	...	...	...	1	1
Byron Street...	...	1	...	...	...	...	...	2
Caldcotes ...	...	1	...	...	...	...	...	...
Castle Lane ...	...	...	...	...	...	...	...	1
Charlotte Street	...	...	...	...	...	...	...	1
Church Street	...	1	...	...	...	...	...	...
Cumberland Street	...	2	...	...	...	...	...	...
Denton Crescent	...	2	...	...	...	...	...	..
Denton Street	...	1	...	...	...	...	...	...
Devonshire Walk	...	1	...	...	...	...	...	...
Drovers Lane	...	1	...	...	...	...	...	...
Duke Street ...	...	...	...	...	...	...	...	1
East Dale Street	...	1	...	1	...	...	...	...
East Nelson Street	...	1	...	...	...	...	...	...
East Norfolk Street	...	3	...	...	...	...	...	...
Fever Hospital	...	...	5	2	...	...	...	...
Granville Road	...	1	...	...	...	...	...	...
Head Street ...	...	...	...	1	...	...	...	...
Howard Street	...	1	...	...	...	...	...	...
Infirmery ...	...	...	...	...	...	...	1	1
Kendal Street	...	...	...	...	...	...	...	1
Lime Street ...	...	1	...	...	...	...	...	...
Lorne Crescent	...	...	...	...	...	...	...	1
Milbourne Street	...	2	...	...	...	...	...	1
Milton Street ...	...	1	...	...	...	...	...	...
Nelson Street ..	...	...	...	1	...	...	...	...
Norfolk Street	...	...	1	...	...	...	...	...
Rickergate ...	...	2	1	...	...	...	...	...
Rigg Street ...	...	1	...	...	...	...	...	..
Scott Street ...	...	1	...	...	...	...	...	...
Shakespeare Street	...	1	...	...	...	...	...	...
Spencer Street	...	...	...	...	...	...	...	1
West Tower Street	...	1	...	...	...	...	...	...
Wigton Road...	...	...	...	...	...	...	...	2
Willow Holme	...	1	...	...	...	...	...	...
Total ...	...	33	7	7	...	...	2	16

Localities of Deaths from Principal Zymotic Diseases—*continuea*.

LOCALITY.	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Typhoid Fever	Diarrhoea
<i>St. Cuthbert Sub-District—</i>								
Adelphi Terrace ...	...	1	...	...	...	...	...	..
Aglionby Street ...	...	...	..	...	...	...	...	1
Backhouse's Walk ...	...	2	...	...	...	...	...	...
Beaconsfield Street ...	...	...	1	...	...	...	..	...
Blackfriars Street ...	...	1	...	...	...	...	...	...
Botchergate ...	...	2	...	...	...	...	...	...
Brook Street ...	...	1	...	...	...	...	...	..
Clementina Terrace ...	...	...	...	1	...	...	...	...
Court Street ...	...	1	...	...	...	...	...	..
Crown Street ...	...	1	...	...	..	...	...	...
Currock Terrace ...	...	1	...	..	...	...	...	...
English Damside ...	...	3	...	...	...	...	...	...
Gloucester Road ...	...	...	...	...	...	...	...	1
King's Arms Lane ...	...	1	...	...	...	...	...	...
Lindesfarne Street ...	...	1	...	...	...	...	..	..
Linton Street... ..	...	1	...	...	...	...	...	...
London Road... ..	...	1	...	..	...	...	...	...
Lord Street ...	...	1	...	...	...	...	...	...
Oswald Street ...	...	...	...	...	...	...	...	1
Pack Horse Lane ...	...	...	...	...	1	...	..	...
Princess Street ...	...	2	...	...	...	...	...	...
Regent Street ...	...	1	...	...	...	...	...	...
Robert Street ...	...	...	...	...	...	...	..	1
Sebergham Terrace ...	...	1	...	..	...	...	...	..
South Street ...	...	2	...	..	...	...	...	...
South John Street ...	...	1	...	...	...	...	...	...
Sowerby Street ...	...	...	...	...	...	...	...	1
Sybil Street ...	...	1	...	...	...	...	...	...
Tait Street ...	...	...	...	...	...	...	...	1
Union Street ...	...	...	...	..	...	...	...	2
Wood Street ...	...	...	..	1	...	...	...	...
Total for St. Cuthbert's Sub-District ...	...	26	1	2	1	...	...	8
„ St. Mary's „ ...	..	33	7	7	...	...	2	16
Total for whole City ..	...	59	8	9	1	...	2	24







# CITY OF CARLISLE.

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## *SANITARY INSPECTOR'S REPORT.*

*For the Year ending December 31st, 1898.*

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## HEALTH COMMITTEE.

