



ANNUAL REPORT

ON THE

HEALTH

OF THE

COUNTY BOROUGH OF CARDIFF,

FOR THE YEAR 1892,

BY

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1893.

COUNTY BOROUGH OF CARDIFF.

HEALTH AND PORT SANITARY COMMITTEE.

Mayor :

MR. COUNCILLOR W. E. VAUGHAN.

Chairman :

MR. ALDERMAN T. WINDSOR JACOBS.

Deputy-Chairman :

MR. ALDERMAN D. E. JONES.

MR. ALDERMAN T. REES.

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"	"	"	"
"	JAMES.	"	MUNN.
"	"	"	"
"	T. MOREL.	"	HUGHES
"	"	"	"
"	BRAIN.	"	MORGAN.
"	"	"	"
"	GERHOLD.	"	CROSSMAN

CARDIFF URBAN SANITARY AUTHORITY.

TOWN HALL, CARDIFF,

April, 1893.

TO THE CHAIRMAN AND MEMBERS OF THE CARDIFF URBAN SANITARY AUTHORITY.

GENTLEMEN,—

I have the honour of submitting to you my report for the year 1892, and of laying before you the usual tables of vital statistics.

By a General Order of the Local Government Board, dated 23rd March, 1891, it is prescribed that every Medical Officer of Health shall:—

“ Make an Annual Report to the Sanitary Authority up to the end of December in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority to take, during the year for preventing the spread of disease, and an account of the sanitary state of his district generally at the end of the year.

“ The report shall also contain an account of the inquiries which he has made as to conditions injurious to health existing in the district, and of the proceedings in which he has taken part or advised under any statute, so far as such proceedings relate to those conditions.

“ Also an account of the supervision exercised by him or on his advice, for sanitary purposes, over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year.

“ The report shall also record the action taken by him or on his advice during the year, in regard to offensive trades, to dairies, cowsheds, and milk-shops, and to factories and workshops.

“ The report shall also contain tabular statements of the sickness and mortality within the district, classified according to diseases, ages and localities.”

This report is therefore made in accordance with the above regulations.

The population of the County Borough of Cardiff, as enumerated at the census in April, 1891, was 128,849, being an increase of 46,088, or 55·7 per cent. since the census in 1881.

The population of the borough in the middle of the year 1892, as estimated by the Registrar General on the basis of the recent enumeration, was 136,181, and the rates given in this report have been calculated on this basis.

MARRIAGES.

The total number of marriages during the year 1892, as furnished by the District Registrar, was 1,526, corresponding to a rate of 11·2 per 1,000.

A return of marriages in the Borough of Cardiff during the past 10 years (1883-1892), with marriage rate per 1,000 of the estimated population is given in the following Table.

TABLE I.

Year.	Number of Marriages.	Rate per 1,000.
1883	1,050	11·4
1884	1,023	10·8
1885	1,261	12·9
1886	1,244	12·3
1887	1,322	12·6
1888	1,259	11·5
1889	1,431	12·6
1890	1,440	12·3
1891	1,651	11·8
1892	1,526	11·2

BIRTHS.

During the year 1892 the births registered in the Borough were 4,776, of these 2,504 were males, and 2,272 females; giving a birth-rate of 35·0 per 1,000 compared with 30·5 the rate in England and Wales, and with 31·9 the rate in the 33 large towns for the year. Out of the whole number of these towns, 28 had a lower birth-rate than Cardiff.

The excess of births over deaths, or the natural increase of the population was 1916. The natural increase compared with the actual increase in the population since 1850 is shown in Table IV.

Table II. shows the Annual Birth-rate in Cardiff compared with that in the large towns during the ten years ending 1892.

Table III. shows the comparison of births and deaths in Cardiff in successive years
TABLE III.

Years.	Births.	Birth-rate per 1,000 Inhabitants.	Deaths from all causes.	Death-rate per 1,000 Inhabitants.	Death-rate from the seven Chief Infectious Diseases per 1,000 Inhabitants	Deaths under one year per 1,000 births registered.
1883	3526	38·6	1807	19·8	2·7	139
1884	3920	42·0	2250	24·0	5·0	167
1885	4164	43·0	2481	25·5	5·3	189
1886	4270	42·3	2269	22·5	3·2	168
1887	4277	40·8	2280	21·8	2·6	172
1888	4409	40·6	2212	20·3	2·9	143
1889	4361	38·6	2190	19·4	2·1	156
1890	4600	39·3	2469	21·1	2·4	165
1891	4739	36·5	2873	22·0	2·1	153
1892	4776	35·0	2560	18·7	2·7	157
Mean of 10 years.	4304	39·6	2339	21·5	3·1	160

TABLE IV. shows the population, the births, deaths, excess of deaths over births, and excess of births over deaths annually.

TABLE IV.

Year.	Population.	Births.	Deaths.	Excess of Deaths over Births.	Excess of Births over Deaths.
1845	13,385	320	324	4	....
1846	14,212	381	321	....	60
1847	15,039	331	484	153	....
1848	15,866	428	579	151	....
1849	16,693	466	864	395	....
1850	17,520	504	485	....	19
1851	18,354	575	585	....	50
1852	19,724	696	620	....	76
1853	21,094	865	644	....	221
1854	22,464	950	925	....	25
1855	23,834	1,079	641	....	438
1856	25,204	1,227	772	....	455
1857	26,574	1,367	883	....	484
1858	27,944	1,356	753	....	603
1859	29,314	1,336	826	....	510
1860	30,684	1,346	662	....	584
1861	32,054	1,223	837	....	386
1862	32,804	1,267	695	....	373
1863	33,552	1,302	862	....	440
1864	34,300	1,369	932	....	467
1865	35,048	1,382	867	....	515
1866	35,796	1,331	882	....	449
1867	36,544	1,397	873	....	524
1868	37,292	1,387	843	....	544
1869	38,640	1,414	1,005	....	409
1870	38,788	1,406	903	....	503
1871	59,494	1,391	891	....	500
1872	62,086	1,358	916	....	442
1873	64,674	1,430	995	....	435
1874	67,262	1,550	885	....	665
1875	69,850	2,716	1,547	....	1,169
1876	72,438	2,707	1,455	....	1,252
1877	75,026	2,772	1,475	....	1,297
1878	77,614	2,795	1,468	....	1,327
1879	80,202	2,969	1,428	....	1,541
1880	82,790	2,893	1,634	....	1,295
1881	85,378	3,145	1,556	....	1,598
1882	{ 88,603 } { 95,168 }	3,399	1,724	....	1,675
1883	{ 91,204 } { 97,767 }	3,526	1,807	....	1,719
1884	{ 93,468 } { 100,033 }	3,920	2,250	....	1,670
1885	{ 97,034 } { 103,599 }	4,164	2,487	....	1,683
1886	{ 100,736 } { 107,301 }	4,270	2,269	....	2,001
1887	{ 104,580 } { 111,145 }	4,277	2,280	....	1,997
1888	{ 108,570 } { 115,135 }	4,409	2,212	....	2,197
1889	{ 112,712 } { 126,801 }	4,361	2,190	....	2,172
1890	{ 117,012 } { 131,638 }	4,600	2,469	....	2,131
1891	130,283	4,739	2,873	....	1,866
1892	136,181	4,776	2,560	....	2,216

DEATHS.

During the year 1892, 2560 deaths were registered in the Borough of Cardiff, of these 1371 were males and 1189 females.

The death-rate was equal to 18·7 per 1,000 of the population, and as compared with 19·0 the rate in England and Wales, and with 20·7 the rate in the large towns for the same period. In these towns the death-rate ranged from 15·8 in Croydon, 18·0 in Bradford, and 18·3 in Derby, to 22·8 in Bolton, 23·8 in Manchester, 24·6 in Salford, and 24·7 in Liverpool.

The Death-rate in Cardiff for the year 1892 was with the exception of that in 1881 (which was 18·2 per 1,000), the lowest on record since the first publication of official returns in 1845.

During the first quarter of the year the number of deaths registered, at all ages and from all causes, was 776, corresponding to an annual death-rate of 22·7 per 1,000 persons living, as compared with 23·0 the average rate in the first quarter of the five preceding years, and with 25·8 the average rate in the 33 large towns of England and Wales. The lowest rates in these towns were 18·9 in Bradford, 19·6 in Leicester, 20·5 in Hull, the rates in the other towns ranging upwards to 28·1 in Portsmouth, 28·6 in Norwich, 29·3 in Wolverhampton, and 30·8 in Liverpool.

The deaths from the chief Zymotic diseases during the first quarter were 83, corresponding to an annual death-rate of 2·4 per 1,000, as compared with 1·6 the average rate in the first quarter of the five preceding years, and with 2·3 the average rate in the 33 large towns. The rate varied from 0·37 in Plymouth, 0·69 in Brighton, and 0·90 in Bradford, to 3·22 in Liverpool, 3·65 in Wolverhampton, and 3·87 in Swansea.

During the Second Quarter of the year 583 deaths were registered, corresponding to an annual death-rate of 17·1 per 1,000 persons living, as compared with 19·1 the average rate in the second quarter of the five preceding years, and with 19·5 the average rate in the 33 large towns. Amongst the large towns the rates varied from 13·1 in Croydon, 14·0 in Brighton, and 14·6 in Portsmouth, to 22·7 in Oldham, 23·7 in Liverpool, and 24·6 in Manchester. The deaths from the seven chief Zymotic diseases during the second quarter in Cardiff were 62, corresponding to an annual rate of 1·80 per 1,000, which was also the average rate in the second quarter of the five preceding years. In the 33 large towns the average annual death-rate from the Zymotic diseases was 2·55 per 1,000. The rate varied from 0·77 in Gateshead, 0·83 in Brighton, and 0·93 in Bradford, to 3·06 in Manchester, 3·18 in London, and 3·71 in Sunderland.

In the Third Quarter 588 deaths were registered in Cardiff, corresponding to an annual death-rate of 17·2 per 1,000 as compared with 18·2 the average rate in the third quarter of the five preceding years, and with 17·9 the average rate in the 33 large towns. The lowest rates in these towns were 12·6 in Croydon, 14·8 in Huddersfield, and 15·0 in Brighton; the rates in the other towns ranging upward to 21·3 in Bolton, 22·3 in Liverpool, 23·2 in Salford, and 24·3 in Preston.

The deaths from the seven chief Zymotic diseases were 125, corresponding to an annual rate of 3·6 per 1,000, as compared with 3·8 the average rate in the third quarter of the five preceding years, and with 3·5 the average rate in the 33 large towns. The rate varied from 1·9 in Halifax and in Newcastle-on-Tyne, 2·1 in Wolverhampton, 2·2 in Swansea, and 2·3 in Brighton, to 4·5 in Leicester, 4·6 in Bolton, 4·9 in Sheffield, 5·8 in Salford, and 7·3 in Preston.

In the Fourth Quarter of the year 612 were registered in Cardiff, corresponding to an annual death-rate of 18·0 per 1,000, as compared with 21·8 the average rate in the fourth quarters of the five preceding years, and with 19·4 the average rate in the 33 large towns. In London the rate of mortality was equal to 18·5 per 1,000, while it averaged 20·2 in the 32 provincial towns among which the death-rates ranged from 15·0 in Derby, 15·2 in Croydon, 15·9 in Portsmouth, and 16·5 in Leicester, to 23·0 in Preston, 24·1 in Manchester, 24·4 in Bolton, and 27·8 in Salford.

The deaths from the seven chief Zymotic diseases were 104, corresponding to an annual rate of 3·1 per 1,000 as compared with 3·1 the average rate in the fourth quarters of the five preceding years, and with 2·2 the average rate in the 33 large towns. The rate varied from 0·8 in Derby, 1·0 in Wolverhampton, and 1·2 in Bristol, Burnley, and Halifax, to 3·5 in Bolton, 3·8 in Preston, 4·1 in Hull, 4·7 in Brighton, and 7·5 in Salford.

From the returns supplied to me from the Cardiff Infirmary, Union Workhouse, and the Hamadryad Hospital Ship, I find that 33 deaths occurred in these Institutions amongst persons residing outside the Borough. Subtracting these from the total number of deaths registered in the district the general death-rate for the year 1892 would be reduced from 18·7 to 18·5 per 1,000 of the population. It must be remembered, however, that in these calculations no account is taken of the deaths of those persons whose ordinary residence was in the Borough, but who died outside the Municipal Boundary.

TABLE VI.

Birth-rate, Death-rate, and Analysis of the Zymotic Death-rate in 33 of the largest English Towns for the year 1892.

Thirty-three Large Towns.	Population.	Birth-rate.	Death-rate.	ZYMOTIC DEATH-RATE.								Deaths under 1 year to 1,000 births.
				Small-pox.	Measles	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diar-rhœa.	Total.	
London	4,263,294	30·9	20·6	0·009	0·77	0·27	0·44	0·58	0·11	0·59	2·8	155
West Ham	217,113	37·0	18·6	....	0·91	0·31	0·35	0·46	0·09	0·76	2·9	153
Croydon	106,152	26·5	15·8	0·009	0·54	0·06	0·34	0·54	0·04	0·32	1·9	123
Brighton	116,424	25·5	19·2	....	1·02	0·06	0·19	0·10	0·06	0·58	2·1	151
Portsmouth	163,667	28·0	18·5	....	0·24	0·10	0·16	0·52	0·26	0·55	1·9	156
Plymouth	85,610	29·1	18·8	0·01	0·21	0·51	0·09	0·04	0·21	0·60	1·7	137
Bristol	223,592	29·6	19·5	....	0·46	0·20	0·13	0·68	0·07	0·49	2·1	147
Swansea	92,344	35·2	20·4	....	0·31	0·58	0·10	0·70	0·26	0·45	2·5	175
Wolverhampton	83,519	33·7	21·5	....	0·47	0·03	0·04	0·93	0·20	0·63	2·3	172
Birmingham	483,526	33·3	20·4	....	0·75	0·14	0·15	0·58	0·07	0·81	2·5	166
Norwich	102,736	30·5	20·0	....	0·18	0·05	0·15	0·36	0·19	0·62	1·6	182
Leicester	180,066	32·2	18·2	0·03	0·66	0·22	0·06	0·28	0·09	1·14	2·5	196
Nottingham	215,395	29·4	18·7	....	0·54	0·20	0·10	0·55	0·14	0·70	2·3	167
Derby	95,908	31·1	18·3	....	0·19	0·07	0·20	0·63	0·08	0·65	1·9	173
Birkenhead	101,264	33·4	19·6	0·009	0·63	0·09	0·07	0·61	0·25	0·57	2·3	168
Liverpool	513,790	34·7	24·7	0·02	0·88	0·25	0·10	0·52	0·25	0·80	2·9	181
Bolton	116,261	32·7	22·8	....	0·36	0·26	0·11	0·93	0·19	1·23	3·1	185
Manchester	510,998	33·7	23·8	0·004	0·72	0·26	0·19	0·72	0·25	0·79	3·0	179
Salford	201,058	35·9	24·6	0·005	1·47	0·41	0·26	0·97	0·41	0·99	4·6	185
Oldham	134,221	29·1	22·0	0·10	1·04	0·30	0·12	0·50	0·13	0·40	2·6	177
Burnley	90,589	34·2	20·4	....	0·14	0·06	0·09	0·60	0·19	0·66	1·8	192
Blackburn	122,238	31·9	21·7	....	0·05	0·12	0·08	0·79	0·28	0·94	2·2	198
Preston	109,038	34·3	24·1	....	0·06	0·67	0·14	0·85	0·33	1·80	3·9	216
Huddersfield	96,599	23·0	18·1	0·01	0·68	0·19	0·07	0·29	0·06	0·17	1·5	150
Halifax	84,097	25·9	19·5	0·22	0·79	0·09	0·22	0·10	0·09	0·14	1·6	160
Bradford	219,262	27·2	18·0	0·02	0·30	0·20	0·07	0·42	0·86	0·55	1·7	155
Leeds	375,540	33·5	19·8	0·02	0·19	0·19	0·08	0·42	0·16	1·08	2·2	169
Sheffield	329,585	35·3	20·8	0·02	0·73	0·19	0·24	0·70	0·11	1·05	3·1	171
Hull	204,750	35·0	19·6	....	0·78	0·13	0·06	0·55	0·16	1·00	2·6	166
Sunderland	132,839	37·1	20·9	....	0·91	0·13	0·06	0·73	0·43	0·64	2·9	157
Gateshead	88,588	35·3	18·9	....	0·34	0·25	0·06	0·26	0·10	0·79	1·8	154
Newcastle-on-Tyne	192,205	34·3	19·7	0·005	0·33	0·13	0·22	0·43	0·06	0·45	1·6	151
Cardiff	136,181	35·3	18·8	0·007	0·44	0·61	0·25	0·31	0·19	1·05	2·9	163
33 Large Towns	10,188,449	31·9	20·7	0·01	0·68	0·24	0·27	0·56	0·14	0·70	2·6	164

INFANT MORTALITY.—The rate of infant mortality as measured by the proportion of deaths of infants under one year to 1,000 births registered, was 160 as compared with 148 in 1891. In the 33 great towns the mean proportion was 164, ranging from 123 in Croydon, 137 in Plymouth, and 147 in Bristol, to 185 in Bolton, 192 in Burnley, 196 in Leicester, 198 in Blackburn, and 216 in Preston.

