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CITY OF CARLISLE.



REPORT

ON THE

Sanitary Condition of the City of Carlisle,

FOR THE YEAR 1913,

BY

JOSEPH BEARD,

D.P.H. (Cantab.), F.R.S. (Edin.)

Fellow of the Royal College of Surgeons, Edinburgh ;
Member of the Royal College of Surgeons, England ;
Licentiate of the Royal College of Physicians, London.

Medical Officer of Health,
School Medical Officer and
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CARLISLE:

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OF THE
CARLISLE CITY COUNCIL, 1913—1914.

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MR. ALDERMAN DALTON, Deputy Chairman.

MR. COUNCILLOR EDMONDSON

MR. COUNCILLOR HUTCHINSON

" " FITZSIMMONS

" " RIDLEY

" " FOSTER

" " THOMSON

" " HODGSON

" " WRIGHT

and

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PUBLIC HEALTH DEPARTMENT.

Medical Officer of Health.

JOSEPH BEARD, F.R.C.S. (Edin.), M.R.C.S. (Eng.), L.R.C.P. (Lond.),
D.P.H. (Cantab.), F.R.S. (Edin.)

*Chief Sanitary Inspector, and Inspector under Sale of Food
and Drugs and Shops Acts.*

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Assistant Inspectors.

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ROBERT HELLON, Ph.D., F.I.C.

Bacteriologist.

PROF. S. DELEPINE, M.B., C.M., M.Sc., &c.

*Certificated Inspectors.

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To the Chairman and Members of the
Health Committee.

Mr. Chairman and Gentlemen,

I have the honour to submit, in accordance with the Regulations and Memoranda of the Local Government Board, my Annual Report upon the Health and Sanitary Condition of the City of Carlisle during 1913.

The Report deals with the Birth and Mortality Statistics, and other work carried out during the year, including the measures adopted against the prevention of epidemic and other diseases.

I have to thank you for your support during the year.

I am, Gentlemen,

Your obedient Servant,

JOSEPH BEARD.

Health Department,

19 Fisher Street, Carlisle,

25th April, 1914.

Statistical Summary for the year 1913.

Area in Acres	...	...	...	...	4,488
Population (Estimated 1913)	...	...	...	...	52,497
Population per acre (Density)	...	...	...	...	11·6
Number of Families or separate Occupiers	...	...	...	...	10,730
Rateable Value	...	...	...	...	£266,605
Number of Inhabitants per House	...	...	...	...	4·8
Birth-rate per 1,000 living	...	...	...	...	22·1
Death-rate per 1,000 living	...	...	...	...	14·9
Infant Mortality Rate	...	...	...	...	127·1
Percentage of Uncertified Deaths	...	...	...	...	2·7
Total Deaths from Diarrhoea	...	...	...	...	25
Phthisis, Death-rate per 1,000 living	...	...	...	...	1·3
Infectious Cases Notified (including Tuberculosis 447 cases)	...	...	...	...	718
Infectious Cases Isolated at the Fever Hospital	...	...	...	...	177
Total Rainfall in inches	...	...	...	...	27·17

STATISTICS

RELATING TO

BIRTHS, DEATHS, AND CAUSES OF
DEATHS, &c.

BIRTHS.

The number of births registered during the year was 1,164, of which 569 were males and 595 females; this number shows an increase of 15 births upon the figure for 1912.

Calculating upon the estimated population of 52,497, the birth-rate was 22.1 per 1,000, which shows an increase of 1.9 per 1,000 upon the figure for the year 1912 for the extended City.

Year.	Number of Births Registered.			Total.
	Males.	Females.	Per 1,000 of the population.	
1912	604	545	20.2	1149
1913	569	595	22.1	1164

The birth-rate for England and Wales, calculated as a whole during 1913, was 23.9 per 1,000, and for the 96 great towns, to which classification Carlisle now belongs, 25.1 per 1,000. The 145 smaller towns show an average birth-rate of 23.9 per 1,000, whilst the rate for England and Wales, less the 241 great and small towns, was 22.2 per 1,000.

ILLEGITIMATE BIRTHS.

The number of illegitimate births registered during 1913 was 57, equal to 43.9 per 1,000 of the total births.

The distribution of these births to the Registration Sub-Districts was as follows:—

St. Cuthbert's—31 illegitimate births=56.5 per 1,000 of the total births in that district.

St. Mary's—22 illegitimate births=39.9 per 1,000 of the total births in that district.

Stanwix—4 illegitimate births=68.9 per 1,000 of the total births in that district.

Dalston—Nil.

Wetheral—Nil.

The total number of illegitimate births registered shows a decrease of 8 upon the figure for 1912, when 65 illegitimate births were registered, equal to 56.9 per 1,000 of the total births registered, and a distribution as follows:—

St. Cuthbert's—33 illegitimate births=50.7 per 1,000 of the total births in that district.

St. Mary's—32 illegitimate births=64.4 per 1,000 of the total births in that district.

Stanwix—Nil.

Dalston—Nil.

Wetheral—Nil.

Upon investigating the figures for 1913 I find that in 8 instances, which is equal to 14.03 per cent. of the total illegitimate births, the mother was not a resident of the City.

Table showing details of the Births in the several Sub-Registration Districts, 1913.

QUARTER ENDING.	ST. MARY.		ST. CUTHBERT.		STANWIX.		DALSTON.		WETHERAL.		TOTALS FOR CITY.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
March 31	67	57	66	71	4	12	...	...	1	...	278
June 30	68	71	60	91	9	9	...	1	1	...	310
September 30	88	73	74	71	11	7	...	2	...	...	326
December 31...	64	63	52	63	2	4	2	...	...	...	250
Totals... ..	287	234	252	296	26	32	2	3	2	...	1164

The following table shows the number of births registered, and the annual birth-rate per 1,000 living at all ages, in Carlisle since 1875, the earliest record available :—

<i>Year.</i>	<i>No. of Births Birth- Registered. rate.</i>		<i>Year.</i>	<i>No. of Births Birth- Registered. rate.</i>	
1875 ...	1,136	35.5	1895 ...	1,311	31.4
1876 ...	1,236	38.6	1896 ...	1,246	29.6
1877 ...	1,265	38.5	1897 ...	1,324	30.8
1878 ...	1,347	38.7	1898 ...	1,311	30.0
1879 ...	1,319	37.7	1899 ...	1,300	29.4
1880 ...	1,288	37.0	1900 ...	1,354	30.1
*1881 ...	1,291	36.0	*1901 ...	1,246	27.3
1882 ...	1,272	35.3	1902 ...	1,245	27.0
1883 ...	1,229	32.3	1903 ...	1,322	28.4
1884 ...	1,303	35.0	1904 ...	1,278	26.9
1885 ...	1,285	34.0	1905 ...	1,168	24.3
1886 ...	1,262	33.0	1906 ...	1,227	25.3
1887 ...	1,214	31.3	1907 ...	1,178	23.8
1888 ...	1,307	33.5	1908 ...	1,223	24.4
1889 ...	1,224	30.6	1909 ...	1,149	22.6
1890 ...	1,215	30.0	1910 ...	1,145	22.2
*1891 ...	1,207	30.8	*1911 ...	1,109	23.8
1892 ...	1,213	30.5	†1912 ...	1,142	24.6
1893 ...	1,389	34.5	‡1912 ...	1,149	20.2
1894 ...	1,315	32.0	1913 ...	1,164	22.1

*Census years. †Old City. ‡Extended City.

DEATHS.

The total number of deaths registered during 1913 was 821, as compared with 823 in 1912, making a gross death-rate of 15.6 per 1,000 for the year, calculated upon the estimated population living at all ages.

24 deaths occurred of persons belonging to the City in institutions and other places outside, while the deaths of 76 persons not belonging to the City occurred in public institutions and other places within the City.

Excluding the 76 deaths of persons belonging to other districts, and substituting the 24 deaths of Carlisle residents which occurred in the districts beyond the City boundaries, a nett figure of 769 remains. This gives a net death-rate for 1913 of 14.6 per 1,000 of the estimated population living at all ages.

The corrected death-rate for the City, which is obtained by multiplying the nett death-rate by the factor supplied by the Registrar-General, viz.:—1.0200 is 14.9 per 1,000 of the estimated population living at all ages.

The corrected death-rate for the whole of England and Wales for 1913 was 13.4 per 1,000 living at all ages, and for the 96 great towns, amongst which Carlisle figures, 14.7 per 1,000, the death-rate for the 145 smaller towns was 13.0 per 1,000, whilst the death-rate for England and Wales (less the 241 great and small towns) was 12.1 per 1,000 living.

Table showing details of the Deaths in the several Sub-Registration Districts, 1913.

QUARTER ENDING.	ST. MARY.				ST. CUTHBERT.				STANWIX.				DALSTON.				WETHERAL.				TOTALS FOR CITY.
	Males.		Females.		Males.		Females.		Males.		Females.		Males.		Females.		Males.		Females.		
	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Under 5 years	Over 5 years	
March 31	19	36	16	42	17	51	12	33	...	5	2	...	2	...	1	...	...	...	...	...	236
June 30	17	35	13	38	11	37	17	31	1	...	5	1	...	...	1	...	...	...	...	...	207
Sept. 30	14	40	11	28	9	23	12	24	...	4	1	2	...	...	...	...	...	...	...	...	168
Dec. 31	14	49	14	47	7	32	7	30	2	3	...	4	1	...	...	...	...	...	...	...	210
TOTALS	64	160	54	155	44	143	48	118	3	12	2	13	1	2	2	...	...	...	...	...	821

Table showing the number of Deaths at all Ages and at several Age periods.

No. of Deaths at all ages and at several age periods ...	All Ages.	Under 1 Year.	1 and 5 under	5 and 15 under	15 and 25 under	25 and 65 under	65, and up- wards.	St. Mary's.	St. Cuthbert's.	Stanwix.	Dalston.	Wetheral.
	821	149	66	30	43	296	237	433	353	30	5	...

Number of Deaths of persons not belonging
to the district occurring in public institutions
and other places within the City :—

Cumberland Infirmary	...	...	...	45
Fusehill Hospital	...	...	...	6
St. Joseph's Home	...	...	...	6
Private Nursing Homes	...	...	...	4
Chadwick School	...	...	...	3
Citadel Station	...	...	...	2
Fever Hospital	...	...	...	2
Strathclyde House	...	...	...	2
Abbey Street	...	...	...	1
Eldred Street	...	...	...	1
Lowther Street	...	...	...	1
Thomson Street	...	...	...	1
Trinity Buildings	...	...	...	1
Warwick Road	...	...	...	1
				—
				76
				—

Number of Deaths of persons belonging to
the district occurring in public institutions and
other places outside the City :—

Garlands Asylum	...	...	...	15
Penrith	...	...	...	2
Huddersfield	...	...	...	1
Keswick	...	...	...	1
Newcastle-on-Tyne	...	...	...	1
Nottingham	...	...	...	1
Liverpool	...	...	...	1
Skinburness	...	...	...	1
Stainton	...	...	...	1
				—
				24
				—

Table showing Birth and Death-Rates as compared with England and Wales for the year.

	Annual Rate per 1,000 living.			Deaths under 1 Year to 1,000 Births.
	Births.	Deaths.		
		Crude.	*Corrected	
England and Wales	23.9	13.7	13.4	109
96 Great Towns (including London)...	25.1	14.3	14.7	116
145 Smaller Towns	23.9	12.8	13.0	112
England and Wales, less the 241 Towns ...	22.2	13.1	12.1	96
CARLISLE	22.1	15.6 †	14.9 ‡	127.1

† Includes deaths of Non-Residents in the City.

‡ The factor for correction as supplied by the Registrar-General is 1.0200.

Vital Statistics for the whole City during 1913 and five previous years.

YEAR.	Population estimated to Middle of each Year	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year of age		AT ALL AGES.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1908	50,047	1223	1223	24.4	713	14.2	55	13	158	129	671	13.4
1909	50,675	1149	1149	22.6	735	14.5	53	27	142	123	709	13.9
1910	51,433	1145	1145	22.2	683	13.2	63	28	125	110	648	12.6
1911	46,420	1109	1106	23.8	776	16.7	60	17	161	145	733	15.7
1912	52,225	1149	1149	20.2	823	15.7	63	23	120	104.4	783	14.0
1913	52,497	1164	1164	22.1	821	15.6	76	24	148	127.1	769	14.6

	Census. 1911.	1913.
Area of District in acres (exclusive of area covered by water)	2,025	4,488
Total population at all ages... ..	46,420	52,497*
Number of families or separate occupiers	10,181	10,370
Average number of persons per house... ..	4.5	4.8

* Estimated.

The following public and other Institutions are within the City :—

The Union Workhouse and its Infirmary.
The Cumberland Infirmary.
The Crozier Lodge Isolation Hospital.
Strathclyde House (Home for Incurables).
St. Joseph's Home.
Chadwick Memorial (Industrial School).

Causes of, and Ages at Death during the Year.

CAUSES OF DEATH.		NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									TOTAL DEATHS WHETHER OF "RESIDENTS" OR "NON-RESI- DENTS" IN INSTITUTIONS IN THE DISTRICT.
		All Ages.	Under 1 year.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and up- wards	
1		2	3	4	5	6	7	8	9	10	11
All Causes	{ Certified	748	145	30	30	23	44	87	176	213	198
	{ Uncertified	21	3	1	2	...	...	3	5	7	2
Enteric Fever		...	...	...	...	...	...	...	...	...	...
Smallpox		...	...	...	...	...	...	...	...	...	...
Measles		3	...	1	2	...	...	...	...	...	...
Scarlet Fever		...	...	...	...	...	...	...	...	...	...
Whooping Cough		7	4	1	2	...	...	...	...	...	1
Diphtheria and Croup		9	3	1	3	2	...	...	...	...	...
Influenza		15	1	...	...	...	...	4	4	6	6
Erysipelas		1	...	...	...	...	...	...	...	1	2
Phthisis (Pulmonary Tuberculosis)		71	1	2	1	9	22	23	11	2	10
Tuberculous Meningitis		14	6	4	2	2	...	...	...	...	1
Other Tuberculous Diseases		11	6	3	...	...	...	2	...	...	4
Cancer, Malignant Disease		63	...	1	...	1	...	6	36	19	17
Rheumatic Fever		2	...	...	...	...	...	...	2	...	...
Meningitis		8	3	...	2	1	...	1	1	...	2
Organic Heart Disease		110	...	1	1	...	2	11	41	54	31
Bronchitis		40	12	...	...	...	1	3	8	16	...
Pneumonia (all forms)		51	9	6	7	1	2	7	10	9	8
Other Diseases of Respiratory Organs		6	1	...	...	1	1	1	1	1	3
Diarrhoea and Enteritis		30	22	3	4	...	...	1	...	...	1
Appendicitis and Typhlitis		7	...	...	...	...	4	1	2	...	6
Cirrhosis of Liver		4	...	...	...	...	...	...	4	...	2
Alcoholism		1	...	...	...	...	...	1	...	...	...
Nephritis and Bright's Disease		20	...	...	1	...	...	6	9	4	2
Puerperal Fever		1	...	...	...	...	...	1	...	...	...
Other Accidents and Diseases of Preg- nancy and Parturition		5	...	...	...	...	3	2	...	...	...
Congenital Debility & Malformation, including Premature Birth		55	52	...	...	...	...	...	2	1	1
Violent Deaths, excluding Suicide		30	2	...	6	5	1	9	7	...	19
Suicide		...	...	...	...	...	...	...	...	...	...
Other Defined Diseases		204	25	8	1	1	8	11	43	107	84
Diseases ill-defined or unknown		1	1	...	...	...	...	...	...	...	...
Totals		769	148	31	32	23	44	90	181	220	200
Sub- Entries included in above figures.	Cerebro-spinal Meningitis	...	...	...	...	...	...	...	...	...	...
	Polio-myelitis	1	1	...	...	...	...	...	...	...	...
	Lobar Pneumonia	5	1	...	...	...	...	2	1	1	2

Table showing the gross Death-rate from
1874 to 1913 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
1899	818	19.2	42	0.9
1900	807	18.8	60	1.4
*1901	810	17.8	64	1.4
1902	856	18.5	82	1.7
1903	813	17.4	58	1.2
1904	933	19.7	63	1.3
1905	783	16.3	66	1.3
1906	811	16.7	34	0.7
1907	848	17.1	77	1.5
1908	713	14.2	42	0.8
1909	735	14.5	30	0.5
1910	683	13.2	21	0.4
*1911	776	16.7	96	2.06
†1912	813	17.5	81	1.7
1913	821	15.6	44	0.8

*Census Years.