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*Chairman.*

Mr. Alderman Wheatley.

*Deputy Chairman.*

Mr. Councillor Dixon.

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Mr. Alderman Hair.

„ Ferguson.

„ Thompson.

„ Wigham.

Mr. Councillor Collin.

„ Lightfoot.

„ Ritson.

„ Buck.

„ Carruthers.

„ Atkinson.

CITY OF



CARLISLE.

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*SANITARY INSPECTOR'S ANNUAL  
REPORT.*

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Health Department,  
Town Hall, Carlisle,  
January 20th, 1899.

To the Chairman and Members of the Carlisle  
Urban District Council.

Gentlemen,

I have the honour of submitting to you my Sixth Annual Report, which shows the work accomplished by the Sanitary Inspector's Department during the year 1898.

INSPECTION OF THE CITY AND REMOVAL OF NUISANCES.

The lanes, courts, and yards in the City have, as in previous years, been regularly and systematically inspected.

There has been a considerable increase upon last year in the house-to-house inspection, particulars of which are given in the annexed table.



## HOUSE INSPECTION.

Street.	Number of Houses.	Dirty Houses, & Passages.	Dirty and Defective Water Closets.	Choked and Defective Drains and Gullies.	Dilapidated Paving and Flagging.	Defective Roofs and Spouting of Houses.	Nuisances caused by keeping Poultry.	Nuisances caused by Over-crowding.	Insufficient Drainage & Accommodation.	Miscellaneous.
Sunnyside Terrace	10	—	3	8	7	1	—	—	—	3
Nicholson Street	11	—	1	6	3	1	—	—	1	2
English Damside	39	4	—	—	3	—	—	—	—	2
James Street ...	23	1	1	—	1	—	1	—	—	—
Hewson Street ...	15	—	—	1	1	—	—	—	—	—
Margaret Street	23	—	—	—	—	—	—	—	—	1
Lamplugh Street	10	—	1	—	—	—	—	—	—	—
Rome Street ...	8	—	—	—	—	—	—	—	—	—
St. Stephen Street	11	—	—	7	—	—	—	—	—	1
Thomas Street ...	8	—	5	—	4	—	—	—	—	2
Lime Street ...	18	—	10	—	7	—	—	—	—	—
Elm Street ...	8	—	—	—	—	—	—	—	—	—
Denton Crescent	30	—	12	3	—	2	—	—	—	7
Denton Street ...	64	—	2	3	15	9	—	—	—	1
Metcalfe Street	29	—	1	—	—	—	—	—	—	1
Garfield Street	22	—	—	—	5	—	—	—	—	1
Graham Street	45	—	—	1	10	2	—	—	—	7
East Norfolk Street	38	—	—	1	2	5	—	—	—	5
Hope Street ...	24	—	1	—	2	4	—	—	—	7
Dale Street ...	32	—	2	—	3	3	—	—	—	4
Dalston Street ...	22	—	2	—	8	6	—	—	—	4
Cumberland Street	46	—	7	2	10	6	—	—	—	4
Norfolk Street ...	20	—	—	—	1	2	—	—	—	—
Northumberland Street	18	1	—	—	2	—	5	—	—	1
Westmorland Street	51	—	18	1	8	—	8	—	—	24
Norfolk Terrace	8	—	5	1	1	—	6	—	—	2
Morley Street ...	15	—	—	—	2	—	—	—	—	10
Nelson Street ...	17	—	—	1	5	3	—	—	—	4
Totals ...	665	6	71	35	100	44	20	—	1	92

The number and nature of the nuisances discovered in the course of this inspection manifest the need of this special work, as a large number of such nuisances would otherwise remain undiscovered and unabated.

During the year a total of 544 nuisances were discovered (particulars of which are given below), and 410 notices served upon the parties responsible to procure the abatement of the same.