The most common causes of death amongst infants are the ordinary infectious diseases of childhood, diseases of the nervous system, diarrhoeal and pulmonary disorders. Table VII shows the chief causes of death amongst infants under one year of age. The deaths at this period which amounted to 752, comprised 29 per cent. of the total deaths.

TABLE VII.
Chief Causes of Death under One Year of Age.

Causes of Death.	Number of Deaths under One Year of Age.
Premature Birth	57
Congenital Defects	5
Measles	58
Whooping Cough	46
Diseases of the Respiratory System	420
„ Nervous System	238
„ Digestive System....	150
Diarrhoea	117
Tabes Mesenterica	25
Tubercular Meningitis	68
Other Tuberculous Diseases	34
Violence	123
Other Diseases	1219

TABLE IX.

Shows the number of Deaths and Death-rate during each week
in the year 1892.

No.	Week ending		No. of Deaths.	Death-rate, Estimated Population, (136,181).
1	January	9	74	28.3
2	"	16	61	23.3
3	"	23	64	24.5
4	"	30	59	22.6
5	February	6	66	25.2
6	"	13	57	21.8
7	"	20	59	22.6
8	"	27	57	21.8
9	March	5	53	20.3
10	"	12	44	16.8
11	"	19	58	22.2
12	"	26	64	24.5
13	April	2	60	22.9
14	"	9	50	19.1
15	"	16	57	21.8
16	"	23	57	21.8
17	"	30	46	17.6
18	May	7	39	14.9
19	"	14	46	17.6
20	"	21	49	18.7
21	"	28	47	18.0
22	June	4	43	16.4
23	"	11	31	11.8
24	"	18	44	16.8
25	"	25	37	14.1
26	July	2	37	14.1
27	"	9	29	11.1
28	"	16	41	15.7
29	"	23	29	11.1
30	"	30	47	18.0
31	August	6	56	21.4
32	"	13	37	14.1
33	"	20	40	15.3
34	"	27	47	18.0
35	September	3	64	24.5
36	"	10	53	23.0
37	"	17	40	15.3
38	"	24	54	20.6
39	October	1	51	19.5
40	"	8	40	15.3
41	"	15	35	13.4
42	"	22	52	19.9
43	"	29	47	18.0
44	November	5	41	15.7
45	"	12	47	18.0
46	"	19	49	18.7
47	"	26	51	19.5
48	December	3	46	17.6
49	"	10	47	18.0
50	"	17	53	23.0
51	"	24	38	14.5
52	"	31	65	24.9

TABLE X.

Gives the population of each year, the annual deaths from all causes, from the seven chief zymotic diseases, and the death-rates from 1845 to 1892 inclusive.

Year.	Population.	ALL CAUSES.			SEVEN CHIEF ZYMOTIC DISEASES.		
		No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.	No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.
1845	13,385	324	24.2		51	3.8	
1846	14,212	321	22.6		50	3.5	
1847	15,039	484	32.2		133	8.8	
1848	15,856	579	36.5		186	11.7	
1849	16,693	864	51.7		483	28.9	
1850	17,520	485	27.7		116	6.6	
1851	18,354	525	28.6		81	4.4	
1852	19,724	620	31.4		175	8.8	
1853	21,094	644	30.5		129	6.1	
1854	22,464	925	41.1	32.7	353	15.7	9.8
1855	23,834	641	26.9		665	2.7	
1856	25,204	772	30.6		136	5.3	
1857	26,574	883	33.2		234	8.8	
1858	27,944	753	26.9		128	4.5	
1859	29,314	826	28.1		212	7.2	
1860	30,684	662	21.5		95	3.0	
1861	32,054	837	26.1		100	3.1	
1862	32,804	695	21.2		132	4.0	
1863	33,552	862	25.7		268	7.0	
1864	34,300	932	27.1	26.7	250	7.3	5.4
1865	35,048	867	24.7		161	4.5	
1866	35,796	882	24.6		192	5.3	
1867	36,544	873	23.8		116	3.1	
1868	37,292	843	22.6		109	2.9	
1869	38,040	1,005	26.4		156	4.1	
1870	38,788	903	23.2		133	3.4	
1871	59,494	891	22.5		158	3.9	
1872	62,086	916	22.7		234	5.8	
1873	64,674	995	24.2		103	2.5	
1874	67,262	885	21.2	23.6	154	3.6	3.9
1875	69,850	1,547	22.1		294	4.2	
1876	72,438	1,455	20.8		339	4.6	
1877	75,026	1,475	19.6		255	3.5	
1878	77,614	1,468	18.9		197	2.5	
1879	80,202	1,428	17.6		137	1.7	
1880	82,790	1,634	19.7		306	3.7	
1881	85,378	1,556	18.2		164	1.9	
1882	88,603	1,724	19.4		293	3.3	
1883	91,204	1,807	19.8		253	2.7	
1884	93,468	2,250	24.3	20.0	476	5.0	3.3
1885	97,034	2,481	25.5		521	5.3	
1886	100,736	2,269	22.5		532	3.2	
1887	104,580	2,280	21.8		278	2.6	
1888	108,570	2,212	20.3		324	2.9	
1889	112,712	2,190	19.4		248	2.1	
1890	117,012	2,469	21.1		282	2.4	
1891	130,283	2,873	22.0		272	2.1	
1892	136,181	2,560	18.7		371	2.7	

ZYMOTIC DISEASES.—The 2560 deaths from all causes included:—

I	....	attributed to Small Pox	46	....	attributed to Whooping Cough
58	....	" Measles	24	....	" Enteric Fever
87	....	" Scarlatina	2	....	" Typhus Fever
36	....	" Diphtheria	117	....	" Diarrhœa

The 371 deaths ascribed to these diseases corresponded to an annual death-rate of 2·7 per 1000 persons living, as compared with 2·09 the death-rate in 1891, and with 2·60 the average rate in the six preceding years. The death-rate from these diseases in the 33 large towns was 2·64 per 1000, and varied from 1·5 in Huddersfield; 1·6 in Norwich, in Halifax, and in Newcastle; to 3·1 in Bolton, 3·9 in Preston, and 4·6 in Salford.

The number of cases of Infectious Diseases notified during the year was 2257, as compared with 957 in the year 1891. The total amount paid for notifications received from Medical Practitioners, under the provisions of the Infectious Disease Notification Act, was £280 12 6.

The following Table shows the number of cases of Infectious Disease which came to the knowledge of the Health Department during the years 1888 to 1892. In the year 1888, a system of Voluntary Notification was adopted, and a fee of 2/6 paid in the case of each notice received from Medical Practitioners. This system, which was fairly successful, was continued until the adoption of the Notification Act in 1890. By this Act a complete return is obtained of certain diseases, namely:—Small Pox, Cholera, Diphtheria, Membranous Croup, Erysipelas, Scarlet Fever, Enteric Fever, Typhus Fever, and Puerperal Fever.

		Cases known to the Health Department:—				
		1888.	1889.	1890.	1891.	1892.
Small Pox	...	9	...	...	9	5
Diphtheria	...	...	42	63	67	155
Croup	...	...	...	9	3	9
Scarlet Fever	...	151	166	335	685	1851
Enteric Fever	...	114	132	152	130	118
Erysipelas	...	...	...	45	52	95
Puerperal Fever	...	...	...	4	10	12
TOTAL	...	274	340	608	956	2245

During the past year the first attempt at making any satisfactory provision for the isolation of infectious diseases, was made in the Borough. A temporary hospital was erected on a portion of the land acquired for the site of the new Hospital for Infectious Diseases. This building, which was opened for the reception of Scarlet Fever patients, on the 19th July last, was constructed by Messrs. Humphreys & Co., after the designs of the Borough Engineer, and in accordance with the advice of your Medical Officer of Health. In the construction, furnishing, engagement of staff, as well as in the administration of the hospital, your officers had the advantage of the active co-operation of the Chairman of the Health Committee (Alderman T. W. Jacobs, J.P.,) who throughout has shown great personal interest in the management of the Institution.

The buildings are of timber framing, covered with corrugated iron over a layer of felt, and lined with match boarding. They are raised to a height of about five feet above the general level of the site, on a foundation of brickwork and surrounded by raised walls and approach roads. The main ward pavilion, which is a one story building, consists of central administration block containing Office, Matron's sitting room, bed rooms for Nurses and Servants, Store rooms, Kitchen, Sculleries, &c. The two wards which terminate the main corridor are for males and females respectively, and each provides accommodation for twelve patients. They are heated by two large *Gill* stoves in each ward, with flues carried beneath the floor to the outside of the building. The ventilation is provided for by means of fresh air inlets underneath each ward bed and a ventilated ridge running the whole length of the wards; in addition to which, ample cross ventilation can be obtained from the fanlights of the windows and lantern lights. The wards are lighted by gas and at the end of each is a bath room, lavatory, and W.C.

In the grounds are situated the laundry block, consisting of wash-house, laundry and a bath room and dressing room for outgoing patients. A porter's lodge, mortuary, and an ambulance house have also been provided. It is intended that this building should eventually form a supplemental pavilion to the new hospital.

The experience gained during the past six months in connection with this small hospital shows that accommodation for cases of infectious diseases is much required in this town, and further that there will be no reluctance on the part of the public to take advantage of this means of isolation and treatment when a suitable hospital is provided, as since the opening of the building in July every available bed has remained occupied, nearly one hundred patients having been admitted up to the end of the year.

Doubtless the pleasant and healthy surroundings, the cheerful and attractive appearance of the wards, and the efficient nursing arrangements have, in the case of the Sanatorium, acted as an important factor in the usefulness of the Institution. Unfortunately the building was not ready for occupation until the epidemic of scarlet fever, which prevailed extensively during the year, had obtained a complete hold of the district, and when therefore the limited accommodation provided could hardly be expected to have much effect in arresting the spread of the disease. Nevertheless it is interesting to note that since the establishment of the hospital the number of cases of scarlet fever notified have sensibly diminished. This will be seen in the following table, which gives the number of notifications in each month in the year 1892:—

Month.	No. of cases of Scarlet Fever Notified.	Month.	No. of cases of Scarlet Fever Notified.
January	133	July	142
February	109	August	110
March	213	September	124
April	254	October	128
May	236	November	140
June	188	December	74

From the foregoing statement it will be seen that your Medical Officer of Health is put in possession of fairly complete information as to the extent, nature, and localization of the principal infectious diseases in the district. Other diseases than those already mentioned may be included amongst those required to be notified, but in this case a special resolution of the Sanitary Authority, and the approval of the Local Government Board are necessary.

The expense of this system of notification of disease being considerable, it may perhaps be advisable to point out some of the advantages derivable from it. In the first place the chief object of notification is that the Sanitary Authority may enforce the isolation in hospital of those cases of infectious disease in which the home surroundings are such that isolation cannot be completely effected. During the past year of course only a small percentage of known cases have been removed, but in each case doubtless this removal prevented the further spread of the disease; but besides this advantage it may be mentioned that the statistics of all towns show that the mortality amongst patients properly nursed in hospital is much smaller than amongst those nursed at home.

In this district, for instance, during the past six months, the proportion of deaths to cases treated in the Sanatorium amounted to 2 per cent., whilst the proportion of deaths to those treated at home amounted to 5 per cent.

This is due no doubt to the fact that the majority of parents amongst the poorer classes are unable to provide efficient nursing for their children. Besides complete isolation, notification confers other advantages on the community. Amongst those which tend to the prevention of the spread of infection are:

- (a) The disinfection of infected persons and articles, and of their dwellings and their contents.
- (b) The vaccination of those in contact with small pox cases.
- (c) The prevention of the attendance of infected children at school, and, of infected adults at workshops, etc.

As a means of ascertaining the cause of outbreaks of disease, notification is useful by enabling the officers of the Sanitary Authority

- (a) To investigate the sanitary condition of localities, premises, and houses.
- (b) To inquire into the health of households, and the associations of the occupiers.
- (c) To inquire into sources of water, milk and food supply.

Notification also furnishes the data for statistical records of the prevalence and virulence of diseases, and of the variations to which they are subject.

The only disease of any consequence which is not notified is measles; this disease is not yet included in the provisions of the Notification Act, but may be included by a resolution of the Sanitary Authority as already mentioned. Considerable difference of opinion exists as to whether measles should be added to the list. I have not yet deemed it desirable to advise your committee to include this disease, as it seems to me extremely doubtful if with our present means of isolation the resulting benefits would justify the large additional expenditure. Measles is a disease which is infectious in the very early stages of the illness, before the rash appears, and generally before the diagnosis is confirmed, and in the majority of cases medical advice is not sought. There would therefore be some difficulty in obtaining notifications from medical men, and when obtained the difficulty of preventing the spread would still remain. In any case before much benefit could be derived from the notification of measles, more extensive arrangements would be required for the isolation of the sick, for disinfection, and for the inspection of premises than we at present possess.

The method adopted in connection with this notification, and with a view of checking the spread of disease is as follows: An Inspector is appointed who devotes his whole time to carrying out the instructions of the Medical Officer of Health for dealing with infectious diseases. He is, however, assisted in times of epidemics by the District Inspectors. On the receipt of each notification the premises are visited with as little delay as possible, and enquiries are made respecting the history of the case, and the necessary steps are taken for limiting the spread of the disease. In each case report sheets are filled up, of which the subjoined are samples:—

SMALL POX.

Dates of enquiry	Date and address of any recent case in neighbourhood.
Notified by Name, age, and occupation of patient.	Has there been any communication with an infected house, if so, when and where? Has patient had small pox before; when?
Residence.	What evidence of vaccination or re-vaccination?
Date of first symptoms.	Washing and mangling; where and by whom done?
Where was patient on the 12th, 13th, 14th, 15th, or 16th day before the appearance of rash?	Remarks, and probable origin of disease.

ENTERIC OR TYPHOID FEVER.

Dates of enquiry.	Whence is the supply of Water derived?
Notified by.	Whence is the supply of Milk derived?
Name, age, and Occupation of Patient	The Washing and Mangling, where and by whom done?
Residence.	Name and Residence of any visitor from where Disease exists.
Date of first Symptoms.	Sanitary condition of Dwelling and immediate neighbourhood, probable origin of Disease.
Date and Address of any recent case in same street.	

SCARLET FEVER.

Dates of enquiry.	Date and Address of any recent case in same street.
Notified by.	The Washing and Mangling, where and by whom done?
Name, Age, and Occupation of Patient	Whence is the supply of Milk?
Residence.	Any Books from Free Library?
Date of first symptoms.	Are parents in receipt of Parish Relief?
Has Child within one week been to School, Church, or other assembly, or visited any infected house; if so, when and where?	Sanitary condition of Dwelling, remarks and probable origin of Disease.

From these sheets the most important particulars are copied into a register, each particular disease having its own book. From this register it is easy at a glance to ascertain any factor common to several cases, and to trace the relation of the disease to the particular locality in which it occurs.

Printed instructions in the following form are left at the infected houses:—

PRECAUTIONS TO BE OBSERVED IN CASES OF INFECTIOUS DISEASE.

The expression "Infectious Disease" means any one of the following Diseases:—Small-pox, Scarlet Fever, Typhoid Fever, Typhus Fever, Measles, and Diphtheria.

1. Where Scarlet Fever, Diphtheria, or Small-pox exists in a house, no child should attend school from the house for a period of at least six weeks after the occurrence of the last case, and in the case of Measles the period should not be less than three or four weeks.