†Old City.

Table showing the diseases causing the largest number of Deaths during 1913, and a comparison with those of 1912.

	1912.	1913.	Increase or Decrease
Pulmonary Tuberculosis & Phthisis ...	65	71	+ 6
Tuberculous Peritonitis and Tabes Mesenterica }	3	4	+ 1
Tuberculous Meningitis and Hydro- cephalus }	5	15	+ 10
Cancer and Malignant Disease ...	61	63	+ 2
Prematurity and Injury at Birth ...	19	35	+ 16
Old Age	37	50	+ 13
Syncope, Heart Disease (not specified)...	65	65	...
Valvular Disease of Heart	33	34	+ 1
Cerebral Hæmorrhage, Embolism, Thrombosis and Apoplexy }	33	51	+ 18
Pneumonia	75	51	— 24
Bronchitis	38	40	+ 2
Kidney and Bladder Disease...	24	24	...
Debility, Atrophy, Inanition, & Marasmus	23	18	-- 5
Measles	38	3	— 35
Diarrhœa	14	25	+ 11

+ Shows an increase.

-- Shows a decrease.

Number and Nature of all Deaths Registered during the year—continued.

CAUSE OF DEATH.	AGES											TOTALS.
	0 to 1	1 to 2	2 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
II.—LOCAL DISEASES—continued.												
10.— <i>Accidents of Childbirth.</i>												
Abortion, Miscarriage
Puerperal Mania
Puerperal Convulsions	2	...	...	...	...	...	...	...	...
Placenta Prævia, Flooding
Other Accidents of Pregnancy and Childbirth	1	1	1	...	...	...	...	...	...
11.— <i>Diseases of Bones and Joints.</i>												
Caries, Necrosis
Arthritis, Periostitis	1	...	...	...	...	...	...	...	...
Other Diseases of Locomotor System
12.— <i>Skin Diseases.</i>												
Ulcer, Bed sore
Eczema
Pemphigus
Skin Diseases, other
III.—DEATHS FROM VIOLENCE.												
1.— <i>Accident or Negligence.</i>												
Fractures and Contusions	1	...	...	...	...
Gunshot Wounds
Cut, Stab
Burn, Scald	4	4	...	...	...	...	...	...	...	...

INFANT MORTALITY.

This term is used as an interpretation of the mortality amongst infants under one year of age, and the mortality rate is calculated upon the number of deaths of such infants per 1,000 born during the same period.

The number of deaths of infants under one year during 1913 was 148, giving an Infant Mortality rate of 127.1 per 1,000.

During the year 1913 there was an increase of 27 deaths over the figure for 1912. The death-rate for 1912, which was the lowest on record, was 102.4 per 1,000 births.

The Infant Mortality rate for the whole of England and Wales during 1913 was 109 per 1,000 born; for the 96 great towns (of which Carlisle is one) 116 per 1,000; for the 145 smaller towns 112 per 1,000, and for England and Wales less the 241 great and small towns 96 per 1,000.

The death-rate of legitimate infants under one year of age was 119 per 1,000 legitimate births registered

The death-rate of illegitimate infants under one year of age was 280 per 1,000 illegitimate births registered.

Notification of Births Act, 1907.

Summary of the Work carried out in connection therewith.

Number of live births notified by official letter card...	...	1081
Number of still births notified by official letter card ...	...	58
Number of births notified otherwise than by official letter card (all of which were live births) ...	...	9
Number of births in which the first notification was the Sub-Registrar's return ...	...	31
Total ...	...	1179
Number of Infant deaths under one year ...	...	148
Number of deaths from Diarrhoea under one year ...	...	22
Total number of primary visits made by the Health Visitor to houses ...	...	1342
Total number of re-visits ...	...	1227
Number of visits in respect of other conditions, principally Measles and Whooping Cough ...	...	96

PARTICULARS OF ENQUIRIES WITH RESPECT TO FEEDING.

Number of children fed entirely on the breast ...	...	931
" " " " by means of hygienic (boat-shaped) bottle ...	94	120
" " " " by means of long tubed bottle ...	26	
" " " " partly breast and partly bottle ...	...	6
" " " " by other means—Spoon (all premature) ...	...	11
" " " " dying soon after birth and not fed ...	...	27
No information obtained ...	...	26

PARTICULARS SHOWING THE RELATION OF DEATHS
TO FEEDING.

Number of deaths of breast-fed infants	42 or 4.5% of breast-fed infants
„ „ bottle „ „	59 or 49.1% of bottle fed infants
„ „ infants fed by spoon	10
Number of deaths of infants partly fed on breast and partly bottle	5
No information	5
Number dying soon after birth and not fed	27
Total	148

CONDITION AS TO CLEANLINESS OF HOUSES
VISITED.

Number of houses found to be clean	1108
„ „ „ moderately clean	37
„ „ „ dirty	4
Number of instances in which information was not obtainable	4
Houses not visited	26
Total	1179

INFANT MORTALITY.

St. Mary's Sub-District.

Nett Deaths from stated causes at various ages under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 weeks.	4 Weeks & under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes.	Certified ...	19	4	1	2	26	14	9	13	8	70
	Uncertified ...	2	..	..	..	2	1	..	..	..	3
{	Small-pox ...	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ..	..	..	..	..	..	..	..	..	..	..
{	Measles ...	..	..	..	..	..	..	..	..	..	..
	Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..
{	Whooping Cough ..	..	..	..	..	..	1	..	1	..	2
	Diphtheria and Croup ..	..	..	..	..	..	..	..	..	3	3
{	Erysipelas ...	..	..	..	..	..	..	..	..	..	..
	Tuberculous Meningitis ...	..	..	..	..	..	..	1	2	1	4
{	Abdominal Tuberculosis ..	..	..	..	..	..	..	..	..	..	..
	Other Tuberculous Diseases ..	..	..	..	..	..	2	1	1	..	4
{	Meningitis (<i>not Tuberculous</i>) ..	..	..	..	..	..	..	..	..	1	1
	Convulsions ...	..	1	..	..	1	3	1	..	..	5
{	Laryngitis ...	..	..	..	..	..	..	..	..	..	..
	Bronchitis ...	..	..	1	..	1	..	1	2	1	5
{	Pneumonia (all forms) ...	..	..	..	..	..	..	..	1	..	1
	Diarrhœa ...	..	..	..	..	..	2	1	2	..	5
{	Enteritis ...	..	..	..	..	..	1	2	2	2	7
	Gastritis ...	..	..	..	..	..	..	..	..	..	..
{	Syphilis ...	..	..	..	1	1	..	..	..	..	1
	Rickets ...	..	..	..	..	..	..	..	..	..	..
{	Suffocation, overlying ..	..	..	..	..	..	..	..	..	..	..
	Injury at Birth ...	1	..	..	..	1	..	..	..	..	1
{	Atelectasis ...	4	..	..	..	4	..	..	..	..	4
	Congenital Malformations ...	2	..	..	..	2	..	..	..	..	2
{	Premature Birth ..	11	2	..	..	13	2	..	..	..	15
	Atrophy, Debility & Marasmus ...	1	1	..	..	2	4	2	..	..	8
{	Other Causes ...	2	..	..	1	3	..	..	2	..	5
	Totals ...	21	4	1	2	28	15	9	13	8	73
Nett Births in the year.		{ Legitimate, 529. Illegitimate, 22.		Nett Deaths in the year of		{ Legitimate Infants, 67. Illegitimate .. 6.					

INFANT MORTALITY.

St. Cuthbert's Sub-District.

Nett Deaths from stated causes at various ages under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes	{ Certified ...	20	1	4	1	26	5	23	8	8	70
	{ Uncertified ...	...	...	...	...	...	...	...	...	...	...
{	Small-pox ...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...
{	Measles ...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ..	...	...	...	...	...	...	...	...	...	...
{	Whooping Cough ..	...	...	...	...	...	...	...	1	...	1
	Diphtheria and Croup ..	...	...	...	...	...	...	...	...	...	...
{	Erysipelas ...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Meningitis ...	...	...	...	...	...	...	...	1	1	2
{	Abdominal Tuberculous ...	...	...	...	...	...	...	...	...	1	1
	Other Tuberculous Diseases ...	...	...	...	...	...	...	...	1	...	1
{	Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	1	...	...	1	2
	Convulsions ...	2	...	1	...	3	...	...	...	...	3
{	Laryngitis ...	...	...	...	...	...	...	...	...	...	...
	Bronchitis ...	...	...	...	...	...	1	2	...	4	7
{	Pneumonia (all forms) ...	...	...	...	...	...	...	7	1	1	9
	Diarrhœa ...	...	...	...	...	...	...	1	...	...	1
{	Enteritis ...	...	...	...	...	...	...	7	2	...	9
	Gastritis ...	...	...	...	...	...	...	...	...	...	...
{	Syphilis ...	...	...	1	...	1	...	1	...	...	2
	Rickets ...	...	...	...	...	...	...	...	...	...	...
{	Suffocation, overlying ...	...	...	...	...	...	...	...	...	...	...
	Injury at Birth ...	1	...	...	...	1	...	...	...	...	1
{	Atelectasis ...	...	...	...	...	...	...	...	...	...	...
	Congenital Malformations ...	...	...	...	...	...	...	...	1	...	1
{	Premature Birth ...	13	...	2	...	15	1	...	...	...	16
	Atrophy, Debility, & Marasmus ...	2	1	...	...	3	2	1	1	...	7
{	Other Causes ...	2	...	...	1	3	...	4	...	...	7
	Totals ...	20	1	4	1	26	5	23	8	8	70
Nett Births in the year		{ Legitimate, 517. Illegitimate, 81.		Nett Deaths in the year of		{ Legitimate Infants, 60. Illegitimate „ 10.					

INFANT MORTALITY.

Stanwix Sub-District.

Nett Deaths from stated causes at various ages under
One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks & under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes	{ Certified ...	1	...	1	1	3	...	...	1	...	4
	{ Uncertified ...	...	...	...	...	...	...	...	...	...	...
{	Small-pox ...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...
{	Measles ...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...
{	Whooping Cough ...	...	...	...	1	1	...	...	...	...	1
	Diphtheria and Croup ...	...	...	...	...	...	...	...	...	...	...
{	Erysipelas ...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Meningitis ...	...	...	...	...	...	...	...	...	...	...
{	Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...
	Other Tuberculous Diseases ...	...	...	...	...	...	...	...	...	...	...
{	Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	...	...	...	...	...
	Convulsions ...	...	...	...	...	...	...	...	...	...	...
{	Laryngitis ...	...	...	...	...	...	...	...	...	...	...
	Bronchitis ...	...	...	...	...	...	...	...	...	...	...
{	Pneumonia (all forms) ...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea ...	...	...	...	...	...	...	...	...	...	...
{	Enteritis ...	...	...	...	...	...	...	...	...	...	...
	Gastritis ...	...	...	...	...	...	...	...	...	...	...
{	Syphilis ...	...	...	...	...	...	...	...	...	...	...
	Rickets ...	...	...	...	...	...	...	...	...	...	...
{	Suffocation, overlying ...	...	...	...	...	...	...	...	...	...	...
	Injury at Birth ...	...	...	...	...	...	...	...	...	...	...
{	Atelectasis ...	...	...	...	...	...	...	...	...	...	...
	Congenital Malformations ...	...	...	...	...	...	...	...	...	...	...
{	Premature Birth ...	1	...	1	...	2	...	...	...	...	2
	Atrophy, Debility, & Marasmus ...	...	...	...	...	...	...	...	...	...	...
{	Other Causes ...	...	...	...	...	...	...	...	1	...	1
	Totals ...	1	...	1	1	3	...	...	1	...	4
Nett Births in the year.		{ Legitimate, 54 Illegitimate 4		Nett Deaths in the year of		{ Legitimate Infants, 4. Illegitimate „ ...					

INFANT MORTALITY.

Dalston Sub-District.

Nett Deaths from stated causes at various ages under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks & under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes	{ Certified ...	1	...	...	...	1	...	...	...	...	1
	{ Uncertified ...	...	...	...	...	...	...	...	...	...	...
{	Small-pox ...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...
{	Measles ...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...
{	Whooping Cough ...	...	...	...	...	...	...	...	...	...	...
	Diphtheria and Croup ...	...	...	...	...	...	...	...	...	...	...
{	Erysipelas ...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Meningitis ...	...	...	...	...	...	...	...	...	...	...
{	Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...
	Other Tuberculous Diseases ...	...	...	...	...	...	...	...	...	...	...
{	Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	...	...	...	...	...
	Convulsions ..	...	...	...	...	...	...	...	...	...	...
{	Laryngitis ...	...	...	...	...	...	...	...	...	...	...
	Bronchitis ...	...	...	...	...	...	...	...	...	...	...
{	Pneumonia (all forms) ...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea ...	...	...	...	...	...	...	...	...	...	...
{	Enteritis ...	...	...	...	...	...	...	...	...	...	...
	Gastritis ...	...	...	...	...	...	...	...	...	...	...
{	Syphilis ...	...	...	...	...	...	...	...	...	...	...
	Rickets ...	...	...	...	...	...	...	...	...	...	...
{	Suffocation, overlying ...	...	...	...	...	...	...	...	...	...	...
	Injury at Birth ...	...	...	...	...	...	...	...	...	...	...
{	Atelectasis ...	...	...	...	...	...	...	...	...	...	...
	Congenital Malformations ...	...	...	...	...	...	...	...	...	...	...
{	Premature Birth ...	...	...	...	...	...	...	...	...	...	...
	Atrophy, Debility, & Marasmus ...	1	...	...	...	1	...	...	...	...	1
{	Other Causes ...	...	...	...	...	...	...	...	...	...	...
	Totals ...	1	...	...	...	1	...	...	...	...	1
Nett Births in the year.		{ Legitimate, 5. Illegitimate, ...		Nett Deaths in the year of		{ Legitimate Infants, 1. Illegitimate „ ...					

INFANT MORTALITY.

Wetheral Sub-District.

Nett Deaths from stated causes at various ages under
One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks & under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes	{ Certified ...	...	...	...	...	...	...	...	...	...	...
	{ Uncertified ...	...	...	...	...	...	...	...	...	...	...
{	Small-pox ...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...
	Measles ..	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough ..	...	...	...	...	...	...	...	...	...	...
	Diphtheria and Croup ...	...	...	...	...	...	...	...	...	...	...
	Erysipelas...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Meningitis ...	...	...	...	...	...	...	...	...	...	...
	Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...
	Other Tuberculous Diseases ...	...	...	...	...	...	...	...	...	...	...
	Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	...	...	...	...	...
	Convulsions ...	...	...	...	...	...	...	...	...	...	...
	Laryngitis...	...	...	...	...	...	...	...	...	...	...
	Bronchitis ...	...	...	...	...	...	...	...	...	...	...
	Pneumonia (all forms) ...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea ..	...	...	...	...	...	...	...	...	...	...
	Enteritis ...	...	...	...	...	...	...	...	...	...	...
	Gastritis ...	...	...	...	...	...	...	...	...	...	...
	Syphilis ...	...	...	...	...	...	...	...	...	...	...
	Rickets ...	...	...	...	...	...	...	...	...	...	...
	Suffocation, overlying ...	...	...	...	...	...	...	...	...	...	...
	Injury at Birth ...	...	...	...	...	...	...	...	...	...	...
	Atelectasis ...	...	...	...	...	...	...	...	...	...	...
	Congenital Malformations ...	...	...	...	...	...	...	...	...	...	...
	Premature Birth ...	...	...	...	...	...	...	...	...	...	...
	Atrophy, Debility, & Marasmus ...	...	...	...	...	...	...	...	...	...	...
	Other Causes ...	...	...	...	...	...	...	...	...	...	...
Totals		...	...	...	...	...	...	...	...	...	...
Nett Births in the year.		{ Legitimate, 2. { Illegitimate ...		Nett Deaths in the year of		{ Legitimate Infants ... { Illegitimate ..					