It will be seen that as in previous years the nuisances discovered are in excess of the notices served, this being owing to the fact that in many instances one notice was served calling for the abatement of more than one nuisance on the same premises.

Nature of Nuisance.	Number.
Choked and filthy water-closets, also dirty yards ...	36
Defective water-closets ... ..	78
Choked condition of drains ... ..	36
Defective drains ... ..	24
Dilapidated paving and flagging of yards, &c. ...	107
Accumulations of manure and other refuse ...	11
Nuisances caused by keeping swine or poultry ...	1
Offensive and defective gullies ... ..	57
Offensive container-pan water-closets ... ..	0
Water-closets without proper water supply ...	7
Insufficient water-closet accommodation ... ..	1
Insufficient gully accommodation .. ...	5
Dirty houses and premises ... ..	24
Defective roofs of houses and premises ... ..	12
Defective eaves and downspouting ... ..	77
Defective and unventilated soil pipes ... ..	1
Waste pipes connected direct to drains ... ..	0
Nuisances caused by defective urinals ... ..	4
Nuisances caused by smoke from chimneys ...	1
Houses unfit for human habitation ... ..	0
Insufficient accommodation for number of persons in houses ... ..	4
Houses infected with vermin ... ..	0
Defective walls, ceilings, &c. ... ..	13
Insufficient ventilation of rooms ... ..	1
Nuisances caused by damp walls ... ..	2
Miscellaneous nuisances ... ..	42
Total ... ..	544



I have pleasure in again stating that in no case was it necessary to institute legal proceedings to procure the abatement of a nuisance.

#### INSANITARY PROPERTY.

No insanitary property has been reported upon during the past year.

The block of tenement property in Jane Street, Willow Holme, upon which I reported last year, and for which notices were served to make the same habitable, has been gutted, remodelled, and made into self-contained cottages; thus a very welcome improvement has been effected in that locality.

A block of property at the corner of Finkle Street and Castle Lane, consisting of a public house and several tenement dwellings, all of which are in a somewhat dilapidated condition, has been purchased by the Old Brewery Company, their intention being to demolish the existing buildings, and build upon a portion of the site. The other portion will be added to Castle Lane.

When this contemplated scheme is completed a great improvement will have been effected at this prominent corner.

The piece of land situate between Bright Street and Wood Street, which from its conformation and other causes has often been a nuisance, and which upon several occasions has occupied your attention, has now become the property of the Corporation. The dilapidated cottage and building which occupied part of this site have been demolished, and we may hope that ere long this piece of land may not only be put into a sanitary condition, but be so treated as to become an ornament to the neighbourhood.

## PUBLIC ABATTOIR AND RAILWAY SLAUGHTER HOUSES.

The Public Abattoir has, as in previous years, received frequent inspections, and has always been found in a sanitary condition. The following tables indicate the increases in the number of animals slaughtered therein.

1898.

*Public Abattoir :—*

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Totals.
3,680	14,041	1,959	572	4,590	24,842

1897.

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
3,457	12,586	2,068	521	4,922	23,554

This institution, on account of its many conveniences appears to be becoming more popular in spite of the wholesome supervision and inspection which prevail.

The Slaughter Houses at the London and North Western and the North Eastern Railway Companies' premises have also been kept under regular supervision, and I am glad to report that the Railway Authorities have always been ready to adopt any suggestions made by me for the keeping of these places in a sanitary condition.

The London and North Western Railway Company have, at their Slaughter House, provided galvanized iron receptacles, fitted with covers, for the storage of blood and manure while on their premises. A small crane has also been erected by which the barrels are lifted into trucks for transmission without disturbing their contents. This is a great improvement upon the old method of removal.



The following table shows the number of animals slaughtered during the past year at each Railway Slaughter House respectively.

#### RAILWAY SLAUGHTER HOUSES.

*London and North Western Railway Company's—*

1898.

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
—	49,167	—	—	—	49,167

1897.

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
—	35,760	—	—	—	35,760

*North Eastern Railway Company's—*

1898.

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
—	21,814	—	—	—	21,814

1897.