2. The patient should be isolated by being placed, if possible, in a well ventilated room at the top of the house; all carpets, curtains, and unnecessary furniture should be removed from the room.
3. A sheet should be hung up outside the door of the sick room, and kept wet with a solution of carbolic acid, $\frac{1}{2}$ pint to a gallon of water, or with some other recognised disinfectant.
4. All bed and body linen, as soon as removed from the sick person, and before being taken from the sick room, should be first put into a solution of carbolic acid of the above-named strength, or into some other disinfectant, remaining there for an hour, and afterwards boiled in water.
5. All discharges from the patient, especially if the disease be small-pox, scarlet fever, or typhoid fever, should be received into vessels containing some suitable disinfectant, and should be removed from the sick room and be disposed of without delay.
6. If the disease is small pox, any unvaccinated infant in the house should at once be vaccinated, and all adults or young persons over twelve years of age should be re-vaccinated.
7. The patient cannot be pronounced absolutely free from conveying infection until all peeling has entirely ceased in scarlet fever, and until the crusts and scales have been removed in small-pox, and the whole of the body has been well bathed. In all cases of infectious disease the patient should have one or more warm baths before putting on clean clothes.
8. The sick room should not be visited by any but those in attendance on the patient, as the clothing of visitors is very liable to convey infection.
9. In case of death, the body should be completely enveloped in a sheet steeped in a strong solution of carbolic acid (1 pint to a gallon of water) placed in a coffin, with a pound or two of carbolic acid powder sprinkled over it, fastened down and buried without delay.
10. On the termination of a case, the sick room, the clothing, and everything with which the patient has come in contact, must be thoroughly disinfected; notice should be sent to the Medical Officer of Health, who will send an Inspector to superintend the process of disinfection.
11. Infected clothing, bedding, and other articles must be given to the Inspector, who will cause them to be removed to the public disinfecting apparatus, where they will be disinfected free of charge, after which they should be thoroughly washed at home. Infected clothing should not on any account, or under any pretence whatever, be sent to the laundress; and if clothes are received to wash, they should not be received until the house is pronounced free from infection.
12. Books obtained from the Free Library should be returned to the Inspector of Nuisances, at the Town Hall.

Your attention is particularly directed to the following provisions of the Public Health Act, and of the Infectious Disease (Prevention) Act, so far as they relate to the prevention of the spread of Infectious Diseases:—

Any person who:—

- (1) While suffering from any dangerous infectious wilfully exposes himself without proper precaution against spreading the said disorder in any street, public place, or vehicle, or

enters any public conveyance without previously notifying to the driver that he is so suffering.

(2) Being in charge of any person so suffering, or exposes such sufferer, or

(3) Gives, lends, sells, or transmits, or exposes without previous disinfection any bedding, clothing, rags, or other things which have been exposed to infection, shall be liable to a penalty not exceeding Five Pounds.

Every person who shall cease to occupy any house, room, or part of a house in which any person has, within six weeks previously, been suffering from any infectious disease without having such house, room, or part of a house, and all articles therein liable to retain infection disinfected to the satisfaction of a registered medical practitioner, as testified by a certificate signed by him, or without first giving to the owner of such house, room, or part of a house, notice of the previous existence of such a disease, and every person ceasing to occupy any house, room, or part of a house, and who on being questioned by the owner thereof, or by any person negotiating for the hire of such house, room, or part of a house, as to the fact of there having within six weeks previously been therein any person suffering from any infectious disease, knowingly makes a false answer to such question shall be liable to a penalty not exceeding Ten Pounds.

Any person who shall knowingly cast, or cause, or permit to be cast into any ash-pit, ash-tub, or other receptacle for the deposit of refuse, any infectious rubbish without previous disinfection, shall be guilty of an offence under this Act.

Any Local Authority or the Medical Officer of any Local Authority generally empowered by the Authority in that behalf, may, by notice in writing require the owner of any bedding, clothing, or other articles which have been exposed to the infection of any infectious disease, to cause the same to be delivered over to an Officer of the Local Authority for removal for the purpose of disinfection, and any person who fails to comply with such a requirement, shall be liable to a penalty not exceeding Ten Pounds.

In the case of Children attending school, the head Master or Mistress receives from the Medical Officer of Health a notice of the existence of Infectious Disease, in families attending the particular school, in this way an effectual check is put upon the attendance at school of children from infected houses.

The notice is as follows :---

SANITARY AUTHORITY,

TOWN HALL, CARDIFF,

.....189

SIR,

I have to inform you that.....residing at.....
is now suffering from an Infectious Disease, and that no Child from this house should be allowed to return to School without producing to you a Certificate, signed by the MEDICAL OFFICER OF HEALTH, stating that the infectious premises, &c., have been disinfected by the SANITARY AUTHORITY.

Yours faithfully,

EDWARD WALFORD, M.D.,

Medical Officer of Health.

To the Head Master.....School.

On the completion of the case either by recovery or death, disinfection of the premises takes place, and this is effected by the Officers of your Authority, after which process, the following Certificate is given :---

CARDIFF URBAN SANITARY AUTHORITY,

Medical Officer of Health's Department.

TOWN HALL, CARDIFF,

.....189

I hereby certify that the premises at No.....have been disinfected, and that Children from this house may be allowed to return to School.

EDWARD WALFORD, M.D.,

Medical Officer of Health.

TABLE XIII.

Showing the number of cases of infectious diseases reported under the Notification Act, and the Deaths during each month in the year 1892.

Month.	Small Pox.		Cholera.		Diphtheria.		Cr-up.		Erysipelas.		Scarlet Fever.		Typhoid Fever.		Typhus Fever.		Puerperal Fever.		Relapsing Fever.		
	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	
January	2	8	2	...	1	7	4	133	1	4	...	...	...	...	...	...	...
February	8	4	2	...	8	11	109	3	12	...	...	...	2	...	...	...
March	...	1	...	...	2	19	1	1	...	4	9	213	3	15	...	...	...	...	...	...	...
April	...	3	...	...	1	5	1	...	...	11	13	254	1	6	...	...	...	1	...	...	...
May	...	1	...	...	2	9	2	3	1	9	11	236	2	2	...	...	...	2	...	...	...
June	4	1	3	...	11	7	188	...	4	...	...	...	...	...	...	...
July	3	2	...	...	4	5	142	3	10	...	...	...	...	...	...	...
August	3	7	...	...	1	10	5	110	2	10	...	...	...	...	...	...	...
September	7	16	...	...	...	5	6	124	6	29	...	...	...	...	...	...	...
October	3	14	...	...	1	5	3	128	1	11	...	...	...	...	...	...	...
November	7	32	1	...	...	8	10	140	...	7	...	...	...	...	...	...	1
December	9	30	1	...	2	13	3	74	2	8	...	...	...	...	...	...	...
	1	5	...	...	36	155	15	9	6	95	87	1851	24	118	2	8	...	12	...	...	1

TABLE XIV.

Shows the number of infectious cases notified in each Ward, during the year 1892.

	NOTIFIABLE DISEASES.										
	Small Pox.	Cholera.	Scarlatina.	Croup.	Diphtheria.	Erysipelas.	Typhus Fever.	Typhoid Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.
Borough	5	...	1851	10	155	95	8	118	1	3	12
Central Ward	...	...	172	...	7	12	...	8	...	...	2
South ,,	4	...	124	...	2	7	...	17	...	...	1
Cathays ,,	...	...	283	...	21	4	...	10	...	...	...
Park ,,	...	...	216	2	62	5	...	11	...	...	1
Adamsdown,,	1	...	150	4	17	22	8	10	...	...	...
Riverside ,,	...	...	220	...	7	18	...	19	...	...	...
Canton ,,	...	...	208	...	6	5	...	14	...	1	1
Roath ,,	...	...	127	...	20	8	...	10	...	2	1
Grangetown,,	...	...	193	4	10	10	...	9	...	...	2
Sploott ,,	...	...	158	...	3	4	...	10	1	...	4

The following table shows the distribution of mortality from the Seven Chief Zymotic Diseases, from Phthisis, from diseases of the Respiratory Organs, and from Tuberculosis in each Street in the Borough during the year 1892:—

TABLE XV.—CENTRAL WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Bute terrace	1	...	...	...	...	...	1	...	2
Bridge & Little street	1	1	...	2
Caroline street	1	...	...	1
Charles street	1	1	...	1
Castle Arcade	1	...	1
Canal street	1	2	...	3
Carpenters Arms court	1	...	1
Dumfries place	1	...	1
David street	2	2	...	4
Eisteddfod street	1	...	1
Evans's court	1	...	1
East terrace	1	...	...	...	...	1
Edward terrace	1	...	...	1
Edward street	1	1	...	1
Frederick street	2	...	1	1	1	...	5
Guildford crescent	1	...	...	1
Gough street	1	...	...	1
Harris's court	1	...	1
Havelock street	4	...	...	...	1	1	1	1	8
Homfray street	1	...	1
Hill's terrace	2	...	2
Kingston court	1	...	...	1
Love lane	1	...	1
Millicent street	1	...	...	...	5	...	7
Mathew's court	1	...	...	1
Mary Ann street	...	2	...	...	...	...	...	2	6	...	10
Mason's Arms court	1	...	1
Nelson terrace	1	...	...	1
Park street	1	...	1
Park place	1	...	1
Park grove	1	...	...	...	...	...	...	1
Queen street	1	...	...	1
Quay street	1	...	1
Ruperra street	1	...	...	...	...	...	1	...	2
Scott street	1	...	...	...	...	...	1
Stanley street	1	...	...	...	...	...	1	...	2
Tredegar street	1	1	...	2
Union buildings	1	...	1
Union street	2	...	...	1	1	...	4
Womanby street	1	...	...	...	...	...	...	...	1
Blackweir	3	2	...	5
Windsor place	2	...	2
Total	...	2	8	1	6	1	2	22	43	2	87

SOUTH WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Alice street	...	I	...	...	...	...	...	...	I	...	2
Adelaide street	I	...	...	...	...	I	4	...	6
Adelaide place	I	...	...	...	...	...	I	...	2
Bute street	I	...	...	...	2	2	...	5
Bute crescent	I	...	1
Christina street	2	2	...	4
Dudley street	I	I	...	2
Eleanor street	I	...	1
Evelyn street	...	I	...	...	...	...	...	I	3	...	5
Fredrica street	...	I	...	...	...	...	...	...	1	...	2
Francis street	...	I	...	...	...	...	...	...	...	...	1
George street	...	2	...	...	...	...	I	...	...	...	3
Harrowby street	I	...	...	...	...	...	...	...	1
Herbert street	I	3	...	4
Henry street	I	...	1
John street	I	...	...	1
Louisa street	...	I	...	...	...	...	I	2	...	...	4
Loudoun square	2	...	I	...	...	3
Margaret street	...	I	...	...	...	...	...	...	...	...	1
Maria street	I	I	3	...	5
Mount Stuart square	I	2	...	3
North Church street	I	...	...	1
Nelson street	I	...	...	...	1
Penarth Road	2	...	...	...	2
Peel street	...	I	...	...	...	...	...	...	I	...	2
Patrick street	I	2	...	3
South Church street	I	I	...	2
Sophia street	I	I	I	...	3
South William street	I	...	I	...	2
Stuart street	I	I	...	2
Wharf, East	I	1
Hamadryad HospitalShip	I	...	...	...	...	5	2	I	2	...	11
Total	...	1	9	3	1	7	10	20	35	1	87

PARK WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.	
Albany road	I	....	....	....	....	2	4	4	....	II	
Arran street	I	....	....	....	I	I	I	I	5	
Arabella street	I	....	....	....	I	
Byron street	I	4	....	5	
Bedford street & place	I	I	I	....	....	I	....	3	....	7	
Castle road	I	I	I	....	....	....	4	....	7	
Cyfarthfa street	2	....	I	....	I	I	I	....	6	
Cottrell road	I	....	I	
Croft street	I	....	....	....	....	....	....	....	....	I	
Crwys road and place	I	I	2	
Donald street	I	3	....	....	4	
Elm street	I	....	....	I	
Glenroy street	2	....	....	....	....	I	....	3	
Gordon road	I	....	I	
Inverness place	I	....	....	....	....	....	....	I	
Keppoch street	2	....	I	....	....	....	....	3	I	7	
Milton street	I	I	....	2	
Moy road	2	I	I	I	....	I	....	2	....	8	
Mackintosh place	I	....	....	....	I	....	....	2	
Newport road	I	....	I	
Oxford street	I	....	....	....	I	
Plasnewydd street	I	....	....	....	....	....	I	
Ruthven street	I	....	....	I	
Rose street	I	....	I	
Russell street	I	....	....	....	....	....	I	I	3	
Richmond road & cres.	2	....	....	....	....	I	....	3	
St. Peter street	I	....	....	I	
Shakespeare street	3	....	....	....	....	I	....	4	
Southey street	2	....	I	3	
Treharris street	I	I	I	....	I	....	I	....	5	
The Parade	I	....	....	....	....	....	....	I	
Talworth street	I	....	....	I	
Violet row	I	....	I	
Wellfield road	I	....	....	I	
TOTAL	7	8	15	5	10	19	34	5	103

ADAMSDOWN WARD.

Agate street	....	....	....	....	....	....	....	I	....	....	I
Augusta street	....	....	....	....	....	....	....	I	I	....	2
Ascog street	....	....	....	....	....	....	....	....	I	....	I
Adam street	....	....	....	....	I	....	....	....	7	....	8
Adamsdown square	....	....	....	2	....	....	....	....	I	....	3
Buzzard street	....	I	I	....	....	....	....	I	2	....	5
Carried forward	I	I	2	I	3	12	20

ADAMSDOWN WARD—continued.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.	
Brought forward	I	I	2	I	....	....	3	12	....	20	
Comet street	I	....	....	....	....	....	I	4	....	6	
Cumnock place	I	....	....	....	....	....	....	I	
Clifton street	I	....	I	
Constellation street	2	....	....	I	....	....	I	I	....	5	
Duffryn street	I	....	....	....	I	....	2	....	4	
Davies street	2	....	....	I	....	....	I	I	....	5	
Ellen street	3	2	....	5	
Eclipse street	I	....	....	I	....	....	....	....	....	2	
Garth street	I	....	I	
Gold street	I	....	....	....	I	
Galston street	I	....	....	....	....	....	....	I	....	2	
Homfray street	I	....	....	I	
Ivor street and place	I	....	....	2	2	....	5	
Iron street	3	....	3	
Kerrycroy street	I	....	I	
Kingarth street	I	....	I	
Longcross street and place	I	....	I	....	....	2	
Lady Margaret terrace	I	....	....	....	....	....	....	....	....	I	
Lead street	I	....	I	
Metal street	2	2	....	....	....	....	....	I	....	5	
Moon street	2	....	2	
Meteor street	2	....	....	2	
North Luton place	I	....	....	I	
North Wm. street	I	....	I	4	....	6	
Orbit street	I	....	....	I	....	....	2	
Pellett street	2	....	2	
Planet street	I	....	2	....	3	
Pendoylan street	I	....	....	....	....	....	3	....	4	
Platinum street	I	I	....	2	
Prince Leopold street	I	....	I	
South Luton place	2	....	....	I	I	....	4	
Sandon place	I	....	....	....	I	....	2	....	4	
Sandon street	I	....	I	
Silver street	I	....	I	
System street	2	2	....	....	4	
Sanquahar street	2	....	2	
Tin street	2	....	2	
Tyndall street	I	3	....	....	....	....	3	3	....	10	
Victoria street	2	I	....	3	
West Luton place	I	....	....	I	
Windsor road	I	....	....	....	....	....	....	I	....	2	
Infirmery	I	....	....	I	....	2	2	I	7	
Zinc street	I	I	....	....	....	....	....	I	....	3	
Total	14	11	3	8	3	6	30	66	I	142

CATHAYS WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Alexander street	I*	....	....	....	I
Barracks	I	....	....	I	....	2
Cairn street	3	5	6	....	14
Cathays terrace	I	2	....	3
Catherine street	I	....	....	....	....	....	I
Coburn street	I	....	....	I	2	I	I	6
Crwys road	I	....	....	....	I	I	3	....	6
Cogan terrace	I	....	I
Dalton street	I	....	....	....	....	....	....	....	I
Daniel street	I	....	....	....	....	....	....	3	....	4
Florentia street	I	....	....	....	I
Fitzroy street	2	....	....	....	....	....	....	2
Flora street	2	I	....	....	3
Glynrhondda street	I	....	I
George street	I	....	....	....	....	I	....	2	....	4
Gladys street	I	....	I
Harriet street and place	I	....	....	....	....	2	....	3	....	6
Hirwain street	I	I
Letty street	I	I	....	2
Llantwit street	2	....	....	....	....	....	....	2
Llandough street	I	....	....	I
Llantrissant street	2	....	....	....	....	....	I	....	3
May street and Whit ter.	I	I	4	....	6
Merthyr street	I	....	....	I
Minister street	I	....	I
Miskin street	I	....	I
M inny street	2	....	....	I	....	3	....	6
Munday place	I	....	2	....	....	3
Rhymney terrace	I	....	....	....	....	....	....	....	I
Richard street	3	....	....	....	....	I	2	....	6
Robert street	I	....	....	....	....	....	....	I	....	2
Salisbury road	I	....	....	....	I	2	2	6
Thesiger street	I	....	....	....	I	2	I	....	5
Treherbert street	2	....	2
Woodville road	I	....	....	....	3	I	I	....	6
TOTAL	4	10	8	I	2	18	21	43	4	111