Details of the number of Deaths of Infants
under one year of age for the years 1912 and
1913, respectively.

Cause of Death.	1912	1913
Premature Birth	18	33
Diarrhœa	11	22
Atrophy, Debility, Inanition, Marasmus ...	18	15
Bronchitis	10	12
Pneumonia	15	9
Measles	6	...
Convulsions	4	8
Tuberculous Meningitis	1	6
Meningitis (not Tuberculous)	1	3
Tuberculous Peritonitis and Tabes ...	1	3
Atelectasis	5	4
Whooping Cough	7	4
Heart Failure	2	...
Congenital Defects	6	3
Diphtheria ... ..	...	3
Gastritis ... ..	...	3
Syphilis	2	3
Injury at Birth	1	2
Suffocation	1	2
Influenza ... ..	...	1
Phthisis	1	1
Rickets	1	...
Hydrocephalus ... ..	...	1
Tubercular Disease of Mastoid ... ..	...	1
Tubercular ulceration of Intestine ...	...	1
Jaundice	3	1
Want of Breast Milk	5	1
Defective formation of Spine ... ..	...	1
Paraplegia ... ..	...	1
Poliomyelitis ... ..	...	1
Cyanosis ... ..	...	1
Bronchial Catarrh ... ..	...	1
Other Causes	1	1
Totals	120	148

**Distribution of Deaths of Infants under
1 year in the several Sub-Registration
Districts.**

Whole District	...	...	...	Legitimate	132	} 148
				Illegitimate	16	
St. Mary's Sub-Registration District	...			Legitimate	67	} 73
				Illegitimate	6	
St. Cuthbert's Sub-Registration District				Legitimate	60	} 70
				Illegitimate	10	
Stanwix Sub-Registration District	...			Legitimate	4	} 4
				Illegitimate	0	
Dalston Sub-Registration District	...			Legitimate	1	} 1
				Illegitimate	0	
Wetheral Sub-Registration District	...			Nil.		...

Deaths of Infants under One Year of age
showing Occupation of Parents.

Legitimate.

Labourer	...	...	...	...	38
Railway Employee	...	...	...	...	34
Joiner, Painter, Plumber, and Fitter	...	...	...	...	19
Carter, Groom	...	...	...	...	5
Draper, Hatter, Hairdresser	...	...	...	...	4
Confectioner, Grocer	...	...	...	...	4
Nurseryman	...	...	...	...	3
Shoemaker	...	...	...	...	3
Police Constable	...	...	...	...	3
Hotel Proprietor, Barman	...	...	...	...	3
Warehouseman, Storekeeper	...	...	...	...	2
Fish Dealer	...	...	...	...	2
Brewery Manager	...	...	...	...	1
Commercial Traveller	...	...	...	...	1
Clerk	...	...	...	...	1
Insurance Agent	...	...	...	...	1
Ironmonger	...	...	...	...	1
Clergyman	...	...	...	...	1
Prison Warder	...	...	...	...	1
Actor	...	...	...	...	1
Soldier	...	...	...	...	1
Photographer	...	...	...	...	1
Tram Driver	...	...	...	...	1
Not Known	...	...	...	...	1
Total					132

Illegitimate.

Occupation of Mother.					Numbers.
Domestic Servant	...	...	...	...	10
Factory Worker	...	...	...	...	3
No Occupation	...	...	...	...	3
Total					16

Population, births, birth-rate, and infant
mortality rates for a series of years, 1884-1913.

Year.	Population.	No. of Births.	Rate per 1000.	Infant Death-Rate per 1000 births.
1884	37,285	1303	35.0	158
1885	37,881	1285	34.0	164
1886	38,402	1262	33.0	146
1887	38,793	1214	31.3	141
1888	39,027	1307	33.5	129
1889	39,944	1224	30.6	142
1890	40,500	1215	30.0	150
*1891	39,200	1207	30.8	137
1892	39,750	1213	30.5	123
1893	40,150	1389	34.5	178
1894	41,022	1315	32.0	133
1895	41,658	1311	31.4	142
1896	42,294	1246	29.6	137
1897	42,930	1324	30.8	134
1898	43,566	1311	30.0	183
1899	44,202	1306	29.4	145
1900	44,838	1354	30.1	134
*1901	45,478	1246	27.3	129
1902	46,078	1245	27.0	117
1903	46,500	1322	28.4	118
1904	47,350	1278	26.7	152
1905	47,920	1168	24.3	139
1906	48,425	1227	25.3	132
1907	49,400	1178	23.8	143
1908	50,047	1223	24.4	129
1909	50,675	1149	22.6	123.6
1910	51,433	1145	22.2	110.0
*1911	46,432	1109	23.8	145.
†1912	46,420	1142	24.6	102.4
1913	52,497	1164	22.1	127.1

*Census Population. †Old City.

Table showing population and rates from principal
number of

NAME OF TOWN.	Population.	Birth-Rate.	Death-Rate. (after correc- tion for Non- Residents.)	Infant Mortality Rate.
Accrington	45,525	19·63	14·21	116·
Acton	60,000	25·3	11·36	83·
Ashton-under-Lyne	45,179	23·5	16·6	163·2
Barnsley	52,500	30·55	16·36	147·7
Barrow-in-Furness	65,257	28·9	14·6	117·
Bath	69,944	15·8	13·1	75·
Blackpool	64,186	16·25	14·24	125·6
Bootle	72,186	30·0	17·5	145·
Burton-on-Trent	48,000	21·66	13·69	99·
Bury	59,159	20·06	15·53	141·
Crewe	45,652	22·14	11·6	103·
Darlington	58,295	26·7	13·86	93·
Dewsbury	53,658	23·4	16·8	131·6
Eastbourne	54,000	16·18	10·4	68·
Enfield	59,146	22·62	9·75	87·15
Gillingham	54,072	22·6	10·3	75·2
Gloucester	50,035	23·8	13·1	87·8
Grimsby	77,420	27·17	13·42	114·
Hornsey	88,160	16·16	9·34	56·
Ilford	78,581	19·15	9·45	67·
Ipswich	75,682	23·8	13·9	95·
Lancaster	41,667	19·66	13·59	96·
Lincoln	59,322	23·98	12·47	105·4
Newport (Mon.)	87,626	27·29	12·86	113·3
Oxford	53,948	17·62	11·82	83·07
Reading	89,339	20·34	11·58	80·2
Rochdale	93,420	20·74	15·35	106·
Rotherham	64,500	30·15	15·56	144·
Stockton-on-Tees	52,316	31·4	18·1	141·
Swindon	52,400	23·39	12·08	86·4
Tynemouth	60,601	28·84	15·5	123·
Wakefield	52,291	24·4	14·5	109·
Wallasey	83,000	22·4	11·8	80·
West Hartlepool	65,000	29·57	15·98	136·
Wigan	91,575	27·78	18·42	179·
Wimbledon	58,156	19·1	10·7	104·
Workington	25,600	25·5	13·08	126·9
York	83,329	23·7	12·4	94·
CITY OF CARLISLE	52,497	22·1	14·6	127·1

causes of death in Carlisle and a
other towns.

Zymotic Death-Rate.	Respiratory Diseases, Death-Rate (other than Phthisis).	Phthisis Death-Rate.	Other Tuberculous Diseases, Death-Rate.	Malignant Diseases, Death-Rate.
0.68	2.65	0.79	0.39	0.81
1.24	2.1	1.00	0.24	0.9
2.3	3.1	1.00	0.2	0.9
2.06	3.5	0.78	0.84	0.99
1.62	2.75	0.78	0.39	0.81
0.70	1.99	0.76	0.28	1.35
0.64	2.01	0.76	0.34	1.43
2.56	5.29	1.24	0.41	0.90
1.06	2.20	1.10	0.36	1.06
1.64	2.99	1.01	0.32	0.89
0.63	1.92	0.54	0.56	0.96
1.2	1.7	0.96	0.57	1.12
0.68	2.8	1.03	0.24	1.45
0.7	1.3	0.7	0.2	1.2
0.55	1.69	0.67	0.15	0.67
0.4	1.3	0.9	0.2	0.9
1.39	2.00	0.82	0.25	0.80
1.26	1.76	0.76	0.42	1.14
0.45	...	0.62	0.15	1.08
0.53	1.36	0.6	0.3	0.99
0.88	1.96	1.16	0.43	1.34
0.77	2.41	0.95	0.10	1.32
0.92	1.9	0.95	0.29	1.04
2.83	1.81	0.77	0.32	0.82
0.44	1.63	0.96	0.22	1.5
0.45	2.05	1.11	0.28	1.20
0.82	2.60	1.10	0.48	1.26
1.81	2.94	1.05	0.42	0.81
2.02	3.8	1.64	0.62	0.87
1.0	1.5	1.1	0.25	0.66
1.6	2.39	0.85	0.61	0.95
0.82	4.67	0.80	0.53	0.96
0.8	2.1	0.7	0.3	1.09
...	3.16	1.09	0.91	...
3.04	4.66	0.88	0.37	0.58
1.28	1.49	0.87	0.2	0.92
0.82	2.22	0.70	0.39	0.97
0.71	1.66	0.88	0.27	0.92
0.8	1.7	1.3	0.5	1.2

ZYMOTIC DISEASES.

(Syn. Infectious Diseases.)

The total number of cases of Infectious Disease notified during the year was 271, an increase of 17 over the number notified during 1912.

The term Zymotic death-rate is applied to the aggregate death-rate from Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (Typhus, Simple Continued, and Enteric), and Diarrhœa.

The number of deaths from Zymotic Disease registered was 44, which, calculated upon the estimated population (52,497), gives a death-rate of 0.8 per 1,000.

The causes of death were registered as follows :—

Diarrhœa	...	...	...	25
Diphtheria	...	...	...	9
Whooping Cough	...	...	...	7
Measles	...	...	...	3
				—
				44
				—

The number of deaths from Zymotic Disease in 1911 and 1912 was 96 and 81 respectively.

Table showing the number and nature of Infectious Diseases at the several age groups notified in the several Sub-Registration Districts.

NOTIFIABLE DISEASE.	Number of Cases Notified.								Total Cases Notified in each Locality.			TOTAL CASES REMOVED TO HOSPITAL.
	At all ages.	At Ages—Years.							St. Mary's Sub- District.	St. Cuthbert's Sub-District.	Stanwix Sub- District.	
		Under 1.	1 to 6.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.				
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Cholera, Plague ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (in- cluding Mem- branous Croup) }	52	2	12	25	8	4	1	..	34	14	4	42
Erysipelas	51	...	2	4	4	15	23	3	24	24	3	..
Scarlet Fever	159	2	38	106	6	6	1	...	72	85	2	131
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...	..	...
Enteric Fever	5	...	...	1	1	2	1	...	2	2	1	4
Relapsing Fever, Continued Fever ... ..	...	...	...	..	...	...	...	...	..	..	...	...
Puerperal Fever	1	...	...	...	...	1	...	..	...	1	...	...
Cerebro-spinal Meningitis ... ..	...	..	...	...	..	...	...	...	...	...	...	...
Poliomyelitis	3	1	2	...	...	..	...	...	1	1	1	..
Pulmonary Tuberculosis	351	...	7	185	56	65	35	3	213	127	11	...
Other forms of Tuberculosis	96	5	21	35	18	10	6	1	58	36	2	...
Totals	718	10	82	356	93	103	67	7	404	290	24	177

Isolation Hospital or Hospitals, Sanatoria, &c.

Crozier Lodge, Newtown, Carlisle—Total Available Beds 50

Smallpox Hospital, Belle Vue „ „ „ 12

Number of Diseases which can be concurrently treated, 5

Table showing the number of notifications of Infectious Diseases during each of the four quarters of the year.

Notifiable Disease.	Number of Notifications sent in during				Totals.
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	
Scarlet Fever ...	16	12	42	89	159
Diphtheria (including Membranous Croup)	6	12	10	24	52
Erysipelas ...	14	7	12	18	51
Enteric (or Typhoid) Fever	3	...	2	...	5
Typhus Fever	...	...	...	...	...
Smallpox ...	...	...	...	...	...
Puerperal Fever	...	...	1	...	1
Acute Poliomyelitis	...	...	...	3	3
Totals ...	39	31	67	134	271

Total number of notifications of each class of notifiable Infectious Diseases, 1911, 1912, and 1913:—

Notifiable Disease.	1911	1912†	1913
Scarlet Fever ...	139	109	159
Diphtheria (including Membranous Croup) ...	44	47	52
Erysipelas ...	49	76	51
Enteric (or Typhoid) Fever ..	3	2	5
Typhus Fever ...	...	9	...
Smallpox ...	...	...	...
Puerperal Fever ...	6	7	1
Acute Poliomyelitis ...	...	2	3
Totals ...	241	252	271

† Old city.

Deaths from the principal Infectious Diseases, including Diarrhoea and Dysentery, 1908—1913:—

Year	1908	1909	1910	1911	1912†	1913
Total number of deaths ...	42	30	21	96	81	44

† Old city.

Table showing the Number and Nature of the Deaths from the principal Zymotic Diseases, 1902 to 1913.

NOTIFIABLE DISEASE.	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	*1912	1913
Smallpox .....	...	4	...	...	...	...	...	...	...	...	..	...
Measles.....	10	3	7	17	1	54	...	11	3	13	38	3
Scarlet Fever	17	5	3	5	9	6	1	6	2	2	2	...
Diphtheria	41	20	14	6	5	3	4	4	2	4	6	9
Whooping Cough.....	5	20	20	11	5	11	23	8	11	21	18	7
Fever { Typhus Enteric or Typhoid Simple continued	...	...	...	5	...	...	...	1	...	...	2	...
	7	3	3	3	1	...	...	..	...	...	1	...

Diarrhoea	2	3	16	19	13	3	14	...	3	56	14	25
Totals	82	58	63	66	34	77	42	30	21	96	81	44
Rate per 1,000 of population	1.7	1.2	1.3	1.3	0.7	1.5	0.84	0.5	.40	2.06	1.7	0.8

* Old City.

Table showing the several localities where deaths from the principal Zymotic Diseases occurred :—

LOCALITY.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria	Typhus Fever.	Enteric (or Typhoid) Fever.	Diarrhoea.	Totals.
New Brewery House	1	...	...	...	...	1
Corporation Road	1	1
Fever Hospital	5	...	...	...	5
Ashley Street	1	...	...	...	...	1
Peter Street	1	1
Byron Street	1	...	...	...	...	1
Milbourne Street	1	...	...	...	1
Finkle Street	2	2
Morton Street	1	...	...	...	...	1
Hawick Street	1	...	...	...	1
Rickergate	1	1
John Street	1	...	...	...	1
Broadguards	1	...	...	...	1	2
Devonshire Walk	1	1
Queen Street	1	1
Solway Terrace	1	1
Metcalf Street	1	...	...	...	...	...	...	1
Rigg Street	1	1
Trinity Buildings	1	1
Northumberland Street	1	1
Infirmery	1	1
Brook Street	1	1
St. Nicholas	2	2
King Street	1	...	...	...	...	...	...	1
South Street	1	...	...	...	...	...	...	1
Water Street	1	...	...	...	1	2
Oswald Street	1	1
South John Street	4	4
William Street	2	2
Red Bank Terrace	1	...	...	...	1
King's Arms Lane	1	1
Scaur Bank Road	1	...	...	...	...	1
Totals	3	...	7	9	...	...	25	44

SCARLET FEVER.