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
—	27,753	—	—	—	27,753

The Midland Railway Slaughter House has been frequently inspected, and has always been found to be kept in a cleanly condition. It came to my knowledge during the year that sheep were occasionally being slaughtered there, and subsequently sold in the City. This, however,

was unknown to the Railway Authorities, and upon representations being made to them the practice was discontinued.

I have on several occasions during the past year examined carcasses of animals slaughtered in the country upon unlicensed premises when the condition of the animals through injury or otherwise rendered hasty slaughter imperative.

On November 3rd, I examined the carcasses of two sheep and a bullock which were deposited for the purpose of preparation for sale in a Shambles in the Public Market occupied by Mr. ————. These I found to be unfit for human consumption. I therefore seized them and had them condemned by order of a Justice of the Peace.

I subsequently discovered that two of the carcasses, viz.:—those of the bullock and one of the sheep had been slaughtered upon farm premises in the country, and purchased by Mr. ———— for a small sum.

Acting upon the instructions of your Committee proceedings were instituted against the person on whose premises the said carcasses were found, and a fine of £5 and costs was inflicted by the Justices presiding.

The food exposed for sale in the Public Markets has been regularly inspected, and on one occasion I seized 15 rabbits which were unfit for human consumption. The livers of these rabbits were affected with a parasitic disease and the flesh was in a very flabby condition, being quite unfit for food irrespective of the disease in the livers. This condition was in part due to an accident, and the owner was unaware of the diseased condition of the livers, so that under the circumstances prosecution was not thought of.

During my inspections I have frequently come across rabbits, the livers of which were affected with this particular disease, and have on every occasion pointed out



the dangers attending the consumption of such livers, and ordered their removal, and I am glad to say it has now become quite usual to so remove them.

The following table will show the amount of food which has been destroyed as unfit for consumption consequent upon inspections at the Market, Slaughter House, &c. :—

22,068 lbs of	...	...	...	Beef.
663 „	...	...	...	Mutton.
521 „	...	...	...	Pork.
507 „	...	...	...	Veal.
15 ...	...	...	...	Rabbits.
40 Boxes of	...	...	...	Tomatoes.

#### ASHPITS AND THE REMOVAL OF ASHES AND HOUSE REFUSE.

The privy middens which still exist on the outskirts of the city receive frequent attention. I regret that it has been impossible to procure the abolition of any during the past year, the circumstances under which they were allowed to remain being at present insurmountable.

The collection of the household refuse is still carried out upon the system adopted some time ago. New streets are being yearly added, but no material addition to the costs of removal has yet been incurred, and considering that this system has been in force for four years and nine months, my opinion, expressed at its inauguration, that it would prove both an economic and sanitary method has been fully justified.

Had the old system remained in vogue to the present time it is obvious that the cost of collection would be much greater than at present.

The contract for the provision of horses and carters for the removal of the refuse expired on September 29th last, and was again let to the same contractor for £580 per annum an increase of £82. Before the letting of this contract I made a report to your Committee as to the

unsatisfactory manner in which the work was executed, and also regarding the condition of the horses employed upon the contract, and the incivility and carelessness of the carters. I further estimated the cost at which the work could be done by the Corporation themselves. After the submission of this report it was decided that the Contract be let for one year only, and that my report and estimate be meanwhile considered with the view of purchasing our own horses for this work.

I regret to say that the kind of horses and men employed by the contractor since the advance in the contract price has not improved in spite of his promises to that effect, and feel satisfied that the only solution of the difficulty will be the purchase of horses for this work by the Corporation.

The appended Table shows the number of loads removed from the several districts during each month of the year :—

Month.	Number of Loads removed from the			Total.
	East District.	West District.	Morning District.	
January ... ..	300	163	389	852
February ... ..	230	184	340	754
March ... ..	289	209	373	871
April ... ..	283	160	339	782
May ... ..	283	184	346	813
June ... ..	276	183	331	790
July ... ..	256	181	336	773
August ... ..	253	340	178	771
September ... ..	233	189	328	750
October ... ..	302	207	399	908
November ... ..	290	211	341	842
December ... ..	245	191	312	748
Totals ... ..	3,240	2,402	4,012	9,654



## DRAIN TESTING.

During the year several complaints have been received respecting the conditions of the drains and sanitary fittings of houses and premises.