RIVERSIDE WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.	
Ann street	I	...	...	...	I	...	...	...	2	
Brook street	I	...	...	...	...	...	I	
Beachamp street	I	...	...	...	...	...	...	...	I	
Blackstone street	I	...	I	
Cowbridge road	3	...	3	
Clare street	I	...	I	
Clare gardens	I	...	I	
Craddock street	I	...	...	I	2	...	...	...	4	
Cathedral road	I	...	...	...	I	...	I	...	3	
De Burgh street	I	I	...	2	
East street	I	...	I	
Gloucester street	...	I	...	...	...	...	2	...	...	...	3
Halket street	I	I	3	...	5	
Kings' road	I	...	2	...	I	...	4	
Lewis street	2	...	2	
Littleton street	...	I	...	...	...	...	...	...	...	...	I
Mark street	I	...	...	...	I	...	I	...	3	
Machen place	I	...	...	...	...	...	...	...	I	
Mandeville street	I	...	...	I	
Neville street	3	...	3	
Neville place	I	...	...	I	
Plantagenet street	I	?	I	...	4	
Picton place	I	...	I	
Plasturton place	I	...	...	I	
Rennie street	I	...	I	...	2	
Smeaton street	2	...	2	
Stephenson street	I	...	...	...	...	...	...	...	I	
South Morgan street	I	...	2	...	3	
Severn road	I	...	...	I	
Talbot street	2	I	...	3	
Tudor road	2	...	...	...	I	...	I	I	5	
Telford street	I	...	I	
Union Workhouse	I	...	I	...	...	57	16	11	86	
Wells street	I	...	...	I	
Wyndham crescent	I	...	I	...	I	I	...	...	4	
Wyndham road	I	I	...	I	...	3	
Wellington street	...	I	...	...	I	...	I	2	I	...	6
Total	3	11	...	5	2	17	71	47	12	168

CANTON WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Ann street	I	....	I
Alexandra road	2	....	....	....	2
Blackstone street	I	....	....	I
Chancery lane	I	....	I
Cowbridge road	I	....	....	....	2	....	....	3
Commercial street	I	....	I
Conway road	2	....	....	2
Coke street	I	....	....	....	I
Conybeare road	I	I	....	2
Daisy street	3	....	2	....	5
East street	I	....	I
Eldon road	I	....	....	....	....	I	I	....	3
Evans' terrace	I	....	....	....	I
Ethel street	I	I	I	5	....	8
Egerton street	I	....	I	....	....	2	....	....	4
Glamorgan street	5	....	5
Grey street	I	....	....	....	....	....	I	....	2
Glynne street	I	....	....	....	....	....	I	....	I
Harvey street	I	....	I	I	....	3
Lyttleton street	I	....	....	....	I
Lyndhurst street	I	....	....	I	2
Leckwith road	I	....	....	....	....	....	4	....	5
Llandaff road	I	....	I
Loftus street	I	I	....	....	2
Mortimer road	I	....	2	....	3
Market road	I	....	....	I
Picton place	I	....	I
Parry street	I	....	I
Pontcannaplace	I	....	....	I	I	3
Penypeel road	I	I	I	I	4
Pembroke road	I	I	I	....	3
Roll's street	I	I	....	2
Radnor road	I	....	....	....	....	....	....	....	I
Romilly crescent	I	....	I
Romilly road	I	....	....	I
Severn road	2	....	2	....	4
Sanatorium	2	....	....	....	....	....	....	....	2
Springfield place	I	I	....	2
Well's street	2	....	....	....	I	....	....	....	3
Wellington street	2	2	....	....	4
TOTAL	9	I	I	3	19	20	38	3	90

ROATH WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Arthur street	1	..	...	...	...	...	...	...	1
Bertram street	3	...	1	...	2	1	1	...	8
Blanche street	1	...	1	...	1	...	3	...	6
Broadway	2	...	2
Cecil street	...	1	...	...	...	...	1	...	2	...	4
Clifton street	2	...	...	...	2
Diamond street	2	1	1	4	...	8
Emerald street	...	1	2	...	1	...	...	...	...	...	4
Elm street	1	...	...	1
Harold street	1	...	...	1
Helen street	1	...	...	1	...	1	...	3
Nora street	1	1	...	2
Newport road	1	...	...	...	...	1	1	...	3
Oakfield street	1	...	...	...	...	...	1
Partridge road	1	...	1
Pearl street	...	1	...	1	2	...	1	1	3	...	9
Ruby street	...	1	...	1	1	...	...	1	2	...	6
Stacey road	2	...	...	...	...	...	...	2
Sapphire street	1	...	1	2
Spring gardens pl. & terr.	1	...	...	...	...	1
Theodore street	1	1	...	2	...	4
Topaz street	1	...	2	...	...	...	4	...	7
Walker's road	...	1	...	...	...	...	...	...	1	...	2
TOTAL	...	5	9	5	9	4	10	9	28	1	80

GRANGETOWN WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Andrew's terrace	I	...	...	...	...	...	...	...	I
Amhurst street	I	...	...	...	I	...	...	...	2
Bedwas street	I	...	I
Bromfield street	I	...	...	...	I	I	...	...	3
Bromsgrove street	1	...	...	...	...	I
Clive street	I	...	I	I	2	I	...	6
Compton street	I	...	...	...	...	...	I	...	2
Cornwall road	I	...	I
Court road	I	...	...	...	I
Chester street	I	...	...	...	...	...	...	I
Dorset street	2	...	2
Devon street and place	I	...	I
Earl street	I	...	...	...	2	...	3
Francis street	I	...	...	I
Francis terrace	I	...	I
Holmesdale street	I	...	...	...	I	2	...	...	4
Hewell street	I	...	2	...	I	...	2	...	6
Kent street	2	...	2
Knole street	2	...	...	...	2
Lanmaes street	I	...	I
Ludlow street	I	...	...	...	I
Monmouth street	I	...	...	I
Mathews' terrace	...	I	...	...	...	...	...	...	...	...	I
Madras street	I	...	...	I
North Clive street	2	...	I	I	4
North street	I	...	...	...	...	I	I	...	3
Oakley street	I	...	...	...	I
Percy place	I	...	...	...	I
Pentrebane street	I	...	...	...	I	...	2
Penarth road	I	I	I	2	...	5
Paget street	I	...	I	...	I	...	...	...	3
Rudry street	I	...	...	...	...	...	I	...	2
Rookwood street	I	...	...	I	2
Rutland street	3	...	3
Rhydlafur street	I	...	...	...	I
Stoughton street	I	...	2	...	3
Saltmead road	2	...	2
Sir Edward terrace	I	...	...	...	I
Stockland street	I	...	...	I
Thomas street	I	...	I	...	...	I	...	I	4
Warwick street	I	...	I
Worcester street	I	...	...	I
York place	I	...	...	...	I
TOTAL	...	I	10	2	6	3	20	13	29	3	87

SPLOTT WARD.

Name of Street.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Aberystwith street	1	...	1
Adeline street	...	1	...	...	1	...	...	2	4	...	8
Burnaby street	1	...	...	...	...	...	4	...	5
Coveny street	...	1	...	...	...	...	...	...	4	...	5
Cumnock street	1	...	...	1
Cornelia street	...	1	...	...	1	...	...	...	...	...	2
Carlisle street	...	1	1	...	...	...	...	2	3	...	7
Eyre street	1	...	...	...	...	...	...	...	1
Gwendoline street	...	1	...	...	...	...	...	...	...	...	1
Habershon street	...	2	2	...	1	...	2	...	3	...	10
Howard street	1	...	1
Harold street	1	...	1
Janet street	1	...	1	1	1	...	4
Kilcatten street	1	...	1
Layard street	...	1	...	...	...	...	...	...	...	...	1
Llanelly street	1	1	...	2
Marion street	1	...	...	1
Milford street	1	...	1
Menelaus street	1	...	1
Ordell street	...	2	...	...	...	...	1	1	3	...	7
Prince Leopold street	1	...	1
Portmanmoor Road	1	...	...	1	...	3	1	1	7
Pontypridd street	1	...	...	...	...	...	...	...	1
Railway street	...	1	1	...	...	...	...	1	8	...	11
Seymour street	1	...	...	1
SploTT road	1	2	1	...	4
Sanquahar street	1	...	1
Swansea street	1	...	...	...	...	...	1
Swinton street	1	...	...	1
Tenby street	...	2	...	...	...	...	...	...	1	1	4
TOTAL	...	13	8	...	5	1	5	17	42	2	93

STATISTICS OF WARDS. TABLE XVI.

Wards.	Enumerated Population Census 1891.	Total Deaths.	Annual Death-rate per 1,000.												
			All Causes.	Seven chief Zymotic Diseases.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Typhus Fever.	Diarrhoea.	Phtthisis.	Diseases of Respiratory Organs.	Tuberculosis.
Central Ward	16,324	225	13.7	1.22	...	0.12	0.49	0.06	0.36	0.06	...	0.12	1.34	2.63	0.12
South "	13,166	237	18.0	2.35	0.07	0.68	0.22	0.07	...	0.45	0.07	0.75	1.67	2.65	0.07
Cathays "	14,523	231	15.9	2.96	...	0.27	0.68	0.55	0.06	0.13	...	1.23	1.30	2.96	0.27
Park "	12,348	236	19.1	3.64	...	0.56	0.64	1.21	0.40	...	...	0.80	1.53	2.75	0.40
Adamsdown "	11,734	379	32.2	3.83	...	1.19	0.93	0.25	0.68	0.17	0.08	0.51	2.55	5.62	0.08
Riverside "	14,289	416	29.1	2.65	...	0.20	0.76	...	0.34	0.13	...	1.18	4.96	3.28	0.82
Canton "	14,897	227	15.2	2.21	...	...	0.60	0.06	0.06	0.20	...	1.27	1.34	2.55	0.20
Roath "	12,200	203	16.6	3.44	...	0.40	0.73	0.40	0.73	0.32	...	0.81	0.73	2.29	0.08
Grangetown "	10,719	228	21.2	3.91	...	0.09	0.93	0.18	0.55	0.27	...	1.86	1.21	2.70	0.27
Splott "	8,805	178	20.2	3.63	...	1.47	0.90	...	0.56	0.11	...	0.56	1.93	4.77	0.22

TABLE XVII.

Year.	Mean of six years. 1878-1883.		Mean of six years. 1884-1889.		1890.		1891.		1892.	
	Deaths.	Death rate.	Deaths.	Death rate.	Deaths.	Death rate.	Deaths.	Death rate.	Deaths.	Death rate.
Estimated Population according to Registrar General.	84,723.		102,850.		117,012.		130,283.		136,181.	
Seven Chief Zymotic Diseases.										
Small Pox ...	1.0	0.011	4.3	0.043	...	...	...	...	1	0.007
Measles ...	20.6	0.243	84.8	0.841	65	0.555	55	0.422	58	0.425
Scarlatina ...	35.3	0.410	38.2	0.389	19	0.162	35	0.268	87	0.638
Diphtheria ...	15.3	0.180	20.7	0.208	15	0.128	16	0.122	36	0.264
Whooping Cough ...	55.1	0.650	62.5	0.559	38	0.324	89	0.683	46	0.337
Fever ...	24.3	0.286	38.2	0.373	23	0.196	26	0.199	26	0.190
Diarrhoea ...	73.1	0.859	114.5	1.134	122	1.042	52	0.399	117	0.859
Total ...	224.7	2.639	363.2	3.598	282	2.410	273	2.095	371	2.720

CHART SHewing THE NUMBER OF DEATHS FROM ALL CAUSES AND FROM THE CHIEF ZYMOTIC DISEASES DURING EACH WEEK IN THE YEAR 1892.

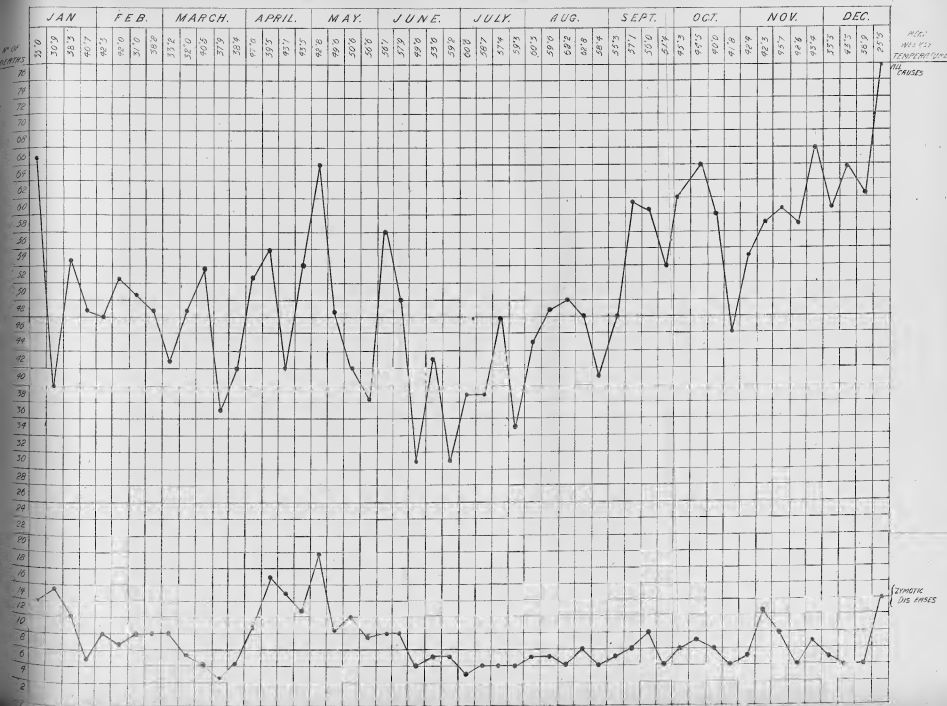
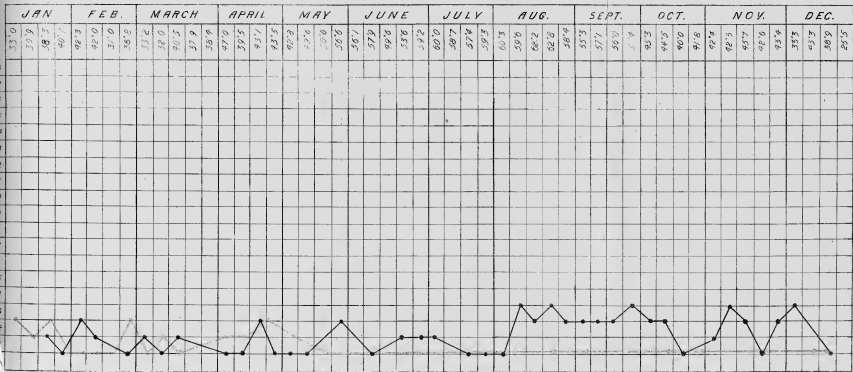


CHART SHEWING THE NUMBER OF DEATHS FROM MEASLES AND WHOOPING-COUGH DURING EACH WEEK IN THE YEAR 1892.

of
TAS.



CHART SHEWING THE NUMBER OF DEATHS FROM SCARLET FEVER & DIPHTHERIA DURING EACH WEEK IN THE YEAR 1892.



MEAN WEEKLY TEMPERATURE

DIPHTHERIA ———
SCARLET FEVER - - - - -

CHART SHEWING THE NUMBER OF DEATHS FROM ENTERIC FEVER AND DIARRHOEA DURING EACH WEEK IN THE YEAR 1892.

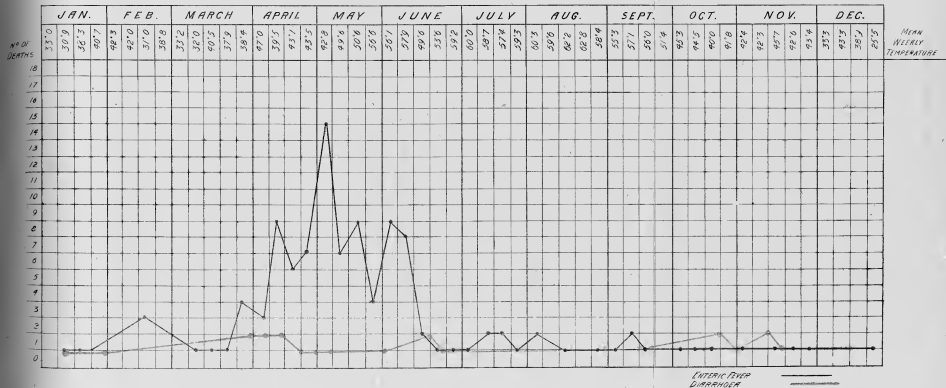
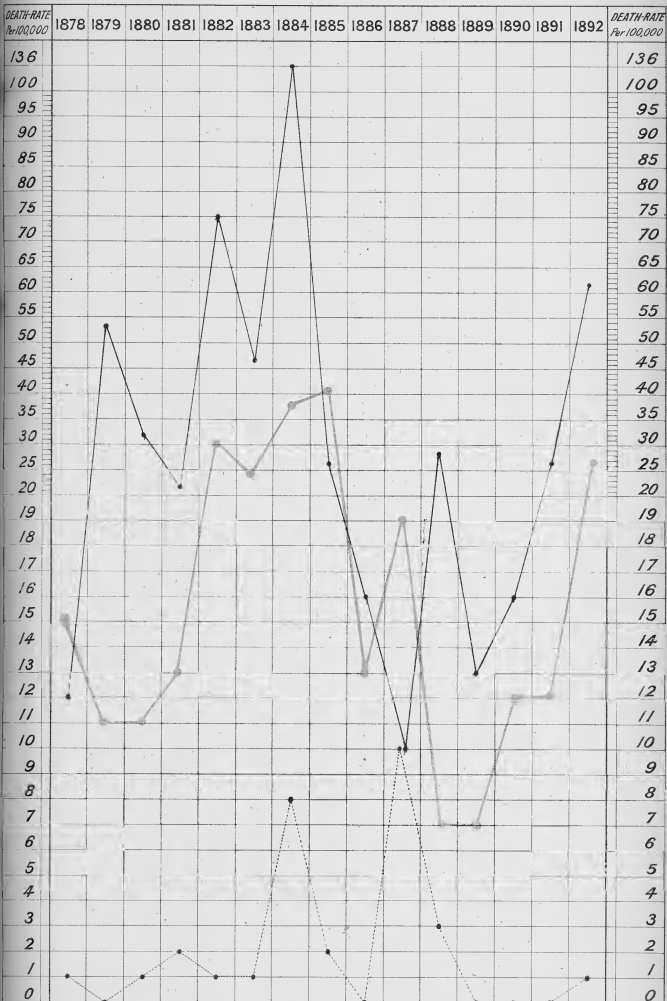


CHART SHOWING THE NUMBER OF DEATHS FROM THE RESPIRATORY DISEASES DURING EACH WEEK IN THE YEAR 1892.