(Syn. Scarlatina.)

The number of cases of Scarlet Fever notified or brought to my notice by other means during 1913 was 164, being an increase of 45 on the figure for 1912.

No deaths were registered from this disease during the year.

Of the 164 cases thus recorded, 131, or 79.8 per cent., were isolated in Hospital.

During 1912, 2 deaths were registered from this disease, or equal to a rate of .04 per 1,000 of the population of the old City.

Out of the 164 cases notified as Scarlet Fever, 5 were found not to be suffering from the disease, but were suffering from another disease, as follows:—

German Measles	2
Ephemeral Fever	2
Desquamation, due to an irritant ...	1
	—
	5
	—

RETURN CASES OF SCARLET FEVER.

4 cases of Scarlet Fever occurred in houses to which a patient recently isolated in Hospital had returned, as shown in the following table:—

Address.	Date of Notification of first case.	Date of Discharge of first case from Hospital.	Date of Notification of second case or cases at the same house.
Backhouse Walk	1st Sept.	17th Oct.	{ 21st Oct. 3rd Nov.
Stoney Holme	22nd Sept.	2nd Nov.	18th Nov.
Priory Road	26th Sept.	4th Nov.	13th Nov.

Table showing simultaneous and secondary cases of Scarlet Fever in the same house :—

Address.	Date of Notification of first case or cases.	Date of notification of a second or more cases at the same house.	Whether isolated in Hospital or not.
Aglionby Street ...	11th Dec., 1912	4th Jan., 1913	No
Richardson Street..	25th Dec., 1912	7th Jan., 1913	Yes
Dudson's Terrace...	10th Feb., 1913	11th Feb., 1913	Yes
East Norfolk Street	28th May, 1913	3rd June, 1913	{ First case isolated Second case not isolated
Bellgarth Road ...	10th June	24th June	Yes
Denton Street ...	{ 1st August 1st August		Yes
Corporation Road...	25th August	{ 5th September 5th September 11th November	Yes
Millholme Avenue..	6th October	7th October	Yes
Oswald Street ...	13th October	20th October	Yes
Goodwin Terrace...	13th October	22nd October	No
Crummock Street..	{ 22nd October 22nd October	23rd October	Yes
Currock Road ...	28th October	3rd November	Yes
Red Bank Terrace	{ 3rd November 3rd November		No
Scotch Street ...	8th November	12th November	No
Currock Road ...	20th November	1st December	{ First case isolated Second case not isolated
Millholme Avenue..	{ 15th December 15th December 15th December		No
			No
			No

Table showing number of notifications, number of cases isolated, number of deaths, and death-rates per 1,000 of population at all ages, 1908-1913.

Year.	No. of cases notified.	No. of cases isolated in Hospital.	No. of deaths.	Death-rate per 1,000 of population.
1908	89	56	...	...
1909	119	87	6	.11
1910	248	171	2	.03
1911	139	104	2	.04
1912	110	101	2	.04
1913	164	131	2	.04

Table giving name of school attended and number of cases in which a school child was infected with Scarlet Fever during 1911, 1912, and 1913:—

			1911	1912	1913
			—	—	—
Ashley Street	...	...	8	16	12
Bishop Goodwin	...	...	9	1	37
Brook Street	...	...	4	6	6
Caldewgate	...	...	14	12	6
Christ Church	...	...	2	5	2
Denton Holme	...	...	3	1	5
Fawcett	...	...	4	0	7
Higher Grade	...	...	1	1	1
Holy Trinity	...	...	1	3	0
Lowther Street	...	...	2	3	3
Norman Street	...	...	7	2	8
Robert Ferguson	...	...	2	2	6
St. Bede's	...	...	2	2	1
St. Cuthbert's	...	...	5	4	2
St. John's	...	...	3	2	1
St. Patrick's	...	...	0	2	1
St. Stephen's	...	...	7	0	7
Botcherby	...	...	0	0	0
Stanwix	...	...	0	0	0
Upperby	...	...	0	0	0
Belle Vue	...	...	0	0	0
Private Schools	...	...	6	1	1
			—	—	—
			80	63	106
			—	—	—

DIPHTHERIA.

(Including Membranous Croup.)

The number of cases of Diphtheria notified during 1913 was 57, as against 47 during 1912 and 44 during 1911.

Of this number, 37 occurred in St. Mary's, 16 in St. Cuthbert's, and 4 in Stanwix Sub-Registration Districts respectively.

Out of the 57 cases notified, 6 were found to be suffering from another disease and not from Diphtheria, viz:—

Follicular Tonsilitis	...	...	2
Simple Laryngitis	...	...	2
Scarlet Fever	...	...	1
Simple Tonsilitis and Pharyngitis	...	...	1
			—
			6
			—

During 1913, 9 deaths were registered as due to this disease, the death-rate being equal to .17 per 1,000 of the estimated population, or 15.7 per cent. of the cases notified.

Of the 57 cases, 42, or 73.6 per cent., were removed to the Isolation Hospital.

No return case occurred during the year.

Table showing number of notifications, number of cases isolated, number of deaths, and death-rates per 1,000 of population at all ages, 1908-1913.

Year.	No. of cases notified.	No. of cases isolated in Hospital.	No. of deaths.	Death-rate per 1,000 of population.
1908	31	20	4	.07
1909	36	18	4	.07
1910	37	27	2	.03
1911	44	33	4	.08
1912	47	33	6	.17
1913	57	42	9	.17

Table showing localities of cases notified as Diphtheria during the year, with action taken thereon :—

Date.	Locality.	Insanitary conditions present	Action taken.
1913			
20th Jan.	Wigton Road	None	Removed to Isolation Hospital and subsequent disinfection
8th Feb.	Cheviot Road	Do.	Do.
17th "	York Street	Do.	Isolated at home and subsequent disinfection
3rd Mar.	Richardson Street	Do.	Removed to Isolation Hospital and subsequent disinfection
13th "	Frederick Street	Do.	Do.
31st "	Colville Street	Do.	Do.
7th Apr.	Tait Street	Do.	Do.
13th "	Trafalgar Street	Do.	Do.
18th "	Dalston Street	Do.	Do.
21st "	Watt's-ct., Mary-st.	Do.	Do.
5th May	Milbourne Street	Do.	Died, subsequent disinfection
8th "	Hassell Street	Privy Closet	Isolated at home and subsequent disinfection
9th "	Do.	Do.	Removed to Isolation Hospital and subsequent disinfection
10th "	Do.	Do.	Do.
16th "	Currock Road	None	Do.
2nd June	Graham Street	Do.	Do.
12th "	Trinity Buildings	Do.	Do.
19th "	Hassell Street	Privy Closet	Do.
4th July	Hawick Street	None	Died, subsequent disinfection.
29th "	John Street	Do.	Do.
19th Aug.	Rickergate	Do.	Removed to Isolation Hospital and subsequent disinfection
29th "	Denton Crescent	Do.	Do.
30th "	Portland Square	Do.	Do.
30th "	Lorne Crescent	Do.	Do.
9th Sept.	Etterby Street	Do.	Do.
17th "	Solway Terrace	Do.	Do.
18th "	East Norfolk Street	Do.	Do.
29th "	Beaconsfield Street	Do.	Do.
6th Oct.	Byron Street	Do.	Do.
7th "	Church Street	Do.	Do.
8th "	Denton Street	Do.	Do.
24th "	Hope Street	Do.	Do.
25th "	Caldew Street	Do.	Do.
27th "	Do.	Do.	Isolated at home and subsequent disinfection
31st "	Hope Street	Do.	Removed to Isolation Hospital and subsequent disinfection
31st "	South Western Terrace	Do.	Isolated at home and subsequent disinfection

Table showing localities of cases notified as Diphtheria during the year, with action taken thereon (*continued*) :—

Date.	Locality.	Insanitary conditions present.	Action taken.
1st Nov.	Union Street	Dirty house	Removed to Isolation Hospital and subsequent disinfection
7th „	Newtown Road	None	Do.
10th „	Norfolk Street	Do.	Do.
12th „	English Damside	Do.	Do.
16th „	The Sands	Do.	Do.
17th „	Do.	Do.	Do.
10th Dec.	Graham Street	Do.	Do.
12th „	Red Bank Terrace	Do.	Isolated at home and subsequent disinfection
15th „	Stanwix	Do.	Do.
17th „	Gloucester Road	Do.	Removal to Isolation Hospital and subsequent disinfection.
19th „	Stanwix	Do.	Isolated at home and subsequent disinfection
20th „	Trinity Buildings	Do.	Removal to Isolation Hospital and subsequent disinfection.
20th „	Surtees Lane	Do.	Do.
20th „	Duke Street	Do.	Do.
28th „	Graham's Court, Milbourne Street	Do.	Do.
30th „	Thompson's Court, Shaddongate	Do.	Do.

Table giving name of school attended and number of cases in which a school child was infected with Diphtheria during 1911, 1912, and 1913:—

				1911.	1912.	1913.
				—	—	—
Ashley Street	...	...	...	1	3	2
Bishop Goodwin	...	...	...	2	0	6
Brook Street	...	...	...	3	0	0
Caldewgate	...	...	...	0	0	0
Christ Church	...	...	...	2	0	0
Denton Holme	...	...	...	0	2	2
Fawcett	...	...	...	1	0	0
Higher Grade	...	...	...	0	0	2
Holy Trinity	...	...	...	2	1	0
Lowther Street	...	...	...	1	2	1
Norman Street	...	...	...	2	1	0
Robert Ferguson	...	...	...	1	1	7
St. Bede's	...	...	...	0	0	2
St. Cuthbert's	...	...	...	1	0	0
St. John's	...	...	...	0	1	0
St. Patrick's	...	...	...	0	0	0
St. Stephen's	...	...	...	2	0	0
Botcherby	...	...	...	0	0	0
Stanwix	...	...	...	0	0	0
Upperby	...	...	...	0	0	0
Belle Vue	...	...	...	0	0	0
Private Schools	...	...	...	1	1	1
				—	—	—
				19	12	23
				—	—	—

ANTITOXIN.

3 applications by medical practitioners were made during the year for the free supply of Anti-Diphtheric Serum, 10,000 units being supplied.

SMALLPOX.

The district was free from Smallpox during the year.

PUERPERAL FEVER.

During the year 1 case was notified as suffering from this disease, which terminated fatally.

The case was carefully investigated and the necessary precautions were taken. The midwife attending was at once suspended, and the cleansing of her clothing, bag, and appliances carried out.

MEASLES.

During the year 3 deaths from this disease were registered.

Calculated upon the estimated population this gives a mortality rate of .05 per 1,000 living at all ages.

The seasonal relationship to death was as follows:—

February	...	...	...	...	2
October	...	...	...	...	1

SCHOOL CLOSURE.

During the year the following school was closed on account of the prevalence of whooping cough.

School.	Closed.	Re-opened.
Belle Vue Mixed School ...	14th May	27th June

Figures supplied by Head Teachers and Attendance Officers showing the number of children suffering from several non-notifiable diseases during 1913.

Name of School (All Departments)	Measles.	Chicken Pox.	Whooping Cough.	Mumps.	Total.
Ashley Street ...	30	12	24	5	71
Bishop Goodwin...	..	...	...	...	...
Brook Street ...	...	...	...	...	...
Caldewgate ...	76	4	10	...	90
Christ Church ...	...	...	...	...	...
Denton Holme ...	10	3	1	...	14
Fawcett ...	...	...	...	...	...
Higher Grade ...	...	...	...	...	...
Holy Trinity ...	9	1	...	...	10
Lowther Street ...	11	...	...	1	12
Norman Street ...	6	4	21	2	33
Robert Ferguson...	...	18	1	...	19
St. Bede's ...	10	...	13	3	26
St. Cuthbert's ...	...	1	...	...	1
St. John's ...	...	...	...	...	...
St. Patrick's ...	...	...	...	...	...
St. Stephen's ...	...	...	...	...	...
Belle Vue ...	...	...	30	...	30
Botcherby ...	...	...	...	...	...
Stanwix ...	...	...	...	...	...
Upperby ...	1	...	...	...	1
Totals ...	153	43	100	11	307

Figures supplied by Head Teachers and Attendance Officers showing the number of school children who suffered from several non-notifiable diseases during 1911, 1912, and 1913.

Year.	Measles.	Chicken Pox.	Whooping Cough.	Mumps.	Total.
1911	437	165	231	963	1796
1912	954	283	238	56	1531
1913	153	43	100	11	307

Table showing the annual mortality from measles, 1874—1913:—

Year.	No. of Deaths.	Year.	No. of Deaths.
1874	...	1894	...
1875	...	1895	...
1876	...	1896	...
1877	...	1897	...
1878	...	1898	...
1879	...	1899	...
1880	...	1900	...
1881	...	1901	...
1882	...	1902	...
1883	...	1903	...
1884	...	1904	...
1885	...	1905	...
1886	...	1906	...
1887	...	1907	...
1888	...	1908	...
1889	...	1909	...
1890	...	1910	...
1891	...	1911	...
1892	...	1912	...
1893	...	1913	...

ENTERIC FEVER.

(Syn. Typhoid Fever).

During the year 5 cases of Enteric Fever were notified.

Two of the cases, a Police Inspector and his wife, who became ill within a few days of each other with diarrhoea and the passage of blood from the rectum, were apparently infected by a child in the same house, who had suffered from a similar condition 2 or 3 weeks before. The clinical features of the illness in the early stages in both cases simulated Enteric Fever. Specimens of the blood were transmitted to the Clinical Research Association, Ltd., both being negative to Widal's test, but showing a very slight clumping with Para-Typhoid (B) organisms. This slight reaction was, however, exhibited by the control.

Another of the cases nursed at home was considered shortly after notification not to be suffering from Enteric Fever.

The remaining two cases occurred at the Castle, one being a young soldier concerning whose infection nothing definite could be ascertained. The other was the child of a soldier living in the married quarters, whose mother was said to have washed the clothing of the soldier patient, but from a review of all the circumstances there appears to have been no connection between the two cases.

Table showing locality of the cases notified as Enteric (Typhoid) Fever during the year 1913, with action taken.

Date.	Locality.	Insanitary conditions present.	Action taken.	Result.
4th Feb.	The Castle	None	Removed to Isolation Hospital	Recovered
10th Feb.	The Castle	None	Removed to Isolation Hospital	Recovered
20th Mar.	*Scotland Road	None	Isolated at home	Recovered
19th Aug.	*Beaconsfield St.	None	Removed to Isolation Hospital	Recovered
19th Aug.	*Beaconsfield St.	None	Removed to Isolation Hospital	Recovered

* Not Enteric Fever.

ENTERIC (TYPHOID) FEVER SINCE 1874.

BEFORE ADOPTION OF NOTIFICATION ACT.

Typhoid Cases estimated from the deaths on the basis of the case mortality of Enteric (Typhoid) Fever during the first 18 years of compulsory notification.

					Annual No. of Cases.	
1874	172	Average of 8 years, 99
1875	...	...	...	...	180
1876	...	...	...	...	75
1877	...	...	...	...	37
1878	...	...	...	...	82
1879	...	...	...	...	82
1880	...	...	...	...	112
1881	...	...	...	...	52
1882	67	Average of 8 years 53.12
1883	...	...	...	...	60
1884	...	...	...	...	52
1885	...	...	...	...	7
1886	...	...	...	...	45
1887	...	...	...	...	127
1888	...	...	...	...	60
1889	...	...	...	...	7

Cases of Enteric (Typhoid) Fever notified during 24 years of compulsory notification.