Each complaint was investigated, and in cases where defects were found steps were taken to procure the amendment of such defects.

## DAIRIES, COWSHEDS, AND MILKSHOPS.

There are in Carlisle at present 43 registered dairy keepers, cow-keepers, and purveyors of milk; three have been registered during the past year, and 15 have given up business in the city.

The premises of those engaged in the milk trade have been frequently inspected, and as a rule were found in a fair condition. Since the decision of this authority to insist upon a minimum of 600 cubic feet of air space for each dairy cow was communicated to the persons interested a great improvement has been effected in several of the byres.

Orders for the necessary sanitary improvements have also been given, and in several instances the works have already been executed.

I do not anticipate much difficulty in obtaining the carrying out of the necessary works in the remaining cases, but a variety of causes have operated against their immediate execution.

The question of removing the manure is still one of much difficulty, the Cow-keepers being unable to procure its removal by farmers and others except at certain seasons of the year. This difficulty also applies to keepers of horses; indeed, so hardly does this matter press, that on one or two occasions I have been approached with a view of permission being obtained for the destruction of manure at the Refuse Destructor.

I was compelled to deprecate the adoption of this course, its impracticability being apparent, as at present the Destructor is taxed to its utmost capacity in dealing with our Public Slaughter House refuse.

The matter is still receiving my attention, and I hope to be able to find a solution of the difficulty in the near future.

#### COMMON LODGING HOUSES.

There are upon the Register eight Common Lodging Houses in this City capable of accommodating 240 lodgers. These have been under constant supervision to ensure satisfactory conditions of living.

I am glad to report that a new Model Lodging House is now in course of erection, and, from the greater facilities for cleanliness and the better accommodation to be provided, a welcome improvement may be expected in the circumstances surrounding the home life of this class of lodger.

#### OFFENSIVE TRADES.

Complaint was made during the past year of the management of one place where an "offensive trade" was carried on.

Steps were immediately taken to cause these premises to be put into such a condition as would prevent the continuance of the nuisance complained of and no cause of complaint now exists.

The other offensive trade premises have been inspected and their condition found to be generally satisfactory.

#### VANS USED AS DWELLINGS.

The vans used as dwellings, which during the past year entered the City for the purpose of attending fairs, &c., were inspected, and in each instance enquiries were made to ascertain whether any infectious disease existed or had recently existed among the occupants. Enquiries were also



pursued to discover whether the vans or occupants had recently been in contact with infection and were therefore a source of danger.

In no case did such danger actually exist, though in one suspicious case enquiry by telegraph was made from the last stopping place of the van. Satisfactory assurances were, however, received from the Sanitary Inspector there.

The vans, I am glad to report, are, as a rule, kept in a very cleanly condition.

#### URINALS AND GULLIES.

The urinals in this City have been daily cleaned by a man specially appointed for that duty, and have been kept in a satisfactory state.

The gullies which, as mentioned in my last Annual Report, were in need of repair or requiring new tops or baskets, have received the necessary attention, but the lack of uniformity of pattern in the gullies of presumably similar sizes renders the work of fitting them with parts in cases of breakage much more difficult and expensive than it otherwise would be. This is a matter which will, I am afraid, need to be taken in hand to ensure such uniformity, as without uniformity of parts the efficiency of the gullies is largely impaired.

The system adopted by the Corporation in providing the gully gang with a horse belonging to themselves is, I am glad to say, eminently satisfactory.

#### FACTORY AND WORKSHOPS ACTS.

The whole of the premises under the regulations of the above Acts of which I am cognizant have been visited, and in only one or two instances was it found necessary to administer warning for contraventions of the law. As these were not of a serious character, and no further contraventions occurred after the warnings had been given, legal steps were not of course resorted to.

## FOOD AND DRUGS ACTS.

The following samples of Foods and Drugs have during the past year been taken and forwarded to the Public Analyst for analysis, and the results of such analysis are stated in the table :—

Article.	Number of Samples Analysed.	Result of Analysis.		Remarks.
		Genuine.	Adulterated	
Coffee ...	6	6	...	
Mustard ...	3	3	...	
Pepper ..	6	6	...	
Flour ...	3	3	...	
Oatmeal ...	2	2	...	
Butter ...	6	6	...	
Lard ...	6	6	...	
Ginger ...	4	4	...	
Gin ...	6	4	*2	One sample 2½ per cent. below minimum. One sample 1 per cent. below minimum.
Vinegar ...	3	0	*3	One sample fortified with distilled vinegar. One sample contained 50 per cent. of dilute acetic acid. One sample almost wholly dilute acetic acid.