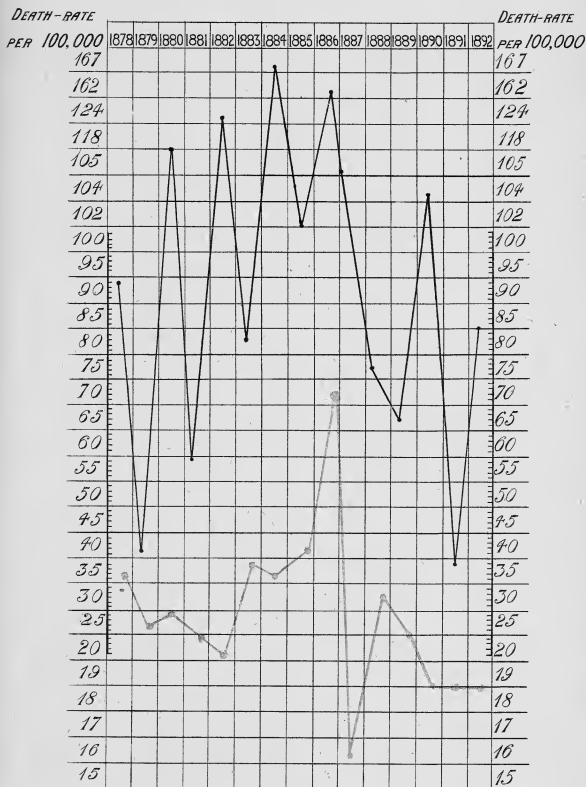


CHART SHEWING DEATH-RATE PER 100,000 FROM SCARLET FEVER,
DIPHTHERIA AND SMALL POX DURING THE YEARS 1878-1892.



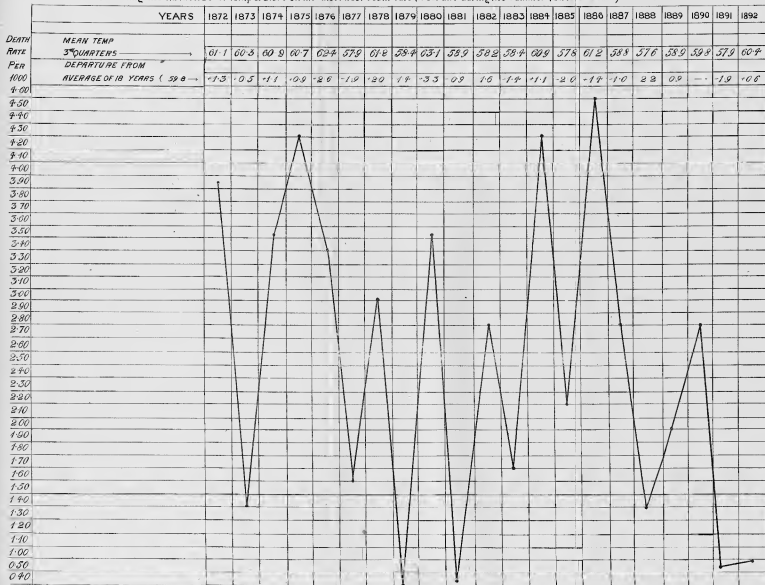
SCARLET FEVER —————
 DIPHTHERIA —————
 SMALL POX ·······

Chart shewing the Death-rate per 100,000 from Enteric
Fever and Diarrhoea during the years 1878-1892.



ENTERIC FEVER ———
DIARRHOEA ———

Chart showing the influence of temperature on the diarrheal death-rate in Cardiff during the summer quarters of the years 1872- 92



SMALL POX.—One death from small pox was registered during the year, a patient in the Infectious Ward of the Hamadryad Hospital Ship. This is the only death from small pox which has occurred in the district since the year 1888. Five cases were notified under the provisions of the Infectious Disease Notification Act. With one exception these cases were brought into the port from abroad. The circumstances connected with their importation will be referred to in the Report to the Port Sanitary Authority. The case of small pox which occurred in the Urban district was that of a Dock labourer, living in Tyndall Street, who was reported to be suffering from the disease on April 21st. The man was removed at once to the hospital, his house and effects were disinfected, some of the inmates were re-vaccinated and no fresh case occurred in the neighbourhood. The origin of this case was obscure, and it was impossible to discover any previous case of small pox in connection therewith, the disease was most probably contracted from some undiscovered source of infection on board a vessel in the docks.

MEASLES.—Fifty-eight deaths were registered from Measles during the year, as compared with 55 in 1891, 65 in 1890, and 41 in 1889. The death-rate was equal to 0·42 per 1000 persons living, as compared with 0·64 the average rate from this disease in the ten years 1882—1891. Of these 58 deaths, 14 occurred in the First Quarter, 1 in the Second Quarter, 1 in the Third Quarter, and 42 in the Fourth Quarter of the year. This disease is particularly fatal amongst Children in the winter months. Of the total number of deaths, 53 occurred amongst Children under 5 years of age. The disease prevailed most extensively, and was most fatal in the Sploft and Adamsdown Wards. As usual, the death-rate from this disease increased with the fall in the temperature, reaching its highest point towards the end of the year.

SCARLET FEVER.—Eighty-seven deaths were registered from this disease during the year, as compared with 35 in 1891. The deaths were equal to an annual death-rate of 0·42 per 1000 persons living, against 0·26 the rate in 1891, and 0·39 the rate in ten years 1882—1891.

The number of deaths registered from Scarlet Fever, exceeded that of any year since 1884, when 128 deaths were recorded.

The total number of cases reported under the provisions of the Infectious Disease Notification Act, amounted to 1851, as compared with 685 in 1891. The number increasing from 455 in the First Quarter to 678 in the Second Quarter, and decreasing from 376 in the Third Quarter to 342 in the Fourth Quarter of the year. The case mortality varied slightly during the different seasons of the year, the proportion of deaths to recorded cases being 5·2 and 4·5 per cent. in the First and Second Quarters, and 4·2 and 4·6 per cent. in the Third and Fourth Quarters respectively. The influence of age on the mortality in this disease, is shown by the fact that 91 per cent. of the deaths occurred amongst Children under 5 years of age. Scarlet Fever was relatively most prevalent in the Cathays Ward, where the disease attacked 194 per 10,000 of the population; in the other Wards, the proportion of cases per 10,000 persons, was as follows:—Sploft Ward, 179; Grangetown Ward, 164; Canton Ward, 157; Park Ward, 151; Riverside Ward, 147; Central Ward, 139; South Ward, 115; Roath Ward, 104; Adamsdown Ward, 92. The mortality was greatest in the Grangetown, Adamsdown, and Sploft Wards.

The only method of controlling the spread of scarlet fever, especially when it occurs amongst the poorer part of the population, is by complete isolation in a well-arranged hospital. This plan of dealing with the cases only became possible since July last, but sufficient experience has been gained to justify the belief that your Authority's Sanatorium will prove of the greatest benefit to the community.

Since the provision of this hospital accommodation in July, 97 cases of scarlet fever were admitted into the wards up to the end of the year, making a proportion of 13 per cent. of the cases notified during that period. In the case of those persons who were treated at home, the ordinary precautionary measures were adopted. On receiving a notification an inspector visits the house to investigate the origin of the case, and to arrange, if necessary, for the removal of the patient to the Sanatorium. He fills in the result of his investigations on a printed form, and leaves with the occupier or parent a printed list of instructions. Disinfectants are supplied free of charge, and at the termination of the illness the premises are disinfected, and the infected articles removed to the disinfecting apparatus. These measures were more or less successful, but it must be admitted that in many cases a total disregard was shown to all instructions and cautions, however clearly and precisely they were given. Careless or ignorant parents, in these cases, allowed their children to mix with others before the completion of desquamation, or friends and neighbours were admitted to the sick room, and in many ways in which legislative interference is now impossible, the infection was spread. All instances of wilful disregard of legal obligations were at once reported to your committee, who dealt with each case on its merits.

DIPHTHERIA.—Thirty-six deaths were registered as due to Diphtheria, giving a mortality of 0.26 per 1,000, as compared with 0.12, the death-rate in 1891, and with 0.20, the average annual death-rate for the ten years 1882-1891. The death-rate in 1892 in the 33 large towns was equal to 0.27 per 1,000, and considerably exceeded the average.

The number of cases notified amounted to 155, as compared with 67 in the year 1891, and with 63 in the year 1890. The percentage of deaths to cases notified is thus seen to be 23.2, a proportion somewhat lower than the average case mortality in this country. As usual the mortality fell chiefly upon young children, 63 per cent. of the deaths being amongst children under 5 years of age.

The number of deaths from this disease has increased from 8 during 1889, and 15 in 1890, to 16 in 1891 and 36 in 1892. This increased mortality has not been confined to this district, but has during recent years extended to the whole country, and more particularly to the large urban districts, being most marked in those rapidly growing towns in which the proportion of young children to the entire population is above the average.

This increase of the infant and young population means also greater aggregation in schools, etc., and to this cause Dr. Thorne Thorne attributes the increase of mortality from diphtheria in large towns. It is evidently not related to faulty sanitary circumstances in the same sense that enteric fever is, for whereas the improved sanitation in this country has reduced the mortality from enteric fever during the twenty years 1869-1888 from 390 to 169 per million, the death rate from diphtheria has notably increased, especially in towns.

Notwithstanding the increasing incidence of diphtheria upon dense populations, this disease still continues to be relatively more prevalent in rural than in urban

districts. Dr. Longstaff suggests that the peculiarity of the distribution of diphtheria in regard to population, points to its development being rather dependant upon a more primitive mode of life than upon any high development of civilization such as sewers, and that its greater prevalence in country districts is due to infection from lower animals. He points out that the peasantry live on terms of great intimacy with domestic animals. Recent researches would seem to favour this view, as a disease closely resembling diphtheria has often been observed to attack cats, pigeons, fowls and horses during the prevalence of human diphtheria. The effect of school attendance as an agent in spreading the disease was especially noticeable during the fourth quarter of the year, when diphtheria became more localised. During the earlier part of the year, the notifications received showed that diphtheria was pretty evenly distributed throughout the various wards in the Borough, and at that time no very clear evidence of the influence of school attendance existed.

During the third quarter, however, the number of cases and mortality was rather in excess in the Cathays and Park Wards, and in the latter part of the year this excess was still more marked in the Park Ward, as will be seen in the following table :—

TABLE XVIII.
Cases of Diphtheria reported and Deaths in each Ward.

	1st. Quarter.		2nd. Quarter.		3rd. Quarter.		4th. Quarter.	
	Cases Reported	Deaths.	Cases Reported	Deaths.	Cases Reported	Deaths.	Cases Reported	Deaths.
Central Ward	3	....	1	....	2	....	1	1
South ,, ....	....	....	....	....	2	1	....	....
Cathays ,,	1	....	5	2	9	4	6	2
Park ,,	10	....	2	....	8	5	42	10
Adamsdown ,,	3	....	2	....	....	....	12	3
Riverside ,,	4	....	1	....	....	....	2	....
Canton ,,	3	....	....	....	1	....	2	1
Roath ,,	8	3	4	....	2	....	6	2
Grangetown ,,	3	1	3	1	1	....	3	....
Splott ,, ....	....	....	....	....	1	....	2	....
Total	35	4	18	3	26	10	76	19

An analysis of the above cases shows that out of the total number of Diphtheria cases reported during the year, 41 were under five years of age, and 114 over that age, and that amongst the fatal cases, 23 were under five years, and 13 were over five years of age. In the younger period, therefore, the proportion of deaths to cases amounted to 56 per cent, whereas in the older period the proportion was only 11·4 per cent. From the table it will also be seen that out of the 155 cases of diphtheria reported throughout the year, 76 or 49 per cent. occurred in the fourth quarter, and also that the Park Ward suffered relatively more than any other ward in the Borough, 40 per cent of the notices sent in during the year coming from this particular Ward. During the months of October, November, and December, this localisation of the disease was still more marked, 55 per cent. of the cases notified during this period occurring in the same Ward. A careful inspection of the Park Ward which was made during the latter part of the year did not result in the dis-

covery of any general insanitary condition to which the origin and spread of the disease could be attributed. My inquiries were directed to all such points as appeared likely to throw any light on the propagation such as the sewerage and house drainage of the district, dampness of soil and methods of ventilation of houses, the water and the milk supply, the concurrent diseases among persons and other animals, and especially school attendance. There was nothing in the condition of the sewers to account for the prevalence of illness and no special complaints of the evolution of sewer gas were made. In some instances defects in the house drainage were discovered, but these were probably not more numerous in the houses attacked than in those which were unaffected. The water was the same as that supplied to the rest of the town and was not in any way polluted. No suspicion attached to the milk which was derived from a great number of different vendors, and there was no evidence to indicate that any disease of the lower animals had any share in the spread of diphtheria. Amongst the diseases of human beings which prevailed at the time scarlet fever appeared to be the one most closely associated with diphtheria, and I have reasons for suspecting that a certain number of cases of scarlet fever were notified as diphtheria. Unfortunately also the difficulty in diagnosis or rather perhaps the difference of opinion amongst medical men as to the clinical indications of diphtheria somewhat diminished the value of statistics relating to this disease, and it is probable that the deaths ascribed to laryngitis and croup, amounting to nineteen, ought to be in reality referred to diphtheria, more particularly as these deaths were concurrent in point of time and locality with the diphtheria deaths. Excluding, therefore, with some degree of probability the ordinary insanitary conditions of life the only mode of origin which can with more certainty be established is that of infection derived from a previous case. The activity of this personal infection being doubtless increased by the aggregation of large numbers of children in the Public Elementary Schools of the district. On enquiry I found that out of the 76 cases of diphtheria reported during the fourth quarter of the year 39 occurred amongst children who were attending school immediately before their illness, and that 16 of this number attended the same school (Albany Road Board School), the remaining 23 being pretty evenly distributed amongst ten other schools. The peculiar incidence of the disease upon this school naturally lead to an enquiry into the sanitary condition of the premises. The most thorough investigation and examination of the drains, water closets, and sanitary appliances failed, however, to reveal the slightest defect. This school like most of the Public Elementary Schools in the town was structurally in an excellent sanitary condition. I have no reason, therefore, to attribute the spread of diphtheria amongst the pupils to any other cause than that of infection by personal contact. The confusion between diphtherial and non-diphtherial sore throats and the large proportion of mild and unrecognisable attacks which occurred during the prevalence of the disease probably facilitated in a very great degree the introduction of the infection into the school. Every endeavour was made to prevent the attendance at school of children from infected houses, and the most careful disinfection was carried out in the case of each infected household, with the result that the outbreak was confined to comparatively narrow limits.

ENTERIC OR TYPHOID FEVER.—The 24 deaths registered from this disease were equal to an annual death-rate of 0·17 per 1,000 of the population, as compared with 0·19 in the previous year, and with 0·31 the mean death-rate from this disease during the ten years 1882—1891. The death-rate in the large towns from Enteric Fever, during the year 1892 was 0·15. The number of cases of Enteric Fever notified within the Borough, and the number of Deaths registered during the past four years are shown below :—

YEAR.		CASES NOTIFIED.		DEATHS.
1888	....	114	....	36
1889	....	132	....	30
1890	....	152	....	23
1891	....	130	....	26
1892	....	118	....	24

The following Table shows the Cases reported and the number of Deaths during each quarter of the year, 1892.