					Annual No. of Cases.	
1890	21	Average of 5 years 21.2
1891	...	...	...	...	18
1892	...	...	...	...	32
1893	...	...	...	...	20
1894	...	...	...	...	15
1895	20	Average of 5 years 18.6
1896	...	...	...	...	13
1897	...	...	...	...	19
1898	...	...	...	...	22
1899	...	...	...	...	19
1900	7	Average of 5 years 12.6
1901	...	...	...	...	19
1902	...	...	...	...	16
1903	...	...	...	...	6
1904	...	...	...	...	15
1905	7	Average of 5 years 3.2
1906	...	...	...	...	5
1907	...	...	...	...	1
1908	...	...	...	...	2
1909	...	...	...	...	1
1910	6	
1911	...	...	...	...	3
1912	...	...	...	...	3
1913	...	...	...	...	5

TYPHUS FEVER.

The district was free from Typhus Fever during the year.

POLIOMYELITIS.

During the year 3 cases of acute Poliomyelitis were notified, 1 of which terminated fatally.

The notifications were received on the 3rd October, 10th November, and 22nd November, respectively.

ISOLATION HOSPITAL.

Table showing number of cases removed to hospital:—

Diseases.	No. of cases admitted	No. of cases recovered.	No. of cases died.
Scarlet Fever	131	131	..
Diphtheria	42	37	5
Enteric (Typhoid) Fever ...	4	4	...
Totals	177	172	5

NOTIFICATION FEES.

The total amount paid in fees for notifications during 1913 was £60 15s.

DIARRHŒA.

During the year 25 deaths from this disease were registered as against 14 in 1912 and 56 in 1911.

Calculated upon the estimated population, the mortality rate is .47 per 1,000 living at all ages.

The ages at death were as follows: —

Under 1 year	...	...	22
1—2 years	...	...	3
			—
			25
			—

Seasonal relationship to deaths:—

January	...	...	1	July	...	...	1
February	...	...	1	August	...	...	1
March	...	...	1	September	...	...	8
April	...	...	1	October	...	...	3
May	...	...	2	November	...	...	0
June	...	...	2	December	...	...	4
							—
							25
							—

A warning was again issued by means of a large poster displayed at the entrance of all the lanes and courts in the poorer parts of the City, pointing out to householders and others the prevalence of the disease in hot weather, and the precautions which should be taken with regard to the care, and the food of, infants and young children, &c.

See Zymotic Table, page 48, for locality of deaths.

Annual Mortality from Diarrhoea and Enteric (Typhoid)
Fever since 1874.

Year.	DEATHS FROM DIARRHŒA.															Deaths from Enteric (Typhoid) Fever.
	Autumn Quarter. No. Registered.	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	...	...	1	1	6	20	9	6	...	3	50	23
1875	27	1.30	2	...	4	1	2	4	5	12	10	2	...	2	44	24
1876	12	1.10	3	1	3	3	1	...	2	5	5	1	6	7	37	10
1877	10	.84	2	1	2	1	2	2	2	6	2	1	3	4	28	5
1878	26	1.06	1	2	1	1	3	3	9	8	9	1	1	1	40	11
1879	...	.34	2	1	1	1	...	2	2	2	...	...	1	...	12	11
1880	3	1.20	...	...	5	...	...	...	3	7	21	5	1	...	42	15
1881	...	.50	...	2	...	2	...	2	2	2	3	3	...	2	18	7
1882	1	.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	.23	1	...	1	1	...	...	...	3	5	1	...	1	13	8
1889	6	.27	2	1	...	...	...	...	...	5	1	1	...	1	11	1
1890	16	.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	16	.57	...	...	2	...	1	1	1	4	11	2	1	1	24	2
1899	10	.25	...	...	...	...	...	...	...	3	7	1	...	...	11	1
1900	7	.53	...	...	...	1	...	4	1	3	3	8	3	...	23	2
1901	11	.43	2	3	...	...	...	1	1	5	5	3	...	...	20	5
1902	1	.04	...	...	...	...	...	...	1	...	...	...	1	...	2	7
1903	1	.06	...	...	1	...	...	1	...	...	1	...	...	...	3	3
1904	7	.33	...	...	...	...	...	1	...	4	3	2	3	3	16	3
1905	10	.39	3	...	...	1	2	...	...	5	5	2	1	...	19	3
1906	7	.26	2	...	1	1	...	...	...	2	5	...	2	...	13	1
1907	...	.05	...	...	...	...	1	2	...	...	...	...	...	...	3	...
1908	12	.28	...	...	...	1	...	...	2	3	7	...	...	1	14	...
1909	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1910	2	.05	...	...	...	...	...	...	...	...	2	...	1	...	3	...
1911	45	1.20	2	1	1	3	...	1	1	30	14	2	1	...	56	...
1912	2	.30	1	2	...	2	2	1	...	1	1	2	2	...	14	1
1913	10	.47	1	1	1	1	2	2	1	1	8	3	...	4	25	...

TUBERCULOUS DISEASES.

Under this heading are included deaths occurring from any of the following conditions:—

Pulmonary Tuberculosis (Consumption of the Lungs), Tuberculous Meningitis (including Acute Hydrocephalus), Tuberculous Peritonitis, Tabes Mesenterica, Generalised Tuberculosis, Tuberculosis of bones, joints, and other organs, Lupus, and Scrofula.

The total number of deaths registered from Tuberculosis of all forms during 1913 was 96=1.8 per 1,000 of the estimated population. Of this number 71=73.9 per cent. were from Pulmonary Tuberculosis, giving a death-rate of 1.3 per 1,000 of the estimated population at all ages.

During 1912, 76 deaths were registered from all forms of Tuberculosis, of which 65=85.5 per cent. were from Pulmonary Tuberculosis, giving a death-rate of 1.2 per 1,000 of the estimated population at all ages.

The above figures show that during 1913 there was an increase of 20 in the number of deaths from all forms of Tuberculosis, and an increase of 6 in the deaths from Pulmonary Tuberculosis.

Fifteen deaths from Tuberculosis of all forms occurred in institutions within the City, of which number 10 were due to Pulmonary Tuberculosis.

PULMONARY TUBERCULOSIS.

(Syn. Consumption of Lungs, Phthisis.)

This is the most frequent of Tuberculous Diseases, and the most universally prevalent of all diseases amongst white races; it is an infectious disease, and is usually

transmitted from man to man, but it is also capable of being transmitted from animals to man by means of food, of which milk is the commonest example; but by far the greater number of cases are those which are caused by personal contact.

Tuberculosis is most common amongst the poor, and may be said to be a disease especially of the lower classes, and by whom it is mostly disseminated, largely as a result of ignorance, dirty habits, and other characteristic modes of living.

The town dweller more easily falls a victim to the disease than one who lives in the country, and there is a close relationship between the overcrowding of rooms, houses, and workplaces, and this disease, the overcrowding of houses very often indicating poverty, and being almost invariably associated with an impure atmosphere.

Many trades predispose the worker to this disease, especially those occupations accompanied by the formation of dust, or where work is carried out in overcrowded, hot, and moist workrooms. Intemperance and other debilitating conditions are also important factors in the predisposition to this disease.

Phthisis depends largely upon known and remediable conditions, and improvement in hygiene and other matters has led to a decline in the death-rate from this disease, but the great difficulty experienced is to get the Consumptives of the labouring classes to carry out the simplest hygienic rules or methods of precaution, the result being that persons in dangerous stages of the disease occupy the same bed as another or several other members of the

same household. It is thus that the disease secures most of its victims, finally in many instances resulting in the infection of a whole household, whereas, the precaution where possible of a separate bedroom, or, in the absence of this, a separate bed for the Consumptive, and the carrying out of certain simple rules would prevent this danger, and minimise the chances of infection of healthy persons.

**Ages at death of cases of Pulmonary Tuberculosis
during 1912 and 1913.**

Year.	Under 1 Year.	1-2	2-5	5-15	15-25	25-35	35-45	45-55	55-65	65-75	All Ages.
1912	1	..	2	4	17	11	15	5	7	3	65
1913	1	2	1	9	22	15	8	4	7	2	71

The distribution of the deaths during 1913 was as follows:—

St. Mary's Sub-Registration District	...	32
St. Cuthbert's Sub-Registration District	...	38
Stanwix Sub-Registration District	... ..	1
		—
		71
		—

Two other diseases of the chest, viz.:—Pneumonia and Bronchitis, were responsible for 91 deaths during 1913.

Disease.	St. Mary's.	St. Cuthbert's.	Stanwix.	Total.
Broncho-Pneumonia	6	12	...	18
Pneumonia (all other forms)	16	15	2	33
Bronchitis	20	18	2	40
Totals	42	45	4	91

Deaths from Tuberculosis and Respiratory Disease during the past 12 years.

Year.	Number of Deaths from Phthisis.	Number of Deaths from Tuberculosis other than Phthisis.	Number of Deaths from other Respiratory Diseases
1902	57	42	118
1903	73	23	92
1904	70	36	167
1905	62	32	130
1906	67	30	122
1907	54	15	137
1908	56	34	112
1909	64	28	108
1910	52	30	91
1911	75	19	98
1912	65	11	116
1913	71	25	91

NOTIFICATION OF TUBERCULOSIS.

The total number of notifications received under all the regulations during 1913 was 546.

Notifications relating to males who were married	...	...	...	39
Notifications relating to females who were married	...	...	...	39
Cases notified under Regulations prior to February 1st, 1913	...	...	...	30
Cases notified under the General Order commencing February 1st, 1913	...	...	...	516

The 516 cases notified under the General Order are classified in the following summary:—

	<i>Situation of Disease.</i>			<i>No.</i>
FORM A.				
Notification of cases not previously notified.	Lungs ...	...	233	} 327
	Pleura ...	...	7	
	Glands ...	...	32	
	Bones and Joints		17	
	Meninges ...		3	
	Peritoneum ...		10	
	Other parts ...		25	
FORM B.				
Notification by a School Medical Inspector of cases not previously notified by him.	Lungs ...	...	88	} 90
	Bones and Joints		2	
FORM C.				
Notification by Medical Officers of Poor Law Institutions and Sanatoria for patients who have been notified before admission.	Lungs ...	...	49	} 50
	Other parts ..		1	
FORM D.				
Notification after discharge by Medical Officers of Poor Law Institutions and Sanatoria.	Lungs ...	...	48	} 49
	Bones and Joints		1	

The age and sex distribution of cases notified prior to Feb. 1st were as follows :—

Age.	Sex.		Total.
	Male.	Female.	
1— 5	...	1	1
5—15	7	4	11
15—25	1	4	5
25—35	4	1	5
35—45	2	2	4
45—55	1	...	1
55—65	2	...	2
65 and upwards	1	...	1
Totals	18	12	30

The age and sex distribution of cases notified under the General Order, commencing Feb. 1st, were as follows :—

Age.	Sex.		Total.
	Male.	Female.	
1— 5	18	16	34
5—15	102	107	209
15—25	31	36	67
25—35	20	23	43
35—45	13	13	26
45—55	14	9	23
55—65	8	4	12
65 and upwards	2	1	3
Totals	208	209	417

Figures relating to visits in connection with notifications of Pulmonary Tuberculosis, 1913.

No. of primary visits on receipt of notification.	No. of revisits.	No. of houses disinfected in which disinfection was undertaken.	No. of spittoons given to consumptives.	No. of pocket spit flasks given to consumptives.
280	508	64	5	42

CANCER.

The following figures include all registered deaths from causes within the general term Cancer. The number of deaths registered during 1913 was 63, as against 61 in the year 1912.

Calculating the 63 cases upon the estimated population, a mortality rate of 1.2 per 1,000 at all ages is obtained.

Table of deaths, 1909 to 1913.

Age.	Numbers.				
	1909	1910	1911	1912	1913
1 to 5 years ... ..	...	...	1	...	1
5 to 15 years ... ..	...	...	2	...	1
15 to 25 years ... ..	...	1	2	3	...
25 to 35 years	2	...	5	2	1
35 to 45 years	6	7	5	6	5
45 to 55 years	12	11	6	18	11
55 to 65 years	15	11	11	18	25
65 to 75 years	17	11	7	10	14
75 and upwards	6	6	6	5	5
Totals	58	47	45	62	63

INQUESTS.

During the year the City Coroner held 50 inquests, as compared with 53 during 1912.

Of this number 44 were held upon the bodies of those who had been resident within the City, and 6 upon the bodies of persons who had resided in other districts, but who died within the City.

13 of the inquests were held upon the bodies of children under 5 years, 5 of these being children under 1 year.

The finding of the Jury and the ages in these 13 cases respectively were:—

Cause.	Age.
Accidentally killed by being run over	3 years
Found dead	about 1 day
Accidental burning	4½ years
Do. do.	2½ years
Do. do.	2½ years
Do. do.	2 years
Do. do.	16 months
Natural causes (phthisis)	7 months
Do. do.	2 years
Meningitis, caused by being accidentally struck on the head	11 months
Accidentally suffocated	3 months
Accidental death by drowning	4 years
Accidentally choked by an obstruction of blood in the throat	1 day

MORTUARY.

During 1913, 12 bodies were removed to the Public Mortuary, West Walls, and post-mortem examinations were performed upon 8 of the bodies at the Mortuary

UNCERTIFIED DEATHS.

During the year 21 deaths were registered in which no certificate was given by a medical man, and in which no Coroner's inquest was held.

During 1912, 16 such deaths were registered.

The 21 deaths in question were registered as follows.

No.	Sex.	Age.	Cause of Death as Registered.
1	Female	66 years	Heart Failure
2	Female	57 years	Heart Failure
3	Female	*1 month	Inanition
4	Male	57 years	Angina Pectoris
5	Female	85 years	Senile Decay
6	Male	18 months	Hæmorrhage of Brain. Convulsions
7	Female	75 years	Heart Failure
8	Male	42 years	Aortic Heart Disease
9	Male	56 years	Heart Failure
10	Male	74 years	Heart Disease
11	Female	59 years	Heart Disease
12	Male	*1 day	Premature Birth
13	Male	73 years	Heart Failure
14	Female	4 years	Acute Meningitis
15	Female	4 years	Heart Disease
16	Female	74 years	Heart Disease
17	Female	27 years	Heart Disease
18	Male	64 years	Heart Failure
19	Male	34 years	Pit Gas Poisoning
20	Female	73 years	Senile Decay
21	Male	*5 minutes	Premature Birth

*It will be observed that three of these twenty-one uncertified deaths were infants under one year of age.

MIDWIVES ACT, 1902.

(Supervision of Midwives.)

During 1913, 15 midwives were on the register as practising within the City.

At the end of each quarter of the year (and at all other times when necessary) all the midwives were visited, the necessary inspections of their books, bags, appliances, &c., being made.

1 midwife, in whose practice a case of Puerperal Fever occurred, was suspended. Her clothing, bag, and appliances were cleansed and disinfected.

No case was brought to my notice during the year of any unregistered or uncertified woman carrying on the practice of midwifery.

PUBLIC SLAUGHTER-HOUSES.

MEAT INSPECTION, &c., 1913.

During the year special post-mortem examination was made upon 82 diseased carcasses of meat at the Public Abattoir, as compared with 91 in 1912.

The following Table gives particulars of the carcasses examined.

Animal	Total number of animals slaughtered	Number of carcasses specially examined for disease	Number of cases in which the whole carcase was pronounced unfit for food	Number of cases in which portions of a carcase were pronounced unfit for food	Number of condemned carcasses affected with Tuberculosis
Oxen ...	3441	68	55	13	44
Sheep ...	15424	12	7	5	0
Calves ...	654	1	1	0	0
Pigs ...	3412	1	1	0	0
Totals ...	22931	82	64	18	44

HOUSING OF THE WORKING CLASSES.