\*The samples which were certified as being other than genuine had purposely been taken informally. The purchase not being in accordance with the requirements of the Food and Drugs Acts no proceedings could be taken against the offenders.

## INFECTIOUS DISEASES.

The following cases of Infectious Diseases have during the year been reported upon to the Medical Officer :—

Nature of Disease.	No.
Small Pox ... ..	5
Diphtheria ... ..	34
Membranous Croup ... ..	9
Scarlet Fever or Scarlatina ... ..	120
Typhoid or Enteric Fever ... ..	22
Continued Fever ... ..	1
Puerperal Fever ... ..	3
Total ... ..	194



Instructions were in all cases given as to the steps necessary to prevent the spread of infection.

With reference to the outbreak of Small Pox which occurred in the spring of last year, the original case was clearly proved to have been imported from West Cumberland, the patient coming *via* Cockermouth and Wigton to Carlisle.

He, feeling ill, presented himself for treatment at the Carlisle Dispensary on April 28th, and the Medical Attendant being suspicious sent for me, when upon consultation it was decided to isolate the patient. I immediately conveyed him to the Fever Hospital where, upon subsequent examination, the suspicion was confirmed.

The patient had for a few days been staying at a common lodging house in Drover's Lane. This house was immediately visited and every precaution possible taken to prevent the spread of the disease. The bedding used by the patient was destroyed and the rooms disinfected, articles which had been sold or pawned by the patient were recovered and destroyed, yet in spite of these precautions another case occurred in the same lodging house on May 13th. The patient in this instance was a cattle drover who had been in contact with the first case and who had for a few days stayed at a house in Barley Stack Lane, returned to the lodging house, and finally presented himself at the Fusehill Workhouse, not being well. He had thus produced two new centres of infection. Steps were at once taken to prevent the spread of infection from these new sources, and were I am glad to say effectual.

A third case occurred, the patient being an Auction Mart Clerk who resided in Denton Street, and who had been in contact with the second case. Prompt measures were taken and fortunately no further outbreaks occurred at this house.

The fourth case was at the lodging house above referred to, and in this instance I noticed the symptoms and called in the Medical Officer who pronounced it a case of Small Pox and ordered the removal of the patient.

The fifth and last case shows the possibility of persons coming in contact with, and engaged in the removal of, infectious cases carrying such infection to others, and emphasises the necessity of wearing special clothing when engaged in this particular work. It was that of my own daughter, aged 13. Fortunately in this instance the patient, in view of the possibility of infection, had been vaccinated subsequent to the suspected exposure to infection, and as a consequence the attack was much modified.

During the period of the outbreak, and for so long as danger of further infection from the several sources existed, stringent supervision was exercised over each centre, and especially was this the case regarding the common lodging house and Barley Stack Lane premises. Daily and frequent night visits were paid both by the Medical Officer and myself, and it is a matter for congratulation that in spite of the fact that the surroundings and conditions all favoured the propagation of the disease, the number of cases was so limited.

I am, Gentlemen,

Your obedient Servant,

C. W. HILL,

*Chief Sanitary Inspector.*



The fourth and last of the following facts also referred to in the statement is that the respondent is a man and called in the Medical Officer who accompanied him to the hospital for an examination. The result of the examination was that the respondent was suffering from a severe case of insanity.

The fifth and last of the facts stated in the statement is that the respondent is a man and called in the Medical Officer who accompanied him to the hospital for an examination. The result of the examination was that the respondent was suffering from a severe case of insanity.

During the past few years the respondent has been suffering from a severe case of insanity. He has been confined in the hospital for a long period of time. The respondent is a man and called in the Medical Officer who accompanied him to the hospital for an examination. The result of the examination was that the respondent was suffering from a severe case of insanity.

The respondent is a man and called in the Medical Officer who accompanied him to the hospital for an examination. The result of the examination was that the respondent was suffering from a severe case of insanity.