		CASES NOTIFIED.		DEATHS.
First Quarter	....	31	....	7
Second do.	....	12	....	3
Third do.	....	49	....	11
Fourth do.	....	26	....	3

The Cases and Deaths were distributed in Wards as follows :—

WARDS		CASES REPORTED.		DEATHS.
Central	Ward	8	....	1
South	"	17	....	6
Cathays	"	10	....	2
Park	"	11	....	0
Adamsdown	"	10	....	1
Riverside	"	19	....	2
Canton	"	14	....	3
Roath	"	10	....	5
Grangetown	"	9	....	3
Spott	"	10	....	1

The proportion of deaths to cases notified during the year was 20 per cent. The total number of houses invaded was 100, in 8 of which multiple attacks occurred. A careful enquiry was made into the Sanitary surroundings of each case of Enteric Fever, with a view of ascertaining any cause which might possibly have contributed to the development of the disease. Structural defeats in drainage and other insanitary conditions were found in 34 houses in which the disease occurred.

In a certain number of instances (14) it was found that the person attacked had been in the habit of drinking water of suspicious quality, this was more particularly the case with sailors who were brought into the port suffering from Enteric Fever. It will be noticed with satisfaction that the fever ° death-rate has rapidly declined during the past few years, and that whereas the average mortality during the six years 1884—1889 was at the rate of 0·37 per 1,000, since 1890 it has not exceeded 0·19 per 1,000; a high testimony to the improved Sanitary condition of the town.

* Typhus, Enteric, and continued Fevers are included in the terms "fever."

DIARRHŒA.—The deaths from Diarrhœa numbered 117, as compared with 52 in 1891. The number of Deaths was equal to an annual rate of 0·85 per 1,000 persons, as compared with 0·39 the death-rate in 1891, and with 1·02 the mean death-rate from this disease during the 10 years 1882—1891. The deaths were distributed as follows:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under one year	5	10	70	9	94
One and under five years	1	2	8	1	12
Five and under fifteen years ....	....	1	1	....	2
Fifteen and under twenty-five years ....	....	....	....	....	....
Twenty-five and under sixty years	2	....	....	1	3
Sixty years and upwards	2	1	2	1	6
TOTAL	10	14	81	12	117

From the above it will be seen that the majority of deaths were amongst infants under one year of age, and that 70 per cent. of the entire number of deaths occurred in the third quarter of the year.

The number of deaths from Diarrhœa during July, August and September was 81, giving an annual death-rate of 2·37 per 1,000 persons living, as compared with 1·80 the rate in the five preceding third quarters of the year. The Diarrhœal death-rate during the third quarter in the 33 large towns was 1·98 per 1,000, which was considerably below the average. The relation between the temperature of the air and the prevalence of fatal Diarrhœa, is shown in the accompanying Chart.

PHTHISIS and other forms of Tuberculosis.—During the year 242 deaths were registered as due to phthisis or pulmonary consumption, giving a death-rate of 1·77 per 1,000 persons living. More than 63 per cent. of these deaths occurred amongst persons between 25 and 60 years of age. A reference to the tables in the appendix of this report will show that more deaths were registered from phthisis than from any other disease, pneumonia coming next with 198 deaths. In this country consumption ranks as one of the most fatal diseases, especially during adult life, causing no less than one-tenth of the whole mortality in England. It has long been recognized that this disease is largely dependant upon preventible causes, and it has been shown by Buchanan that there is a general relation between dampness of soil and the prevalence of phthisis, and it is supposed that the reduction in the mortality which has taken place of late years is for the most part due to the drying of the subsoil consequent on the artificial drainage of damp localities. The researches of Koch and others would seem to show that consumption must now be added to the list of infectious diseases, and that under certain circumstances it may be communicated from person to person. It is clear, therefore, that the disease may to some extent be controlled by well-directed precautionary measures.

These observers appear to have proved that the disease is due to a micro-organism, the tubercle bacillus of Koch. These bacilli are found in the blood, and secretions of tuberculous patients, and abound in their sputa or expectoration.

The manner in which phthisis is spread from one person to another appears to be usually as follows: The patient coughs up a quantity of sputum, which contains enormous numbers of the tubercle bacilli. The sputum dries and becomes pulverized, and floats in the air as dust. The air thus infected, when breathed, is liable to cause phthisis. The means for preventing the spread of phthisis from person to person are therefore simple by reason of the infective material being easily recognisable. They consist in the destruction or disinfection of the phthical sputum, and of all articles soiled by this discharge. The importance of free ventilation and of thorough cleanliness in the dwellings of phthical persons becomes at once evident. The chief reasons why there is such a close relation between density of population and phthisis mortality, is doubtless the greater stagnation and impurity in the air of thickly populated towns, and in towns it is found that the highest mortality from this disease occurs among the poorer classes, and especially those living in narrow streets, courts, alleys, and back to back houses. Besides the danger of breathing or swallowing air infected with the tubercle bacillus, another mode of tuberculous infection has now been recognized namely, the introduction into the alimentary canal of tuberculous meat or milk. It is well known that tuberculosis attacks cattle, and particularly stall-fed cattle; that such cattle is frequently slaughtered for food, and that milk from cows suffering from this disease finds its way into the market. The question, therefore, of condemning cattle which have suffered from tuberculosis, becomes one of the most important and, perhaps, one of the most difficult which Sanitary Authorities have to deal with. There can be little doubt as to the propriety of condemning the carcasses of animals which, at the time of their death, present evidence of general tuberculosis, but considerable difference of opinion exists as to whether the whole animal should be condemned in those cases in which the disease is localized to any one of the viscera. If we could be sure that this localization was complete, our course would be clear, as there would, I apprehend, be little danger in eating the well cooked flesh from other parts of the animal. Unfortunately this absolute certainty is difficult to attain. It has now, therefore, in the judgment of many of the highest authorities, become necessary to condemn absolutely the whole carcass if evidence of tuberculosis is found in any part. The necessity for this rigorous measure was affirmed by the Sanitary Congress held in Paris in 1888, on the ground that the slightest local lesion may involve infection of the whole body. The infection of milk is one of the most serious questions which can engage the attention of Sanitary Authorities, being probably an important factor in the causation of infantile mortality. The recognition of this fact has led to the sterilization of milk used in infant feeding, and it is generally considered that all danger of infection from this source may be obviated by boiling the milk. But with regard to meat, it is probable that the ordinary method of cooking has little or no effect on the bacilli in the interior, which require a very high temperature for their destruction.

TABLE XIX.

Year.	Class II.	Class III.	Class IV.	Class V.
	Constitutional Death-rate.	Local Death-rate.	Developmental Death-rate.	Violent Death-rate.
1886	4.305	10.373	3.563	1.309
1887	3.203	10.384	3.442	1.400
1888	3.306	9.275	2.947	0.994
1889	3.690	9.164	1.446	1.029
1890	3.498	10.101	1.692	0.948
1891	3.645	11.398	1.366	1.166
Mean of six years	3.607	10.115	2.409	1.141
1892	3.517	7.791	1.240	0.903

SANITARY CONDITION OF THE DISTRICT AND SUMMARY OF WORK
PERFORMED BY THE
OFFICERS OF THE HEALTH DEPARTMENT.

TABLE XX.

The area of the Urban Sanitary District of Cardiff is as follows :—

Parish of St. Mary	}	....	....	2,791 acres.
„ St. John				
„ Roath	....	....	3,348	„
„ Canton	....	....	2,270	„
TOTAL	....	....	8,409	

According to the Census of April, 1891, the population and the number of houses in each parish were as follows :—

Borough and Con- stituent Parishes.	Houses.			Population, 1891.			Population, 1881.
	Inhabited.	Uninhabited.	Buildings.	Males.	Females.	Persons.	
Canton	5,484	180	85	16,425	16,380	32,805	14,797
Roath	6,552	367	175	19,884	19,773	39,657	23,096
St. John	4,386	218	29	13,060	14,098	27,158	16,614
St. Mary	4,054	321	43	16,376	12,919	29,295	28,254
County Borough of Cardiff	20,476	1,086	332	65,745	63,170	128,915	82,761

The following Table gives the distribution of the population in the Municipal Wards of the Borough :—

MUNICIPAL BOROUGH OF CARDIFF.

Borough and Wards.	HOUSES.			POPULATION (CENSUS 1891.)		
	Inhabited.	Un-inhabited.	Bldg.	Persons.	Males.	Females.
Ward—Adamsdown	2132	83	—	16,234	9,398	6 836
„ Canton	2354	96	6	13,166	6,500	6,666
„ Cathays ...	2408	25	12	14,523	7,404	7,119
„ Central	2008	247	9	12,348	6,105	6,243
„ Grangetown	1809	45	97	11,734	5,975	5,759
„ Park	2587	110	109	14,289	6,754	7,535
„ Riverside	2373	77	20	14,897	7,359	7,538
„ Roath	1949	162	31	12,200	5,886	6,314
„ South	1554	156	13	10,709	5,824	4,895
„ Splott	1302	85	35	8,805	4,540	4,265
TOTAL	20,476	1,086	332	128,915	65,745	63,170

INSPECTION OF THE DISTRICT.—During the year, your Authority with the Assistance of the Technical Education Committee, and in conjunction with the Sanitary Institute, established a course of lectures and instruction for Sanitary Officers. At the end of the course in July, an Examination was held in Cardiff, and the Certificate of the Institute was granted to the successful candidates. The course of lectures was exceedingly well attended not only by persons living in the town, but by others coming from a distance. Eighteen candidates succeeded in passing the examination, amongst this number were your Assistant Inspectors—Warren, Davies, Hill, and Thomas.

Shortly after this it was deemed advisable to prepare a Scheme for the classification of the salaries and duties of the Inspectors, and the Chairman of the Health Committee and your Medical Officer of Health were requested to submit to the committee a scheme for their approval. Several plans were submitted and considered, and in the end the following Classification was recommended by the Committee and subsequently approved by the Council.

SCHEME FOR THE CLASSIFICATION AND SALARIES OF
INSPECTORS OF NUISANCES.

Adopted by the Cardiff Sanitary Authority, October 10th, 1892.

	Necessary Qualifications.	Commencing Salary.	Rate of Increase.
Chief Inspector ...	8 years' experience as Inspector or Assistant Inspector of Nuisances in a district having a population of more than 20,000 persons, or 6 years' experience if holding the Certificate of the Sanitary Institute.	£140 per annum.	Rising by annual increments of £10 to maximum of £160 per annum.
Assistant Inspector (1st Class.) ...	5 years' experience as Inspector or Assistant Inspector in a district having a population of more than 20,000 persons, and must hold the Certificate of the Sanitary Institute.	£2 6s. od. per week.	Rising by annual increments of 2/- per week to a maximum of £2 10s. per week.
Assistant Inspector (2nd Class.) ...	2 years' experience as Inspector or Assistant Inspector in a district having a population of more than 20,000 persons, and must hold the Certificate of the Sanitary Institute.	£1 17s. od. per week.	Rising by annual increments of 4/- per week to a maximum of £2 5s. per week.
Assistant Inspector (3rd Class.) ...	May be required to qualify for 2nd Class within 3 years of appointment.	£1 10s. od. per week.	Rising to a maximum of £1 15s. per week.

This Scheme to apply also to Assistant Port Sanitary Inspectors.

Promotion and increase will in each case be made by the Health and Port Sanitary Committee, on the recommendation of the Medical Officer of Health, subject to confirmation by the Council.

The systematic House-to-house inspection of the district, which was commenced in January, 1891, was continued throughout the year, but the large amount of work which fell upon the staff of Inspectors in connection with infectious diseases and disinfection, interfered to some extent with this work. The following Tables show the result of this inspection during the year, from which it will be seen that a large number of Sanitary defects have been remedied. The erection of new houses, together with the construction of their drainage, is entirely under the control of the Borough Surveyor and of the officers of his department:

HOUSE INSPECTION.—CENTRAL WARD.

Name of Street	No. of Houses Inspected.	Defective Drains.	Choked Drains.	W. C. Pans and Siphons defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not Ventilated.	Closets not supplied with Water.	Other Nuisances.
Love Lane and Court	41	...	3	3	7	...	...	41	4
Mary Ann Street	53	...	3	5	7	...	...	53	7
Stanley Street	26	...	...	1	3	...	...	26	2
David Street	31	...	1	1	6	...	...	31	7
Giles' Court	4	...	...	...	...	...	...	4	...
Evans' Court	3	...	...	...	1	...	...	...	...
Union Buildings	16	...	...	...	...	...	...	4	2
Carpenters' Arms Court	5	...	...	...	...	...	...	5	1
Rising Sun Court	5	...	...	...	2	...	...	4	1
Masons' Arms Court	9	...	...	...	...	...	...	4	1
Little Frederick Street	33	...	...	4	6	...	...	33	1
Rodney Street	19	...	...	1	4	...	...	19	1
Ruperra Street	16	...	...	...	4	...	...	16	2
Homfray Street	23	1	...	...	1	...	...	23	1
The Tunnel	9	...	...	...	...	...	...	9	1
Canal Bank	9	...	...	...	...	...	...	...	1
Baker's Row	8	...	...	...	...	...	...	8	1
Williams' Court	6	...	...	...	...	...	...	3	...

SOUTH WARD.

Peel Street	30	1	...	...	2	...	...	30	3
West Church Street	11	...	...	...	4	...	...	11	1
John Street and Court	11	...	...	...	3	...	...	11	1
Francis Street	24	1	1	1	5	...	...	24	2
Nelson Street	20	...	...	...	3	...	...	20	5
Frederica Street	43	...	1	...	8	...	...	43	10
Christina Street	60	1	1	...	12	...	...	60	6
Sophia Street	47	1	...	...	19	...	...	47	5
Maria Street	45	2	...	6	8	...	1	45	8
South Church Street	27	...	...	1	5	1	...	23	6
North Church Street	30	...	...	2	3	3	...	23	4

CATHAYS WARD.

Name of Street.	No. of Houses Inspected.	Defective Drains.	Choked Drains.	W. C. Pans and Siphons defective.	Defective Stanch Traps permitting an escape of Sewer Gas.	Sullery Sinks connected direct with Drain.	Inside Closets not Ventilated.	Closets not supplied with Water.	Other Nuisances.
Daniel Street	61	2	....	1	3	....	....	61	3
Salisbury Road	85	5	....	13	30	1	20	83	21
Miskin Street	86	....	1	24	6	1	....	83	6

PARK WARD.

Shakespeare Street	22	....	....	1	5	....	....	22	5
Byron Street	64	....	1	4	3	....	....	64	13

ADAMSDOWN WARD.

Taff Street	19	1	....	2	9	....	....	19	13
Morgan Street	25	1	....	4	7	....	....	25	9
Garth Court	7	....	1	4	1	....	....	4	7
Godfrey Street	26	5	....	2	12	....	....	26	14
Dew's Court	4	....	....	....	....	....	....	4	....
Ivor Street	30	4	....	7	26	....	....	30	21
Victoria Street	31	....	....	6	18	....	....	31	15
Davies street	44	2	1	17	45	5	....	44	37
Kite Street	5	....	....	3	4	....	....	5	2
Windsor Road	33	5	....	6	19	....	....	32	14
Buzzard Street	32	4	....	12	27	1	....	32	27
Pendoylan Street	30	2	....	2	3	....	....	30	6
Ellen Street	35	....	1	5	....	....	....	35	12
Thomas Court	3	1	....	....	1	....	....	3	....
Rowland Street	33	1	....	5	11	....	....	33	5
North William Street	34	6	....	7	3	....	....	34	9
Rosemary Street	6	1	1	....	....	....	....	6	1
Tyndall Street	54	4	4	3	2	....	....	54	13
Sandon Place	34	1	....	....	18	....	....	34	7
Sandon Street	19	....	....	2	2	....	....	19	16
Adamsdown Square	25	....	....	2	1	1	2	25	9
West Luton Place	5	....	....	1	5	....	....	5	2
Metal Street	64	1	2	7	25	....	....	64	11
South Luton Place	24	....	....	....	7	2	....	24	10
Orbit Street	31	....	....	1	14	3	....	29	3
Silver Street	20	....	....	....	14	....	....	20	1
Copper Street	17	....	....	1	16	....	....	17	14
Gold Street	16	....	....	3	11	1	....	16	2
Piercefield Place	12	....	....	5	....	....	....	11	....

RIVERSIDE WARD.

Name of Street.	No. of Houses Inspected.	Defective Drains.	Choked Drains.	W. C. Pans and Syphons defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scully Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Halket Street	53	....	?	2	6	....	....	53	21
Evans' Flats	6	....	1	....	....	....	....	6	1

CANTON WARD.