HOUSING OF THE WORKING CLASSES ACT, 1890.

HOUSING, TOWN PLANNING, &C., ACT, 1909.

With respect to the character of dwelling houses in the City, all classes exist, comprising 1, 2, 3, and 4-roomed tenements, and those of 5 and more rooms. The type of house predominating is the modern through ventilated house, with front and back entrances, but there are houses in the older parts of the City of the back-to-back type, particularly in the narrow lanes and courts, some of which are approached by means of a passage beneath shop premises abutting upon the street front.

All the houses are composed either of brick or stone, or a combination of the two, and generally speaking may be said to be well built, which is borne testimony to by the fact that in very few instances have the walls been found to be in such a state of dilapidation as to be unfit for alteration or repair.

A number of the single and 2-roomed tenement dwellings are relics of the handloom weaving period, the lower room in a number of instances being sunk below the level of the adjacent ground.

This class of house furnishes a greater number of the worst dwellings in the City, to which considerable attention has been given since the 1909 Act came into operation, but it is not so much a question of the dilapidation of the outer walls as the faulty architecture and

dilapidated interiors which are met with, and the absence of damp proof courses, giving rise to wetness of walls.

The Local Authority, who have recently investigated the question of housing in Carlisle, are of opinion that there is no necessity at the present time to provide any new houses, having regard to the number of vacant houses and the number of new houses in course of construction and for which plans have been approved.

During the year 674 dwelling houses were inspected under and for the purposes of the above Acts.

58 of these houses, comprising 103 dwellings, were of the tenement type, and were considered on inspection to be in a state so dangerous to health as to be unfit for human habitation.

The remaining 616 houses were not unfit for human habitation, and such defects as were discovered during the inspection were remedied under the provisions of the Public Health and Local Acts in force (see page 100).

Representations were made to the Local Authority in respect of the 58 houses which were considered unfit for human habitation, and Closing Orders made under Section 17 (2) of the Housing, Town Planning, &c., Act, 1909.

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

Number and Situation.	Date represented to Committee.	Date of Closing Order served under Housing, Town Planning, &c., Act, 1909.	Date of Demolition Order served under Housing, Town Planning, &c., Act, 1909.	Results.
19, 21, & 23 Ricker-gate	3rd March, 1911	9th May, 1911	12th April, 1912	Houses demolished and site cleared by City Surveyor
31, 33, & 35 Queen Street	8th Dec., 1911	9th Jan., 1912	11th Oct., 1912	Made habitable, and converted into four-roomed houses with front and back entrances
54, 56, 58, 60 & 62 Queen Street	1st March, 1912	12th April, 1912	...	Made habitable, and converted into four-roomed houses with front and back entrances
9 Broadguards	1st March, 1912	12th April, 1912	...	Closing Order still in operation. Owner has property in hand
10 and 12 Queen Street	7th June, 1912	11th July, 1912	...	Made habitable, and converted into four-roomed house with front and back entrances
1, 3, 5, 7, and 9 Rigg Street	7th June, 1912	11th July, 1912	...	Made habitable, and converted into four-roomed houses with front and back entrances
23, 25, 27, & 29 Rigg Street	7th June, 1912	11th July, 1912	...	Made habitable, and converted into self-contained through houses with front and back entrances

Housing, Town Planning, &c., Act, 1909—*continued.*

Number and Situation.	Date represented to Committee.	Date of Closing Order served under Housing, Town Planning, &c., Act, 1909.	Date of Demolition Order served under Housing, Town Planning, &c., Act, 1909.	Results.
67, 69, 71, 73, 75, 77, 79, and 81 Rigg Street, and 3 houses in Macdonald's Court, Rigg Street	7th June, 1912	11th July, 1912	...	Made habitable, and converted into four-roomed houses with front and back entrances. The latter have been added to the houses in Rigg Street
20—38 White Row, and 40—52 Cross Row	4th Oct., 1912	6th Nov., 1912	...	Demolished by owner
2 houses, Fire Station Lane, Junction Street	4th Oct., 1912	6th Nov., 1912	...	Made habitable
2 & 4 Finkle Street, and 3—15 Twenty-man's Court, Finkle Street	18th Oct., 1912	11th Dec., 1912	9th Sept., 1913	Purchased by Corporation for street improvements
8, 10, & 12 Drovers' Lane. 17 and 18 Slack's Court, Drovers' Lane	18th Oct., 1912	11th Dec., 1912	9th Sept., 1913	Demolition Orders still in operation
2, 3, 4, 5, 6, 7, 8, 9, and 10 Young's Lane, Rickergate	28th Feb., 1913	8th April, 1913	...	Owner has property in hand
13 & 15 Rickergate, and 1 and 2 Swifts Row, Rickergate	28th Feb., 1913	8th April, 1913	28th Oct., 1913	Demolition Orders still in operation
2 houses in Thompson's Court, Fisher Street	28th Feb., 1913	8th April, 1913	28th Oct., 1913	Demolition Orders still in operation

Housing, Town Planning, &c., Act, 1909—*continued.*

Number and Situation.	Date represented to Committee.	Date of Closing Order served under Housing, Town Planning, &c., Act, 1909.	Date of Demolition Order served under Housing, Town Planning, &c., Act, 1909.	Results.
11 & 13 Mary Street, and 7 houses in Watt's Court, Mary Street	26th Sept., 1913	14th Oct., 1913	...	Closing Orders still in operation
15 & 17 Mary Street, and 12 houses in Pattinson's Court, Mary Street	26th Sept., 1913	14th Oct., 1913	...	Closing Orders still in operation
12, 14, 16, 18, 20, 22, 24, 26, 28, 30, and 32 Mary Street	26th Sept., 1913	14th Oct., 1913	...	Closing Orders still in operation
37, 39, & 41 Rickergate, and 1, 2, and 3 Drovers' Lane, Rickergate	24th Oct., 1913	28th Oct., 1913	...	Closing Orders still in operation
31 & 33 Rickergate. 1, 2, 3, 4, 5, 6, 7, and 9 Barley Stack Lane, Rickergate	21st Nov., 1913	9th Dec., 1913	...	Closing Orders still in operation
7, 9, & 11 Peascod's Lane	21st Nov., 1913	9th Dec., 1913	..	Closing Orders still in operation

Table showing number of dwelling houses erected in the City from 1891 to 1913 inclusive.

Year.	No. of Houses erected.	Year.	No. of Houses erected.
1891	149	1903	170
1892	81	1904	269
1893	148	1905	181
1894	184	1906	183
1895	176	1907	42
1896	198	1908	27
1897	217	1909	7
1898	208	1910	23
1899	226	1911	11
1900	262	1912	11
1901	181	1913	18
1902	178		

MILK SUPPLIES.

DAIRIES, COWSHEDS, AND MILKSHOPS, &c.

The milk supply of the City consists chiefly of that from the byres within the City, and to a smaller extent from the surrounding rural district.

There are 59 byres in the City, accommodating about 440 cows.

The cattle are under the constant supervision of the City Veterinary Surgeon, and the dairy buildings and places from which milk is sold are regularly inspected by the staff of the Health Department.

During the year 15 samples of milk were purchased for bacteriological observation from carts of persons vending milk within the City, whose dairies were outside. The samples were submitted to Professor Delepine for the purpose of inoculation tests upon guinea-pigs in order to ascertain the presence or absence of tubercle bacilli in

the milk. Reports upon all the samples were to the effect that no case of Tuberculosis had occurred in the animals experimented upon.

The question of safeguarding the milk supply of the City has always received much of my personal attention, as it did for some years also that of my predecessor, Dr. Brown, but for the information of everybody concerned I think it not inopportune to outline one or two of the more modern measures of precaution which are in operation.

The Veterinary Surgeon attends at the Auction Marts of the City and makes an examination of every milk cow offered for sale. In the event of any such cow being purchased by a cowkeeper or dairyman within the City, the Veterinary Surgeon visits the premises and makes a thorough examination and submits the animal to the Tuberculin test.

The conditions of sale at both the Auction Marts enables the purchaser of a milk cow, which upon examination does not satisfy the Veterinary Inspector, to return such animal within four days of purchase.

In the case of any cow, either at the Auction Marts or anywhere else within the City, which is or appears to be suffering from Tuberculosis of the udder, indurated udder, or other chronic disease of the udder, or any bovine animal which is or appears to be suffering from Tuberculosis with emaciation, other than animals for slaughter at the Public Slaughter-houses, under the Tuberculosis Order, 1913, all such animals are ordered by the Veterinary Inspector to be sent back to the place from which they came, and the County or other Authority concerned is forthwith notified of the facts relating to the disease of the animal and the place to which it has been sent.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

Analytical Report for the year ended 31st December, 1913 :—

1. Milk; and cream not sold as preserved cream.

	(a) Number of samples examined for the presence of a preservative.	(b) Number in which a preservative was reported to be present.
Milk	38	Nil
Cream	Nil	Nil

2. Cream sold as preserved cream.

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(i) Correct statements made	...	...	3
(ii) Statements incorrect	...	...	nil
Total	...	...	3

(b) Determinations made of milk fat in cream sold as preserved cream.

(i) Above 35 per cent.	...	...	3
(ii) Below 35 per cent.	...	...	nil
Total	...	...	3

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V (1) and the proviso in Article V (2) of the Regulations have not been observed nil

(d) Particulars of each case in which the Regulations have not been complied with, and action taken nil
—

3. Thickening substances. Any evidence of their addition to cream or to preserved cream. Action taken where found. Not sought for.

4. Other observations—

Milk—Of the 38 samples of milk submitted for analysis, all were found to be free from preservatives.

Cream—No samples other than preserved cream were submitted for analysis.

Preserved Cream—3 samples of preserved cream were examined and the statement on the labels as to preservatives was found to be correct. The milk fat in each of the 3 samples was above 35 per cent.

REPORT OF VETERINARY INSPECTOR.

On the commencement of the Tuberculosis Order, 1913, which came into operation on the 1st May, it was considered advisable that all newly purchased milk cows intended to be housed within the City should be submitted to the Tuberculin test. In this way dairymen as well as milk consumers would be protected from the risk of diseased dairy cattle.

The testing of all newly purchased cows entails a number of visits being made to the individual cowshed for the purpose of inoculation and the subsequent taking

of the temperature of each animal, which must be done six times in order to carry out the test efficiently.

The owner of the animal informs me immediately he has made a purchase, and on the following day an examination of the animal is made, particular attention being given to the condition of the udder, and at the same time the temperature is taken. On the second evening, if the temperature is normal, the test dose of Tuberculin is injected. The temperature of the animal is again taken at the ninth, twelfth, fifteenth, and eighteenth hours after injection, thus conforming to the practice advocated by Sir John MacFadyean.

In the event of a cow re-acting to the test, the owner is given a certificate free of charge, so that all this extra but essential work is carried out without additional expense to the dairyman.

During the year 247 cows were thus tested. Of this number 67 gave a characteristic 're-action suggestive of tubercular infection and were returned to the sellers.

4 notifications under the Tuberculosis Order, 1913, were received. 2 of the animals were found to be in a very emaciated condition; the other two were tested with Tuberculin, one case exhibiting a characteristic re-action, the remaining one being doubtful. Two of the animals were slaughtered under the provisions of the Order. Post-mortem examinations made upon the carcasses showed advanced Tuberculosis in each instance.

All the bovine animals exposed for sale in the Auction Marts were examined, the following diseases being discovered :—

Indurated Udder	...	...	...	6
Tuberculosis with emaciation	...			1
Chronic disease of the udder	...	...		1
				—
				8
				—

The necessary notices were served on the owners, and the County Veterinary Inspector notified as to the destination of the 8 animals.

The Auction Marts have been visited regularly each Monday and 12,052 pigs examined.

At the request of the Medical Officer of Health and Chief Sanitary Inspector, 20 carcasses of beef have been examined at the Public Slaughter-houses, 19 of which I certified as unfit for human food.

During the year 2 cases of Parasitic Mange were reported. The animals were isolated and treated until they were cured, the necessary cleansing and disinfection of the premises being subsequently carried out.

On the night of 13th October, 1913, whilst motoring towards the City, I observed an emaciated cow being driven over Eden Bridges. I examined the cow and asked the drover its destination, which I was informed was the Caledonian Railway Dépôt, where it was to be trucked along with other cattle. In company with a Constable I visited the Caledonian Railway Dépôt, and after search-

ing and making enquiries I concluded she was not there. I likewise visited the North Eastern Railway and the Maryport and Carlisle Railway Depôts with a similar result. Later on the same night, in company with Inspector Percival, I visited the Maryport and Carlisle Railway Depôt, and on returning via the Viaduct I found the cow being driven from the Caledonian Railway Yard. On asking the drover where he was taking the cow to I was informed that he was going to the North British Railway Yard to truck with other cattle. I detained the animal and had her kept in the pinfold at the City Police Office. The owner was notified that he might slaughter the animal, which he did at the Public Slaughter-house. A post-mortem examination revealed generalized Tuberculosis of long standing.

4,916 examinations of milk cattle were made in order to ascertain the presence of disease likely to affect the milk supply. The following conditions likely to affect the milk secretion of the regular occupants of the byres were discovered:—

Milk Fever	...	...	...	...	5
Septicæmia	...	...	...	...	4
Pneumonia	...	...	...	...	3
Gastric derangement	...	...	...	...	2
Inflammation of the udder	...	...	...	...	1
					<hr/> 15 <hr/>

The milk of these 15 cows was destroyed until the animals were convalescent.

The Corporation stud consists of 22 horses, which includes 2 horses used by the Fire Brigade. I am pleased to report that during the year the condition of all the

animals has been very satisfactory, and all have been in constant and regular work.

COVERED MARKETS.

In my Annual Reports for 1908 to 1912 I have spoken of the nuisance from the presence of dogs in the Covered Markets, and the danger to the health of the public from the contamination of food exposed for sale

Notices are posted up at several points inside the Market warning the public against bringing dogs into the building, but there are to be seen every day, chiefly belonging to occupiers of shops and stalls, dogs which spend their whole daytime in the Markets.

SEWAGE WORKS.

During the past year I have paid several visits—all of them surprise visits—to the Sewage Works, and am satisfied that the work is carried out by those employed there in a careful manner.

AMBULANCE.

A Horse Ambulance provided by the Corporation is under the superintendence of the Head Constable, and is housed at the Chief Fire Station, Spring Gardens Lane. It is in keeping with modern requirements, and is available for use by the general public in case of accident and injury by fire, &c., or its use may be obtained for the removal of any sick or convalescent person other than in infectious diseases (for which a special ambulance is provided).

During the year its use was requisitioned on 85 occasions.

CARLISLE PUBLIC BATHS.

NUMBER OF BATHERS DURING 1913.

The total number of bathers was 63,701, as compared with 58,647 in 1912, and 60,190 in 1911.

SWIMMING BATHS.				1st Class.	2nd Class.	Total.
Adults (both sexes)	...	...	...	3,795	16,313	20,108
Elementary School Children (Free)	...	...	...	...	12,735	12,735
Boys' Brigade, &c. (swimmers charged 1d. each)	...	...	...	...	5,022	5,022
Club and Contract Bathers (1st and 2nd Class) ...	...	...	...	...	...	8,456
PRIVATE BATHS.						
Adults (both sexes)	...	...	...	4,593	10,237	14,830
Vapour	...	...	...	...	...	90
Salt	...	...	...	4	5	9
TURKISH BATHS.						
Males	...	...	...	471	1,528	1,999
Females	...	...	...	38	414	452
Totals	...	...	...	...	...	63,701

WATER SUPPLY.

During the year samples of water were regularly taken from a domestic tap and submitted to chemical and bacteriological examination, the quality of the water being uniformly good.