Lewis' Court	8	....	....	....	....	....	....	8	....
Stacey Terrace	10	....	2	....	....	....	....	10	9
Evans' Terrace	10	....	....	....	....	....	....	10	7
Canton Square	14	....	2	....	....	....	....	14	3
Harvey Street	35	....	5	1	3	....	....	35	9
Gray Street	59	1	3	....	6	....	....	59	7
Canton Square	14	....	2	1	....	....	....	14	6
Westbury Terrace	20	....	..	4	6	....	....	20	3
Conybeare Road	36	....	1	2	15	1	....	36	10
Ivy Street	16	....	....	2	1	....	....	16	4
Fern Street	4	....	....	....	....	....	....	4	1
Daisy Street	58	....	....	....	....	....	....	58	5
Ethel Street	108	....	....	....	13	....	....	108	42
Loftus Street	36	....	....	....	2	....	....	36	1

ROATH WARD.

Stacey Road	27	....	....	6	8	3	3	26	2
Newport Road	96	3	3	34	11	23	5	51	24
Snipe Street	13	....	....	1	1	....	....	12	....
Grouse Street	9	....	....	1	....	....	....	9	....
Woodcock Street	10	....	....	1	3	....	....	10	1
Teal Street	5	....	....	....	2	....	....	5	....
Elm Street	47	....	....	4	10	4	....	47	17
Helen Street	75	1	2	3	10	....	....	75	19
Nora Street	60	....	1	6	6	....	....	60	21
Fort Street	12	2	....	....	3	1	....	12	1
Tyler Street	12	2	....	....	7	....	....	12	2
Booker Street	12	....	....	2	3	....	....	12	3
Fort Street	11	2	....	....	5	....	....	11	5
Cyril Crescent	10	....	1	1	5	3	4	8	2

INSPECTION OF COMMON LODGING HOUSES.—In January, 1891, Bye-Laws for the regulation of these houses were approved and adopted by the Sanitary Authority, and in the following March, they received the final approval of the Local Government Board. During the year 1892, special attention has been paid to the Registration and Inspection of the Lodging-houses in the Borough, for the purpose of putting these Bye-Laws into active operation. In most cases it was found that the management of these houses was conducted in an irregular and unsatisfactory manner, that the accommodation was insufficient for the number of inmates, and that the sanitary appliances were defective. The attention of the proprietors was therefore called to their legal obligations. They were required in the first place to register their houses, and subsequently to keep them in strict conformity with the Bye-Laws. As a result of this inspection a vast amount of structural improvement has taken place, and the premises generally have been kept in a more cleanly condition. The following table is a summary of the result of the Inspection of Common Lodging Houses since the enforcement of the New Bye-Laws.

COMMON LODGING HOUSE INSPECTION.

Number of Houses on Register	...	...	...	57
Registered Rooms	....	....	....	558
Number of Persons Certified to Accommodate	....	....	....	1,122
Structural Alterations Effected	....	....	....
Houses Repaired	....	....	....	28
Rooms Ventilated	....	....	....	7
Additional Water Closets Constructed	....	....	....	18
Water Closets Repaired	....	....	....	13
Water laid on to Water Closets	....	....	....	74
Drains Trapped and Repaired	....	....	....	28
Notices given to secure Limewashing and Cleansing	....	....	....	59
Number of Inspections as to Fresh Application, Measuring Rooms, Serving Notices, Affixing Room Tickets, Securing Observation of Bye-Laws and Night Visits.	....	....	....	692

DISINFECTATION.—The amount of disinfection which has been performed during the year has taxed to the utmost the resources of the Health Department. It will be readily understood that since the adoption of the Infectious Disease Notification Act, the disinfection of infected dwellings, clothing, and bedding, has been carried out on a much more extensive scale than was formerly the case. Very properly no charge is made to the public for disinfection with the result that the public avail themselves freely of the services of the disinfectors, and of your Authority's Disinfecting Chamber. A reference to the appendix in this Report will show that 1,060 houses, and 3,476 articles were disinfected during the year. At present practically, all infected premises are disinfected by your officers, whereas

before the compulsory notification of infectious diseases was in force, such disinfection was the exception rather than the rule, consequently, the arrangements and apparatus which were then considered sufficient were found to be totally inadequate when disinfection became more general. The disinfection of clothing, bedding, &c., is effected in a hot air chamber heated by a furnace, a small supplemental chamber heated by gas is also used. In both these disinfectors the atmosphere can be heated to a temperature of about 250°F , in both however it has been found by experiment that the heat does not sufficiently penetrate to the interior of many of the articles subjected to the process. These defects, will, however be remedied on the completion of the Disinfecting Station in connection with the New Hospital for Infectious Diseases. Here it is intended to erect one of Washington Lyons' Steam Disinfecting Apparatus, in which the articles to be disinfected will be exposed to the action of superheated steam. The advantages of this form of disinfection over dry heat are the saving of time and the superior penetrating power of steam. The experiments of Koch, Parsons, and others, have shown that the most resistant micro-organisms are destroyed by exposure to steam at a temperature of 212°F for five minutes, or whilst an exposure of four hours to hot air at 220°F was necessary for their destruction. It was found moreover with dry heat that the non-conducting properties of most articles of clothing rendered it practically impossible to raise the temperature in the centre of bulky substances within a reasonable time, whereas steam penetrates rapidly into the interior of such objects. Water at a temperature of 212°F , that is boiling water, is quite as powerful a disinfecting agent as steam, and indeed for those articles which are not damaged by boiling, no better or more convenient method of disinfection can be found than that of placing them in boiling water for a short time. A fully equipped laundry is therefore a necessary part of a well-appointed Disinfecting Station.

As under the provisions of the Infectious Disease Prevention Act, 1890, the Sanitary Authority have power to insist on carrying out the process of disinfection themselves, and to remove articles for this purpose, it is only just to the public that the most efficient method should be adopted. In those cases in which the premises were disinfected after the occurrence of an infectious disease amongst the inmates fumigation with sulphur, in the proportion of 1 lb. to 1,000 cubic feet of space was employed. This is still considered to be the most effectual method of aerial disinfection, but perhaps the subsequent scraping of walls, cleansing and free ventilation are quite as important, and as in many cases the latter part of the process would not be carried out without the former it is as well, for the present, that this method should be continued in its entirety.

WATER SUPPLY.—From a Public Health point of view, one of the most important events which occurred during the year was the completion of the New Water Supply, by means of which an ample quantity of an exceedingly pure soft water is now supplied to the town, in place of the somewhat inadequate supply of excessively hard water from the gathering grounds of Lisvane and from the pumping station at Ely. To Mr. J. A. B. Williams, M.Inst.C.E., Water Engineer to the Corporation, I am indebted for the following information relating to the new works which were designed by him, and which have been carried out under his direct supervision. Mr. Williams as the Engineer, and the Sanitary Authority as the responsible governing body, are to be congratulated on the successful accomplishment of an undertaking, which will doubtless prove of inestimable value to the district.

In 1884, Parliamentary powers were obtained for securing a new supply of water from the Taff Fawr Water shed of the Brecon Beacons, situated on the 'old red-sandstone formation,' beyond the Northern boundary of the South Wales Coal Field, and about 34 miles from Cardiff, at an elevation of from 1,100 feet to nearly 3,000 feet above the mean level from the sea. The works recently completed consist of—

(i.)—A storage reservoir (known as the Cantreff reservoir), with a storage capacity of 322 millions of gallons.

(ii.)—Balancing reservoirs at Cefn, Blackbrook, and Rhubina; also a high-level service reservoir and filters at Rhubina, for the future supply of Penarth by gravitation, also that part of the Cardiff Rural Sanitary Authority.

The town and neighbouring districts were until the opening of the new works, supplied partly by gravitation from works at Lisvane, and partly by pumping from a well and culverts at Ely. The water from both sources is objectionally hard, and that from the Lisvane gathering ground possesses the additional disadvantage of being derived from cultivated land, and of containing at times an undesirable amount of organic matter in solution. The Taff Fawr Water is in every respect of exceptional purity, a matter at all times of importance, but at present of the highest consequence in view of the possible importation of Cholera from abroad. There is, perhaps, nothing more certain in the history of cholera epidemics, both at home and abroad, than their close connection with impure water supplies, and it may be considered a well ascertained fact that one of the chief local conditions of safety is a public supply of water free from organic impurities. It is probable, therefore, that your Authority has by the construction of the new works, adopted one of the most effectual precautions against the development of the disease in your district.

The advantages of a soft over a hard water for the supply of a town are also very great. In some few cases, where much peat exists on the water sheds, these waters have been known to act injuriously by their solvent action on the lead in the Service pipes; but in the case of the Taff Fawr Water, these conditions do not exist, and there is no reason to suspect that this action will take place, as in the experiments and analyses which were made at the time, this water was recommended, were doubtless of a satisfactory nature in this respect.

Generally speaking, it may be stated that while soft waters are perfectly wholesome for all dietic purposes, they are much more economical than hard waters

for all other purposes to which they are applied. Chemically, the difference between a hard and a soft water is, that whereas hard water is water holding in solution perhaps 70—100 grains of mineral matter per gallon, soft water may have only 5, 10, or 15. It has been suggested that the lime salts present in these hard waters are necessary for health, and that they contribute in some way to the formation of bone. But it has been conclusively shown that the lime required for this purpose does not come from the water, but from the solid particles in the food taken, and that the lime in the water has no influence whatever on the processes of animal nutrition.

From a commercial and economical point of view the advantages are altogether on the side of a soft water, especially for those manufacturing processes in which soap is largely used. The waste of soap occasioned by hard water is very considerable, every grain of chalk or carbonate of lime, decomposing ten grains of soap, all the soap therefore, which is unavoidably decomposed or dissolved in order to render the water capable of washing, is absolutely wasted. Hardness is calculated by degrees, each degree corresponding to one grain of lime in one gallon of water, and it is estimated that each degree of hardness involved waste of upwards of a pound of soap per 1,000 gallons used in washing. As regards cooking, soft water has an acknowledged superiority over hard water. The evidence of M. Soyer the celebrated cook, was conclusive on this point. He stated in an enquiry before the General Board of Health in London, that 'in boiling cabbage, greens, spinach, and asparagus, hard water gives them a yellow tinge, especially on French beans; hard water shrivels greens and peas. The process of boiling is longer by one fourth, requiring to that extent more fuel and attention.' In regard to the effects upon meat, the same witness says—'hard water does not open the pores of the meat so freely as soft water. On fresh meat it has a very prejudicial effect, and the more delicate a substance is—such as chicken or lamb—the greater is the influence of a hard water upon it.' The domestic and economical advantages of soft water would then appear to be considerable more, especially in connection with cooking and in the laundry.

The following is the most recent result of the Analysis of the Town Water, made by Mr. Hughes, the Borough Analyst.

Result of Analyses of samples of water, expressed in parts per 100,000 :—

Description.	Total Solid Impurity	Albuminoid Ammonia.	Free Ammonia.	Nitrogen as Nitrates & Nitrites.	Previous Sewage Contamination.	Chlorine.	Sulphuric Acid in Sulphates.	Magnesia Salts.	HARDNESS.		
									Temporary.	Permanent.	Total.
Llanishen Water	18·4	0·009	0·001	0·01	nil.	1·6	1·68	...	3·8	12·6	16·4
Ely Water		0·004	nil.	0·14	trace	1·95	3·19	...	15·6	14·5	30·1
Taff Vawr Water (new supply)	6·4	0·005	0·003	...	...	0·75	...	...	...	4·3	4·3

District comprising Llandaff, Whitchurch and Maindy, and Pen-y-lan.

(iii.)—A conduit line of mains connecting the different reservoirs together, and passing down the Taff Valley to the two storage reservoirs at Llanishen and

Lisvane, which are now utilized for the reception of Taff Fawr Water.

The new works as originally designed, comprised two other reservoirs in the Taff Fawr Valley, Nos. 1 and 3. One of these (No. 1) is now in the course of construction, and will have a capacity of 335 million gallons, the other (No. 3) will be made when the increase of population renders further storage capacity necessary, and will contain about 700 million gallons.

By the present arrangement, pending the construction of No. 1 Reservoir passes through copper cloth strainers provided in a large straining chamber adjoining the Cantreff Reservoir, by which the suspended particles are arrested before the water enter the main conduit pipes leading to the storage reservoirs at Llanishen, from thence it passes through similar copper cloth strainers before entering the beds. It is finally filtered and passed through into a covered service reservoir. It is estimated that about $3\frac{1}{2}$ million gallons are supplied per day, corresponding to an average daily supply of about 23 gallons per head. From the foregoing remarks it will be seen that provision is being made for a very ample supply of water, and the probable requirements of an increasing population. Besides this obvious advantage, it may be pointed out that as regards quality, the new water is very superior to that formerly in use, as will be seen on reference to the appended analyses.

FOOD SUPPLY AND SLAUGHTER HOUSES.—The Public Abattoirs have been regularly inspected, and a special report has been presented to your committee in reference to some conditions requiring amendment. No private slaughter-houses exist in the Borough, and no cases of illegally slaughtering in unlicensed premises came to the knowledge of the Sanitary Authority. The Managers of the Public Markets and Slaughter Houses report to me that during the year the following animals were slaughtered:—

	CANTON MARKET.		ROATH MARKET.		
Beasts	1,048	....	7,506
Calves	503	....	3,950
Sheep	11,531	....	46,591
Pigs	3,193	....	20,998
Total			16,275		79,045

The 116 Section of the Public Health Act requires the Medical Officer of Health to inspect in any case in which it may appear to him necessary any animal, carcase, meat, poultry, game, fish, or other articles of food exposed for sale, and intended for the food of man, and if he find that such animal or article is unfit for food, he shall give such instructions as may be necessary for causing the same to be seized, taken and carried away in order to be dealt with by a Justice. The Public Health Act (Amendment Act) provides for the extension of this section, making it apply to all articles intended for food and exposed for sale. Under these powers the following articles were seized and condemned as unfit for food and destroyed by order of the Magistrates:—

Beef	....	....	....	41 lbs.
Pork	....	....	....	473 "
Mutton	....	....	....	350 "
Fish	....	....	....	462 "

1,326 lbs.

Notwithstanding the facts that we have no private slaughter houses in the Borough, and that our abattoirs are admirably constructed, and on the whole well managed Institutions, it must be acknowledged that our system of inspection of meat could with advantage be improved.

The occasional or even the periodical visitations of these places by an Inspector of Nuisances even though supplemented by the general supervision of the Medical Officer of Health, can hardly be considered a sufficient safeguard to the consumers. The method of meat inspection as carried out in our English towns is by no means as efficient as that adopted in most of the large Continental Abattoirs. In Cardiff fortunately the chief difficulty has been overcome by the abolition of private slaughter houses, and by the substitution of Public Abattoirs.

The Inspection therefore should be a comparatively simple matter, a further development of the present system being all that is required, and with a view of indicating the lines which this development might take I would make the following suggestions. In the first place the primary inspection should be made by a Veterinary Surgeon, it is evident that only a Veterinarian is fitted for such duty, it is for him to distinguish the morbid appearances in the carcase. The responsibility of deciding what shall pass and what shall be seized must of course rest with the Medical Officer of Health. Acting under these Officers should be the Sub-Inspector, who might, if properly qualified be the Superintendent of the Abattoir, and who would on the instruction of the Veterinary Surgeon, call in for consultation the Medical Officer of Health.

Every animal brought to the abattoir should come under the observation of the Veterinary Inspector in his daily visits, and any signs of disease noted. If the carcase is found to be sound it would be passed, if signs of disease are found a further inspection should be made. This inspection should also be carried out at the Railway Siding immediately on the arrival of the cattle, as it has occasionally happened that an animal has been injured in transit, or has been found dead in the truck, and there is reason to suspect that owners not wishing to have such animals on view at his abattoir have conveyed them to some butchers shop where they have been prepared for sale.

A system of this kind could I conceive be easily carried out by the Sanitary Authority. The Medical Officer of Health and Veterinary Inspector acting conjointly, the latter officer dealing particularly with the characters of disease in the animal or carcase, the former deciding in each case if the meat is fit for food. In connection with this work I hope that the small laboratory which your Authority has been pleased to fit up for the use of your Medical Officer of Health will prove of some considerable use. In dealing with unsound meat I have, during the past year, adopted a method which up to the present appears to answer well. Whenever a carcase is found unsound, the owner is asked to sign a form requesting the destruction, if he refuses to do so, a prosecution follows. This plan which I believe adopted in Edinburgh, Birkenhead, and some other places has the advantage of doing away with the necessity of bringing before the Magistrates cases in which the owner of the meat has obviously no intention of selling the same. I

am indebted to the Medical Officer of Health for Birkenhead, for the following forms which I now employ on these occasions :—

Medical Officer of Health's Department.

TOWN HALL, CARDIFF,.....189

SIR,

I have to inform you that I have this..... seized (under section 116 of the Public Health Act, 1875) at the Abattoir.....the.....of a..... belonging to you, and unless in the meantime you consent to its destruction, which you may do by calling at this Office, or by sending your consent in writing, I shall apply to a Magistrate for an order at the Police Court.....as soon after..... as the application can be heard.