The chemical and bacteriological results of quarterly samples are given in the following pages, together with the results of a special examination as to the action of the water upon lead.

Total monthly distribution of Water from
Cumwhinton covered reservoir during 1913:—

Month.	Number of Gallons.	No. of Gallons per head, per day.
January ...	54,030,000	31·12
February ...	47,340,000	30·18
March ...	53,050,000	30·56
April ...	51,590,000	30·71
May ...	56,080,000	32·30
June ...	55,960,000	33·31
July ..	60,350,000	34·76
August ...	63,240,000	36·43
September	58,340,000	34·72
October ...	57,460,000	33·09
November..	53,070,000	31·59
December ...	54,900,000	31·62

Total annual distribution of Water from
Cumwhinton covered reservoir during the
years 1911, 1912, 1913:—

Year.	Number of Gallons.	No. of Gallons per head, per day.
1911	645,490,000	31·48
1912	645,080,000	31·47
1913	665,410,000	32·53

Reports on Samples of Water from Domestic Tap.

CHEMICAL ANALYSIS BY DR. HELLON, WHITEHAVEN.

Results shown in grains per gallon.

1913.

CHEMICAL.	APRIL.	JULY.	OCT.	DEC.
Total Solid Matter in solution dried at 212° F	7·000	7·560	8·120	6·440
Chlorine existing as Chlorides	·525	·525	·560	·560
Ammonia	traces	·001	traces	traces
Albuminoid Ammonia ...	·004	·004	·003	·003
Nitrogen existing as Nitrates...	traces	traces	traces	traces
Oxygen absorbed in 15 minutes at 80° F	·022	·046	·044	·044
Oxygen absorbed in 4 hours at 80° F	·045	·080	·082	·088
Lead and other Poisonous Metals	None	None	None	None
Hardness before boiling ...	6 $\frac{1}{4}$ °	6°	6°	5 $\frac{1}{2}$ °
Hardness after boiling ...	1 $\frac{1}{2}$ °	$\frac{3}{4}$ °	1 $\frac{1}{4}$ °	1 $\frac{1}{2}$ °
Appearance in two-foot tube ...	Clear yellowish- green	Clear yellowish- green	Clear yellowish- green	Clear greenish- yellow
Smell when heated to 100° F...	None	None	None	None
Microscopical Examination ...	Vegetable debris	Vegetable debris	Vegetable debris	Vegetable debris

A determination of the plumbo-solvent action of the water was made according to the method of the Local Government Board in all samples taken during the year, with the following results :—

Lead dissolved at 12° C—

	1st	2nd	3rd	4th	5th	Average.
APRIL	50 c.c.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	
	·02	·03	·03	·02	·02	·02

Lead dissolved at 16° C—

	1st	2nd	3rd	4th	5th	Average.
JULY	50 c.c.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	
	·04	·03	·03	·04	·03	·03

Lead dissolved at 12·5° C—

	1st	2nd	3rd	4th	5th	Average.
OCT.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	
	·02	·02	·02	·04	·02	·02

Lead dissolved at 9° C—

	1st	2nd	3rd	4th	5th	Average.
DEC.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	50 c.c.	
	·02	·02	·02	·03	·03	·02

BACTERIOLOGICAL EXAMINATION BY PROF. DELÉPINE, MANCHESTER.

QUANTITATIVE ANALYSIS.		1913.							
A Aerobic micro-organisms growing for 3 days in nutrient gelatine at 20° C to 21° C.		Number of colonies in one gramme of water.				No. of kinds clearly recognisable.			
		APRIL.	JULY.	OCT.	DEC.	APR.	JULY.	OCT.	DEC.
Non-Liquefying Bacteria ...		3	4	2	8	2	1	1	3
Liquefying Bacteria ...		...	3	1	4	...	3	1	3
Other Micro-Organisms ...		...	...	...	...	...	...	...	...
B Anaerobic Micro-Organisms ...		...	...	...	...	...	...	...	...
QUALITATIVE ANALYSIS.		1913.							
		APRIL.	JULY.	OCT.	DEC.				
A Bacteria associated with sewage or faecal pollution ...		B. Coli communis not found in 100 C. C.	B. Coli type ? Not found in 10 C.C. Found in 100 C. C.	B. Coli communis not found in 100 C. C.	B. Coli communis not found in 100 C. C.				
B Bacteria associated with disease		Not found	Not found	Not found	Not found				

METEOROLOGICAL STATISTICS, 1913.

OBSERVATIONS TAKEN AT THE CEMETERY BY J. T. CHARLTON, ESQ.

The past year was exceptional in its deficiency in rainfall and in the high average temperature for the whole twelve months. As far as the rainfall goes the total deposit was about three inches below the average, and the number of days on which rain fell was 23 less than in the previous year, as may be seen from the following comparison:—

1913, 27.17ins. falling on 194 days
1912, 30.01ins. falling on 217 days
1911, 30.20ins. falling on 181 days

The average temperature for the year—striking the mean between the exposed thermometers on the one hand and the shaded thermometers on the other—was 57 degrees, as compared with 55.4 degrees for 1912, 57 for 1911, and 55.1 for 1910. It is rather remarkable that last year gave a record in the temperature in the sun. In 1911 a reading of 131 degrees on July 12th was the highest that had been recorded in this district, and a similar reading was made on July 1st, 1912, but last year on June 15th this reading was exceeded by two degrees, the maximum being 133. The highest shade temperature was 83 degrees on June 16th, as compared with 85 on July 16th, 1912, and 88 on July 12th, 1911. On the other hand there were no very low readings last year, the lowest being 16 degrees on March 18th and December 31st, as compared with zero on November 30th, 1912, and 12 degrees on February 2nd, 1911. Further details as to temperature may be gathered from the following monthly records:—

THERMOMETER READINGS.

			Solar Radiation, Highest. deg.		Terrestrial Minimum, Lowest. deg.		Mean. deg.
January	...	...	78 on 1st	...	17 on 14th	...	45.9
February	...	...	88 on 24th	...	20 on 23rd	...	50.5
March	...	...	115 on 25th	...	16 on 18th	...	59.2
April	...	...	118 on 25th	...	29 on 7th	...	67.3
May	...	...	125 on 26th	...	27 on 16th	...	74.0
June	...	...	133 on 15th	..	36 on 2nd	...	80.1

			Solar Radiation, Highest. deg.		Terrestrial Minimum, Lowest. deg.		Mean. deg.
July	...	...	130 on 29th	...	42 on 26th	...	81.0
August	...	...	128 on 3rd	...	38 on 7th	...	80.4
September	...	...	120 on 7th	...	31 on 18th	...	74.0
October	...	...	111 on 1st	...	19 on 24th	...	65.8
November	...	...	94 on 1st	...	28 on 22nd	...	59.0
December	...	...	72 on 11th	...	16 on 31st	...	46.3

			Shade Maximum. deg.		Shade Minimum. deg.		Monthly Mean. deg.
January	...	...	54 on 7th	...	35 on 13th	...	38.2
February	...	...	53 on 25th	...	25 on 23rd	...	40.5
March	...	...	58 on 31st	...	20 on 18th	...	40.9
April	...	...	67 on 24th	...	32 on 15th	...	46.2
May	...	...	71 on 31st	...	30 on 16th	...	50.5
June	...	...	83 on 16th	...	37 on 2nd	...	57.5
July	...	...	82 on 29th	...	44 on 26th	...	57.5
August	...	...	79 on 3rd	...	40 on 7th	...	58.2
September	...	...	74 on 24th & 28th	...	34 on 18th	...	55.9
October	...	...	67 on 13th	...	25 on 24th	...	51.5
November	...	...	57 on 15th	...	29 on 22nd	...	46.8
December	...	...	53 on 3rd	...	17 on 31st	...	40.6

					Mean at dew point. deg.		Monthly range. deg.
January	...	...	...	...	35.0	...	21
February	...	...	...	...	36.5	...	28
March	...	...	...	...	37.2	...	38
April	...	...	...	...	43.5	...	35
May	...	...	...	...	52.6	...	41
June	...	...	...	...	54.5	...	46
July	...	...	...	...	55.5	...	38
August	...	...	...	...	54.5	...	39
September	...	...	...	...	49.9	...	40
October	...	...	...	...	46.8	...	42
November	...	...	...	...	42.2	...	28
December	...	...	...	...	38.4	...	36

As is usually the case the barometrical readings were highest in the driest and lowest in the wet months. The highest reading was 30.506 inches on December 18th, as compared with 30.404 inches on April 23rd and October 4th in 1912, and 30.610 inches on February 1st, 1911. The lowest reading was 28.368 inches on March 19th, as compared with 28.780 on the

same date in the previous year and 28.356 on November 7th, 1910. The monthly records are as follows:—

BAROMETRICAL READINGS.

		Highest. Inches.		Lowest. Inches.		Mean. Inches.	Monthly Range.
January	...	30.176 on 26th	...	28.958 on 31st	...	29.530	... 1.218
February	...	30.478 on 12th	...	29.262 on 1st	...	29.970	... 1.216
March	...	30.206 on 25th	...	28.368 on 19th	...	28.690	... 1.838
April	...	30.144 on 4th	...	28.900 on 26th	...	29.644	... 1.244
May	...	30.320 on 15th	...	29.384 on 6th	...	29.976	... 0.936
June	...	30.274 on 30th	...	29.334 on 10th	...	29.884	... 0.940
July	...	30.228 on 3rd	...	29.560 on 6th	...	29.674	... 0.668
August	...	30.222 on 18th	...	29.586 on 23rd	...	29.920	... 0.636
September	...	30.376 on 7th	...	29.078 on 14th	...	29.802	... 1.298
October	...	30.200 on 13th	...	29.036 on 29th	...	29.724	... 1.164
November	...	30.188 on 22nd	...	28.930 on 12th	...	29.640	... 1.258
December	...	30.506 on 18th	...	29.034 on 4th	...	29.940	... 1.472

The following table indicates that July is the least rainy of the summer months, but August, which had a black record in 1910 and 1912, did something last year to retrieve its character as a summer month:—

RAINFALL.

		1913.			1912.			1911.	
		Inches.	Rainy days.		Inches.	Rainy days.		Inches.	Rainy days.
January	...	2.17	20	...	1.45	16	...	1.04	13
February	...	1.27	15	...	1.39	19	...	3.62	16
March	...	3.37	21	...	3.81	26	...	1.33	15
April	...	2.77	15	...	0.42	8	...	2.75	13
May	...	1.78	16	...	1.81	17	...	2.32	12
June	...	2.40	17	...	4.13	24	...	3.79	13
July	...	1.12	11	...	1.83	14	...	0.69	7
August	...	2.17	10	...	4.47	24	...	2.20	11
September	...	2.11	8	...	2.22	10	...	2.16	11
October	...	2.51	16	...	2.1	18	...	2.23	14
November	...	3.4	29	...	2.65	18	...	3.34	22
December	...	2.46	16	...	3.73	23	...	4.73	29
Total	...	27.17	194	...	30.01	217	...	30.20	181

The prevailing winds were south-west, blowing on 117 days as compared with 99 days in the previous year and 100 days in 1911. The following table gives a comparison with 1912:—

WIND.

		N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm
January	...	0	1	2	13	4	2	2	1	6
February	...	1	4	1	6	2	7	0	0	7
March	...	1	0	0	4	1	18	1	1	5
April	...	0	5	1	5	1	9	4	5	0
May	...	0	4	4	6	2	7	6	2	0
June	...	0	2	1	5	5	6	10	1	0
July	...	3	11	1	0	3	7	2	4	0
August	...	0	7	4	3	0	12	3	2	0
September	...	0	4	4	10	3	4	2	3	0
October	...	0	12	0	2	7	9	0	1	0
November	...	0	2	2	4	2	16	2	2	0
December	...	0	2	1	2	1	20	2	2	0
		—	—	—	—	—	—	—	—	—
1913	...	5	54	21	60	31	117	34	24	18
1912	...	12	40	18	42	25	99	46	22	62

The mean for the month in wind, cloud, sunshine, &c., is given below. For comparison 10 is taken as a maximum for ozone, 12 for wind, and 10 for cloud.

		Ozone.	Wind.	Cloud.	Sun- shine.	Earth temperature.	
						1ft.	4ft.
January	...	3.8	2.2	6.6	—	—	—
February	...	3.1	2.3	5.9	—	—	—
March	...	5.7	3.3	6.7	—	—	—
April	...	5.0	5.6	6.9	—	—	—
May	...	4.7	4.8	6.9	—	—	—
June	...	4.5	4.4	4.2	5.5	—	—
July	...	4.1	2.8	6.1	4.3	59.9	57.8
August	...	4.0	2.5	5.6	4.4	62.0	59.9
September	...	2.3	4.4	6.4	3.5	56.3	56.4
October	...	3.5	4.3	6.1	1.7	50.1	55.0
November	...	5.2	6.6	6.1	1.25	45.2	48.1
December	...	4.5	5.8	7.3	0.10	39.0	42.0

The following local particulars upon observations made at the Denton Holme Allotment Gardens in relation to evaporation have been supplied to me by W. Eggleston, Esq.:—

The evaporation gauged from an open vessel 2 feet above the ground gives a total of 31.08 inches during the year. The greatest evaporation took place during the month of August, being equal to 4.45 inches. The lowest was in the month of November, being equal to .57 inch.

In June last arrangements were made with the Director of the Meteorological Office, South Kensington, to supply me with daily weather forecasts for this district, and the daily weather report and synoptic chart published by the department.

The forecast is sent by telegram and arrives about 9-30 in the forenoon, giving a forecast of the weather for 24 hours from 12 o'clock noon.

The forecast and weather report are posted, and can be seen at the Town Hall every day except Sunday (when no forecast is available); in addition a chart showing local meteorological observations taken at the Cemetery by Mr. Charlton is posted up, all of which I am led to believe are much appreciated by the inhabitants of the City.

The daily weather forecasts for this particular part of the British Isles require extreme care, as weather conditions are exceedingly difficult to prognosticate; having regard to these difficulties the daily forecast appears to me to be extraordinarily good and reliable.

RAINFALL.

MONTHS.	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913.		Average for 10 years 1903-1912.
											Rainfall, days on which Rain fell.	Number of Rain fall.	
January	in. 4.34	in. 2.18	in. 1.42	in. 4.02	in. 1.16	in. 2.92	in. 1.69	in. 2.73	in. 1.04	in. 1.45	in. 2.17	20	in. 2.30
February	... 5.00	... 2.24	... 1.38	... 1.70	... 1.74	... 2.68	... 1.50	... 4.04	... 3.62	... 1.36	... 1.27	15	... 2.53
March	... 3.76	... 2.54	... 2.56	... 2.00	... 2.65	... 3.68	... 3.14	... 1.25	... 1.33	... 3.81	... 3.37	21	... 2.67
April	... 2.06	... 2.36	... 2.90	....94	... 2.06	... 2.08	... 2.52	... 1.69	... 2.75	....42	... 2.77	15	... 1.98
May	... 2.76	... 2.62	... 1.56	... 3.80	... 3.30	... 3.28	....81	... 2.07	... 2.32	... 1.81	... 1.78	16	... 2.43
June	... 1.60	... 1.86	... 1.26	... 1.46	... 4.64	... 1.70	... 2.95	... 1.53	... 3.79	... 4.13	... 2.40	17	... 2.49
July	... 4.80	... 1.84	... 2.54	... 2.04	... 2.38	... 3.50	... 4.44	... 3.76	....69	... 1.83	... 1.12	11	... 2.78
August	... 4.90	... 3.54	... 3.06	... 4.72	... 3.32	... 3.18	... 3.68	... 4.28	... 2.20	... 4.47	... 2.17	10	... 3.74
September	... 3.76	... 1.14	... 2.20	... 1.30	... 6.70	... 3.88	... 2.50	....38	... 2.16	... 2.22	... 2.11	8	... 2.62
October	... 9.54	... 1.54	... 2.22	... 4.40	... 6.22	... 1.98	... 5.22	... 1.68	... 2.23	... 2.10	... 2.51	16	... 3.71
November	... 2.58	... 2.60	... 2.54	... 3.02	... 2.68	... 2.56	....86	... 3.61	... 3.34	... 2.65	... 3.4	29	... 2.64
December	... 2.14	... 2.26	... 1.34	... 2.48	... 5.64	... 1.86	... 3.82	... 2.62	... 4.73	... 3.73	... 2.46	16	... 3.06
Totals ...	47.24	26.72	24.98	31.88	36.49	33.30	33.13	29.64	30.20	30.01	27.17	194	32.95
Total number of days on which Rain fell {	236	198	182	194	211	201	162	197	181	217	...	...	...

ANNUAL REPORT
OF
CHIEF SANITARY INSPECTOR.

CHIEF INSPECTOR'S ANNUAL REPORT.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH
COMMITTEE.

Gentlemen,

I have the honour of presenting to you my Annual Report upon the work of the Sanitary Inspectors for the year 1913.

The inspection of the district has been carried out periodically as in previous years. The courts, yards, and lanes which contain some of the poorer class dwelling houses have received special attention. Such nuisances as were discovered have been dealt with under the provisions of the various Health Acts and Bye-laws in force within the City, and I am pleased to be able to report that in no instance was it necessary to institute Police Court proceedings to procure compliance with notices served for the abatement of nuisances.

A great amount of good work has been done in instructing careless tenants as to their common duties, and by this means marked improvements have been effected in many dwellings and their surroundings.

I am, Gentlemen,

Your obedient Servant,

C. W. HILL,

Chief Sanitary Inspector.

HOUSE INSPECTION.

Table showing the particulars of Inspection.

The table does not include those houses which were dealt with under Section 17 of the Housing, Town Planning, &c., Act, 1909. These are set out on pages 77-79.

Name of Street	Number of houses inspected	Defective water-closets	Choked and defective drains, gullies, and waste pipes	Dilapidated paving and flagging	Defective roofs and spouting of houses	Insufficient drainage and w.c. accommodation	Defective walls, floors, stair-cases, & ceilings of houses	Insufficient light & ventilation	Overcrowding of houses	Animals and fowls im-properly kept	Miscellaneous
Colville Terrace ...	29	2	1	17	2	...	...	...	...	...	3
Colville Street ..	59	13	7	9	8	...	...	...	...	...	...
Westmorland Street ...	79	11	...	2	6	...	1	...	...	...	...
Norfolk Street ..	39	...	1	1	1	...	...	...	...	...	...
Morley Street ...	17	2	...	...	4	...	...	...	...	...	...
Northumberland St....	20	2	1	1	...	...	...	...	...	...	...
Cumberland Street ...	58	2	2	3	8	...	...	...	...	...	1
Dale Street ...	11	...	...	...	1	...	...	...	...	...	...
Norfolk Terrace ..	8	...	...	...	1	...	...	...	...	...	...
Collingwood Street ...	72	4	9	7	7	...	3	...	...	1	...
Denton Street ...	8	...	...	...	1	...	...	...	...	...	...
Trafalgar Street ...	74	8	4	2	5	...	1	...	...	...	1
Blencowe Street ...	12	...	...	...	...	...	...	...	...	...	...
Lorne Street ...	42	3	7	1	1	...	...	...	...	...	1
Randall Street ...	12	...	...	...	...	...	...	...	...	...	...
Sheffield Street ...	64	4	25	30	21	...	2	...	...	1	2
Lorne Crescent ...	7	...	...	...	...	...	...	...	...	...	...
Milbourne Street ...	5	...	1	1	2	...	...	...	...	...	...
Totals ...	616	51	58	74	68	...	7	...	...	2	8

BAKEHOUSES.

There are 46 bakehouses upon the register, 4 of which are underground bakehouses.

These premises have been carefully supervised and 14 notices served to procure compliance with the provisions of the Factory and Workshop Act, viz., 11 for lime-washing; 2 for dampness due to defective spouting; and 1 for defective roof.

DAIRIES, COWSHEDS, AND MILKSHOPS.

There are 61 cow-keepers and milk-sellers upon the register. Their premises have been inspected, and the provisions of the Dairies, Cowsheds, and Milkshops Order as to air space and ventilation, cleansing of milk vessels, &c., have been enforced.

COMMON LODGING-HOUSES.

There are three licensed common lodging-houses within the City. Several visits have been paid to these houses both day and night, and the conditions found were generally satisfactory.

FRIED FISH AND POTATO SHOPS.

There are 32 fried fish and potato shops on the register. These places have been frequently inspected, and the occupiers enjoined to observe cleanly methods in the management of their business.

ICE CREAM SHOPS.

There are 7 ice cream shops in the City. They have been frequently inspected for the purpose of ascertaining their sanitary condition, and attention has also been paid to the articles used in the manufacture of this commodity.

OFFENSIVE TRADES.

The premises whereon offensive trades are carried on have received attention, and in each case the business was found to be conducted in a proper manner.

VANS USED AS DWELLINGS.

All the vans entering the City to attend fairs, &c., have been inspected in order to ascertain their sanitary condition. On the whole they were found to be satisfactory.

URINALS AND GULLIES.

These have been regularly cleansed by the staff of men employed for this purpose.

PUBLIC MARKETS.

The Public Markets and premises where food is prepared or exposed for sale have been regularly inspected, and the necessity of the observance of hygienic measures being taken have been constantly pointed out.

DISEASED AND UNSOUND FOOD.

The following table shows the amount of food seized or surrendered as being unfit for human consumption :—

Nature of Food Condemned.					Quantity.
Beef ...	...	...	...	...	25,598 lbs.
Mutton	...	...	...	...	1,306 „
Pork	...	...	...	...	172 „
Cheese	...	...	...	...	224 „

PUBLIC ABATTOIR AND RAILWAY SLAUGHTER-HOUSES.

Frequent visits have been paid to the Public Abattoir, which has been kept in a satisfactory condition.

The Railway Slaughter-houses have also been frequently visited and kept under careful supervision. With few exceptions they were found in a satisfactory condition.

The following table gives the number of animals killed during the years 1904-1913:—

PUBLIC SLAUGHTER-HOUSES.

Year.	Beasts.	Sheep and Lambs.	Calves.	Pigs.	Total.
1904	4,075	16,860	759	4,753	26,447
1905	3,946	15,657	751	4,674	25,028
1906	4,059	15,274	797	4,139	24,269
1907	4,020	14,745	962	4,419	24,146
1908	3,772	14,911	760	4,064	23,507
1909	3,713	16,799	690	3,744	24,946
1910	3,562	16,491	716	3,444	24,213
1911	3,462	15,711	808	4,018	24,000
1912	3,294	15,499	& 1 goat 653	3,993	23,439
1913	3,441	15,424	654	3,412	22,931

L. & N. W. RAILWAY COY.'S SLAUGHTER-HOUSE.

Year.	Sheep.	Lambs.	Calves.	Pigs.	Total.
1912	49,325	...	...	...	49,325
1913	38,922	...	2	...	38,924

N. E. RAILWAY COY.'S SLAUGHTER-HOUSE.

Year.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
1912	1	48,571	...	...	335	48,907
1913	...	39,426	...	...	...	39,426

M. R. COY'S SLAUGHTER-HOUSE.

Year.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Total.
1913	...	20,289	...	...	...	20,289

FOOD AND DRUGS.

During the year the articles set out in the following table have been purchased and submitted to the Public Analyst for analysis:—

FACTORY AND WORKSHOP ACTS.

The whole of the workshops have been inspected, and where infringements of the provisions of the Factory and Workshop Acts were discovered, steps were taken to have them remedied.

The total number of workshops upon the register, excluding bakehouses, is 232 as compared with 239 last year.

Four workshops were found to be without the Factory Abstract affixed, as prescribed by Section 128 of the Act. In each instance the Factory Inspector was notified, in accordance with the provisions of Section 133 of the Act.

Three complaints were received from H.M. Inspector of Factories, relating to Sanitary defects in factories and workshops, viz.:—

Unsuitable Sanitary Convenience	...	...	1
Dirty Bakehouse	...	...	2
			<hr/>
			3
			<hr/>

All the complaints were investigated and the defect remedied.

OUTWORKERS.

Seven lists of outworkers have been received, as required by the home work provisions of the Factory and Workshop Act, 1901.

All the outworkers' premises were visited and found to be in a satisfactory condition.

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK.

1.—Inspection of Factories, Workshops, and Workplaces.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF
NUISANCES.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (Including Factory Laundries)	58	...	...
WORKSHOPS (Including Workshop Laundries)	457	22	...
WORKPLACES (Other than Outworkers' premises included in Part 3 of this Report)	...	..	...
TOTAL	510	22	...

2.—Defects found in Factories, Workshops, and Workplaces.

Particulars,	Number of Defects.			Number of Pro- secutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—</i>				
Want of cleanliness	16	16	...	...
Want of ventilation ... ..	..	...	...	..
Overcrowding... ..	...	...	...	...
Want of drainage of floors ...	...	...	...	...
Other nuisances	4	4	...	...
Sanitary accommodation :—				
{ Insufficient	1	1	...	...
{ Unsuitable or defective	1	1	...	...
{ Not separate for sexes	...	...	...	...
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of under- ground bakehouse (s. 101)...	..	..	...	..
Breach of special sanitary re- quirements for bakehouses (ss. 97 to 100) ... ..	...	...	...	...
Other offences (Excluding offences relating to outwork, which, are in- cluded in Part 3 of this report)	...	...	...	...
Total	22	22	...	...

3.—Home Work.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.					
	Lists received from Employers.					
	Sending twice in the year.			Sending once in the year.		
	Lists.	Outworkers.		Lists.	Outworkers.	
		Con-tractors.	Work-men.		Con-tractors.	Work-men.
Wearing apparel—						
Making, &c. ...	6	...	8	1	...	1
Cleaning and Washing ...	...	...	...	...	...	...
Total ...	6	...	8	1	...	1

4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year			Number.
Important classes of work-shops, such as workshop bakehouses, may be enumerated here.	Workshops ...	...	214
	Domestic Workshops ...	...	18
	Bakehouses ...	...	46
	Total number of workshops on Register ...		278

5.—Other Matters.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (s. 133) ...	4
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5) :—	
Notified by H.M. Inspector ...	3
Reports (of action taken) sent to H.M. Inspector ...	4
Other ...	...
Underground Bakehouses (s. 101) :—	
Certificates granted during the year ...	...
In use at the end of the year ...	4

HOUSE REFUSE REMOVAL.

14,820 loads of refuse have been collected and removed to the refuse tips and destructor, being an increase of 1,537 loads as compared with 1912. This increase is due to the fact that the period of collection in the added area extended over the whole of 1913, as compared with a period of two months in 1912.

From the centre and business parts of the City, and also from a number of streets and courts which contain small houses of the tenement type, the refuse is collected daily, and from the residential parts twice and three times a week.

In some parts of the recently added area, ashpits and ashpit privies are still in existence. From these the refuse is removed about once a fortnight, but as soon as an efficient sewerage scheme is provided, ashpits and privies will be abolished and a collection instituted on the lines of that which prevails in other parts of the City.

GARBAGE.

132 loads of garbage have been removed from the Public Slaughter-houses by the Corporation carters.

INFECTIOUS DISEASES.

271 cases of infectious diseases, excluding Tuberculous diseases, have been notified, as against 252 last year. All the cases have been investigated and reported upon to the Medical Officer of Health, and 177 cases have been removed to the hospital for isolation.

TUBERCULOUS DISEASES.

351 cases of Tuberculosis have been investigated and reported upon to the Medical Officer of Health. Verbal and printed advice as to cleanliness, mode of living, and general hygiene was given in every instance.

DISINFECTION.

All the houses from which cases of infectious disease were removed to hospital, and rooms in which cases were isolated at home, were either sprayed with formaldehyde or cleansed under the supervision of your inspectors.

The bedding, clothing, &c., used, or which had been in contact with the infected person, was also disinfected by steam.

The following is a list of articles disinfected:—

Mattresses	...	...	...	...	517
Beds	...	...	...	...	283
Bolsters and Pillows	...	...	...	...	1,142
Blankets	...	...	...	...	695
Quilts	...	...	...	...	563
Sheets	...	...	...	...	360
Carpets and Rugs	...	...	...	...	437
Wearing Apparel	...	...	...	...	1,402
Miscellaneous Articles	...	...	...	...	1,438
Total	...	...	...	...	6,837

HORSES.

The number of horses under my charge at the Dépôt, Boustead's Grassing, is 18. 9 of these are engaged in house refuse removal, 8 are used for street cleansing purposes, and 1 is kept as a relief horse.

Summary of Sanitary Work performed in
connection with Inspection of District.

INSPECTIONS.	Number of	
	Premises Inspected.	Visits Paid.
HOUSES—		
Houses inspected in routine - -	674	903
„ inspected on complaint - -	151	183
„ „ for special enquiry - -	160	171
Visits re Infectious Diseases - -	560	1059
Common Lodging-houses inspected -	3	26
Common Yards, Courts, & Alleys inspected	Numerous	
TRADE PREMISES—		
Bakehouses - - - -	46	155
Laundries - - - -	1	1
Stables - - - -	9	34
Cowsheds - - - -	35	58
Milkshops - - - -	26	49
Ice Cream Shops - - - -	7	31
Fried Fish Shops - - - -	32	109
Food Manufactories - - - -	16	67
Slaughter-houses - - - -	4	187
Markets - - - -	4	180
Other Factories - - - -	4	14
„ Workshops and Workplaces -	232	457
Chimneys observed (smoke nuisances) -	9	28
Visits after serving notice to supervise works in progress - - - -	—	2552

Remedial Works.

HOUSES—

Houses Disinfected	-	-	-	-	300
„ from which bedding, &c., is removed for disinfection	-	-	-	-	286
„ Cleansed	-	-	-	-	28
„ in which overcrowding abated	-	-	-	-	8
Walls, damp and defective, remedied	-	-	-	-	12
Roof, guttering, or spouting repaired	-	-	-	-	157

DRAINAGE—

Privies, &c., abolished, and Water-closets substituted in lieu thereof	-	-	-	-	4
Water-closets repaired	-	-	-	-	82
Cisterns & Flushing Apparatus repaired	-	-	-	-	36
Pipes disconnected or defective, sink, &c.	-	-	-	-	7
Sinks provided	-	-	-	-	2
Urinals repaired	-	-	-	-	1
Drains reconstructed	-	-	-	-	59
„ tested by water (lengths)	-	-	-	-	86
„ „ smoke or chemicals	-	-	-	-	173
Houses connected to sewer	-	-	-	-	4

WATER—

Wells closed	-	-	-	-	1
Samples taken for analysis	-	-	-	-	9
Houses connected with water mains	-	-	-	-	2

YARDS—

Yards paved	-	-	-	-	83
Accumulations of manure, &c., removed	-	-	-	-	52
Erections in yard removed	-	-	-	-	1

TRADE PREMISES—

Workshops cleansed or limewashed	-	-	-	-	5
Bakehouses „ „	-	-	-	-	11
Other improvements affected	-	-	-	-	6

FOOD—

Carcases condemned	-	-	-	-	82
Other foods	-	-	-	-	224 lbs. cheese

VARIOUS—

Refuse Tips (visits)	-	-	-	-	73
Temporary or movable dwellings inspected	-	-	-	-	141
Birds and animals improperly kept, removed	-	-	-	-	11

LEGAL WORK—

Notices served, informal	-	-	-	-	947
„ „ statutory	-	-	-	-	5
Notices complied with	-	-	-	-	929
„ not „	-	-	-	-	23