I am, your obedient servant,

To.....

.....

County Borough of Cardiff.

HEALTH DEPARTMENT.

.....189

TO THE MEDICAL OFFICER OF HEALTH,

SIR,

.....hereby authorise you to take and carry away..... belonging to.....now being at the.....and request you to destroy the same as being unsound.

.....

SCAVENGING OPERATIONS.—The scavenging of this town is undertaken by the Sanitary Authority, and the work has, as usual, been most efficiently performed under the supervision of Mr. Woosey, the Superintendent of this department, from whom I have obtained the following particulars connected with the routine of the work :—

The main thoroughfares are cleared every day, commencing at 7 a.m.

Shop refuse is cleared from 7.30 a.m. to 8 a.m. every morning.

All main thoroughfares cleared by 11 a.m.

Household refuse is cleared three nights weekly, commencing at 11 p.m. to 6 a.m. on Monday, Wednesday, and Friday nights. All householders are requested to place refuse in a suitable receptacle in the channel in front of the house they occupy. Twenty-five horses and waggons are required three nights weekly to attend to this work.

One hundred waggon loads is the average each night from 11 p.m. to 6 a.m.

Back lanes are cleared three days weekly, from 1 p.m. to 4 p.m. Waggons go round with bells when the occupier places the ash receptacle inside the yard or garden door ready for men to remove it.

“SALE OF FOOD AND DRUGS ACT.”—The following articles were analysed during the year, by Mr. Thomas Hughes, F.I.C., F.C.S., Borough Analyst:—

Samples.	Number of Samples obtained.	Number of Genuine Samples.	Number of Adulterations.	REMARKS.
Milk	397	379	18	16 convictions—Fines £5, £3, £2, £1, 10s., 2/6 respectively.
Lard	18	18	....
Pepper	6	6	....
Bread	6	6	....
Coffee	47	47	....
Mustard	12	11	1	1 conviction—Fine £5.
Whisky	23	18	5	3 convictions—Fines £1, 5s. and to pay costs respectively.
Butter	44	44	....
Gin	24	22	2	2 convictions—Fines 10/- and 2/6 respectively.
Condensed Milk....	3	2	1	Dismissed.
Flour	18	18	....
Oatmeal	12	12	....
				Refusing to serve Inspector, £5 and costs.
TOTAL	610	583	27	

MAGISTERIAL PROCEEDINGS.—Legal proceedings were taken in the following cases during the year, 1892.

	No. of Cases.	Fines.
		£ s. d.
Magistrates Order obtained to destroy Articles Unfit for Food	2	25 0 0
Carrying on Trade of Milk Seller without being Registered	1	2 0 0
Proceedings under Sale of Food and Drugs Act	22	39 0 6
Person Exposing Infected Clothing	1	5 0 0
Person exposing himself whilst suffering from an infectious disease	1	5 0 0

In the appendix will be found a summary of the work performed during the year by your Inspectors of Nuisances, who have, as usual, paid the greatest attention to their varied and important duties.

I have the honour to be, Gentlemen,

Your obedient Servant,

EDWARD WALFORD, M.D.,

Medical Officer of Health.

APPENDIX.

Report of Inspector of Nuisances

FOR THE YEAR 1892.

Chief Inspector of Nuisances: D. VAUGHAN.

District Inspectors:

No. 1 District ... L. DAVIES.	No. 3 District F. HELLERMAN.
2 ,, A. P. PRESTON.	4 ,, T. W. WARREN.
<i>Inspector for Infectious Diseases</i>	G. THOMAS.
,, <i>for Disinfection</i>	W. HOLDEN.
,, <i>of Dairies, Cowsheds, and Milkshops</i>	F. GLOVER.
,, <i>under Sale of Food and Drugs' Act</i>	F. GLOVER.
,, <i>for Common Lodging Houses</i>	S. EVANS.

Nuisances inspected	2176
Notices issued	2176
Nuisances abated without legal proceedings	2176
" " with " "	—
Animals kept so as to be a nuisance	17
Injurious and foul accumulations	506
Nuisances from smoke	—
Suspected samples of water obtained for analysis	3
Cesspools cleansed	7
" abolished	1
Defective drainage	348
Drains unstopped and cleansed	435
" trapped and repaired	581
" tested	152
Foul and offensive closets cleansed	191
Defective apparatus to water closets repaired	48
Water laid on to dwelling houses	8
" " to water closets	34
" " to urinals	7
Premises connected to main drain	1
Dilapidated and dirty houses cleansed and repaired	43
DISINFECTION :	
Houses disinfected	1060
Articles of bedding and clothing disinfected	3241
" " " destroyed	235
OFFENSIVE TRADES :	
Premises visited	68

SLAUGHTER HOUSES AND MARKETS :

Visits paid to slaughter houses	....	....	....	....	164
„ to markets	....	....	....	....	252

ARTICLES DESTROYED AS UNFIT FOR FOOD :

Beef	....	....	....	....	41 lbs
Pork	....	....	....	....	473 „
Mutton	....	....	....	....	350 „
Fish	....	....	....	....	462 „

BUTCHERS' SHOPS :

Inspected	401
-----------	------	------	------	------	-----

WORKSHOPS :

Total number on register	....	....	....	....	486
Number of inspections	....	....	....	....	524
„ found in good condition	....	....	....	....	452
„ found with defective drainage	....	....	....	....	25
„ found to require limewashing	....	....	....	....	45
„ found with rooms overcrowded	....	....	....	....	2
„ of notices served and complied with	....	....	....	....	57

COMMON LODGING HOUSES :

Total number on register	....	....	....	....	57
Registered rooms	....	....	....	....	558
Number of persons certified to accommodate	....	....	....	....	1122
„ of inspections made	....	....	....	....	497
Limewashed, cleansed and repaired	....	....	....	....	55

COWSHEDS AND MILKSHOPS :

Number of cowkeepers on register	....	....	....	....	88
„ of milksellers	....	....	....	....	540
				Total	<u>628</u>

Number of cowkeepers registered during the year	....	....	....	....	13
„ of milksellers	„	„	„	....	135
				Total	<u>148</u>

Number of cowsheds inspected	....	....	....	....	282
„ of milksellers	„	....	....	....	689
„ re-visited	....	....	....	....	217
				Total	<u>1188</u>

Notices served written	....	....	....	....	144
„ verbal to limewash shed, &c.	....	....	....	....	107
				Total	<u>251</u>

CANAL BOATS :

Number of boats on register	....	....	....	....	46
„ of inspections	....	....	....	....	109
„ found in good condition	....	....	....	....	91
„ found with defective ventilation	....	....	....	....	31
„ found with damaged bulkhead	....	....	....	....	1
„ found with register plates off	....	....	....	....	2
„ found without water vessel	....	....	....	....	2
„ of notices served and complied with	....	....	....	....	18

COWSHEDS, MILKSHOPS, AND DAIRIES.

PARTICULARS OF INSPECTION.	COWSHEDS.	MILKSHOPS.
Total number inspected	282	689
Found in good condition	242	585
Impure water supply	....	....
Water closets, sinks, or drains defective	11	69
„ „ communicating with premises	....	....
Receptacles for manure erected	5	1
Cesspools	....	....
Yards badly paved, and accumulations of rubbish	21	28
Dairies or milkshops used for purposes incompatible with proper preservation of milk	....	1
Dirty milk vessels	....	....
Infectious disease amongst persons employed	....	4
Swine kept on premises	....	....
Cowsheds with defective lighting, cleansing, ventilation, or air space	3	1
Cowsheds with cattle disease	....	....

Meteorological Observations for the year 1892.

MONTH.	Attached Thermometer.	Barometer.	TEMPERATURE IN SHADE.							HYGROMETER.		RAINFALL.				DEATH RATE PER 1,000.	
			Maximum.	Minimum.	Mean of Maximum.	Mean of Minimum.	Mean of Month.	Earth.		Dry Bulb.	Wet Bulb.	Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which 0.01 or more rain fell.	All Causes.	Chief Zymotic Diseases.
								1 foot.	4 feet.								
January	42	29.850	49.0	20.6	39.2	38.2	36.2	39.0	43.1	38.0	37.1	2.10	0.70	16th	15	24.7	2.39
February	44	29.764	51.0	25.0	41.2	36.0	38.6	40.5	43.3	39.3	38.3	2.38	0.58	20th	19	22.8	2.87
March	48	33.036	50.3	24.0	39.9	32.0	35.9	39.4	41.9	38.2	36.3	1.18	0.48	15th	6	21.3	2.14
April	55	29.703	56.5	27.5	48.0	38.5	43.2	46.5	45.3	48.3	44.1	1.27	0.43	20th	9	20.1	2.20
May	58	29.997	66.0	33.2	55.2	46.3	50.7	53.1	48.9	55.5	51.5	1.35	0.66	27th	11	17.3	1.81
June	61	30.027	68.8	39.2	59.0	50.1	54.5	59.0	53.7	59.7	55.5	1.93	0.61	28th	10	14.7	1.53
July	63	30.044	77.5	46.9	66.4	51.9	64.1	60.4	56.0	60.9	57.3	3.83	1.50	12th	9	13.9	2.20
August	65	29.987	77.3	43.0	68.7	54.0	61.3	61.7	57.6	62.2	59.4	4.64	1.62	27th	16	18.6	4.21
September	61	30.046	68.5	37.0	61.5	50.6	56.0	57.3	58.3	56.9	55.0	3.95	1.38	29th	14	18.9	4.50
October	55	29.794	57.0	28.2	46.3	39.6	42.9	48.4	52.4	46.1	44.0	2.64	0.51	27th	15	16.6	1.62
November	54	30.091	55.0	29.5	47.9	39.8	43.8	46.0	48.9	44.5	43.6	3.25	0.66	4th	18	18.0	3.29
December	50	30.052	51.0	29.0	38.5	33.1	35.8	41.6	46.2	37.5	36.2	2.23	0.62	1st	12	19.4	3.92

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Mean Temperature of each month in the year as compared with that of the previous five years :—

MONTH.	1887	1888	1889	1890	1891	MEAN OF 5 YEARS.	1892
January. ...	37°5	38°4	38°9	41°8	35°8	38°4	36°2
February	40°1	36°7	39°1	38°1	41°6	46°8	38°6
March	39°1	39°8	41°8	45°1	40°8	48°5	35°9
April	44°6	44°6	43°4	45°1	45°5	44°6	43°2
May	50°9	52°4	55°3	54°7	50°9	52°8	50°7
June	61°0	56°9	61°6	57°7	60°2	59°4	54°5
July	64°6	58°1	60°8	59°7	60°2	60°6	64°1
August	60°2	58°9	59°5	59°8	56°4	58°9	61°3
September	51°7	55°8	56°7	59°8	57°0	56°2	56°0
October ...	43°2	48°6	52°2	47°5	48°8	48°0	42°9
November	39°4	47°5	46°2	45°3	41°7	44°0	43°8
December	38°2	42°2	39°9	35°3	40°4	39°2	35°8

The following Table illustrates the daily direction of Winds throughout the year 1892 :—

Direction of Winds.	Jan.	Feb.	Mar.	Aprl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total for the Year.
N. ....	....	2	1	1	....	2	....	1	....	....	1	....	8
N.E.	8	6	14	8	7	3	13	2	4	8	7	10	90
N.W.	7	7	2	5	4	5	3	7	7	7	5	7	66
N.N.E. ....	....	....	....	....	....	....	....	....	....	....	....	....	....
N.N.W. ....	....	....	....	....	....	....	....	....	....	....	....	....	....
S.	1	....	2	2	4	2	1	4	1	....	1	....	18
S.E.	1	2	....	4	3	1	1	4	....	4	3	1	24
S.W.	2	2	1	3	7	5	5	8	11	4	4	4	56
S.S.E. ....	....	....	....	....	....	....	....	....	....	....	....	....	....
S.S.W. ....	....	....	....	....	....	....	....	....	....	....	....	....	....
E. ....	....	4	9	5	3	4	5	1	....	1	6	5	43
W.	12	6	2	2	3	8	3	4	7	7	3	4	61

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE SEVENTEEN YEARS, 1876-1892.

YEAR.	JANUARY.				FEBRUARY.				MARCH.			
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	12	0.68	2nd	5.33	22	0.90	14th	3.92	22	0.54	9th
1877	5.77	27	0.72	3rd	2.79	20	0.42	11th	2.66	21	0.55	23rd
1878	1.73	17	0.36	27th	3.07	16	0.87	27th	1.25	8	0.40	28th
1879	5.95	10	1.30	1st	5.95	23	0.86	20th	1.14	14	0.32	23rd
1880	0.87	11	0.42	13th	3.88	22	1.06	18th	1.90	12	0.75	2nd
1881	0.92	12	0.23	26th	4.81	15	1.12	9th	3.88	16	0.68	3rd
1882	3.19	13	0.82	2nd	2.56	15	0.60	28th	2.26	19	0.32	1st
1883	5.75	25	1.11	24th	3.73	20	0.65	10th	0.60	10	0.12	19th
1884	6.03	21	0.99	31st	4.40	22	1.35	17th	3.89	16	1.27	3rd
1885	3.71	20	0.58	9th	3.65	22	0.67	26th	1.87	16	0.53	29th
1886	5.03	23	0.91	30th	1.32	11	0.62	28th	3.97	13	0.68	20th
1887	2.76	15	0.73	7th	1.45	6	0.73	3rd	3.21	10	1.16	15th
1888	1.70	12	0.49	1st	1.07	9	1.09	2nd	4.62	15	0.76	24th
1889	1.58	10	0.58	9th	2.00	16	0.64	10th	3.89	16	1.17	8th
1890	5.21	24	0.61	26th	0.55	7	0.22	19th	1.52	14	0.28	24th
1891	3.58	13	1.26	23rd	0.05	2	0.03	2nd	1.76	16	0.31	15th
1892	2.10	15	0.70	16th	2.38	19	0.58	20th	1.18	6	0.48	15th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE SEVENTEEN YEARS, 1876-1892.

YEAR.	APRIL.				MAY.				JUNE.			
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	17	0.38	28th	0.23	4	0.12	24th	1.91	9	0.52	15th
1877	2.90	20	0.52	20th	2.47	14	0.99	16th	1.48	12	0.41	1st
1878	4.10	21	0.75	9th	4.32	24	0.71	16th	3.68	15	1.65	16th
1879	2.64	17	0.73	19th	2.85	15	0.88	29th	6.48	23	1.64	30th
1880	1.98	13	0.40	5th	1.45	11	0.46	26th	2.38	19	0.53	17th
1881	1.44	7	0.60	13th	2.62	10	1.73	17th	3.59	18	0.63	16th
1882	5.68	20	0.60	12th	2.72	13	0.59	22nd	4.28	20	0.82	5th
1883	0.67	7	0.28	26th	1.90	12	0.70	11th	1.81	17	1.16	27th
1884	1.56	11	0.43	3rd	2.37	14	0.50	2nd	1.92	9	1.11	28th
1885	2.52	16	0.67	1st	3.86	27	0.71	19th	2.61	13	1.04	23rd
1886	2.98	15	0.73	7th	6.38	19	1.52	31st	0.70	7	0.28	1st
1887	1.63	10	0.45	26th	1.94	14	0.63	19th	0.60	4	0.51	2nd
1888	1.48	13	0.30	17th	1.69	8	0.40	17th	3.69	17	0.74	17th
1889	3.54	18	0.71	30th	2.51	16	0.38	31st	0.58	6	0.41	1st
1890	1.80	14	0.34	6th	1.99	13	0.66	9th	2.46	17	0.40	10th
1891	2.02	11	0.40	2nd	3.41	17	0.75	21st	2.47	12	1.30	24th
1892	1.27	9	0.43	20th	1.35	11	0.66	27th	1.93	10	0.61	28th

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE SEVENTEEN YEARS, 1876-1892.

YEAR.	JULY.				AUGUST.				SEPTEMBER.			
	Rainfall in Month Inches.	Days on which fell. or more rain in 24 hours.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month Inches.	Days on which fell. or more rain in 24 hours.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month Inches.	Days on which fell. or more rain in 24 hours.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	10	0.41	6th	6.06	27	2.72	19th	7.08	19	1.28	30th
1877	4.94	18	1.27	14th	5.70	21	1.14	27th	3.25	8	1.39	27th
1878	2.01	9	0.78	23rd	10.82	24	3.64	15th	3.21	9	1.28	22nd
1879	4.00	21	0.81	19th	8.12	22	1.34	27th	4.85	17	0.69	7th
1880	6.64	23	0.95	17th	0.77	7	0.27	2nd	3.67	15	0.77	17th
1881	2.62	15	0.77	30th	6.94	20	1.45	22nd	2.09	13	0.48	22nd
1882	5.77	24	0.84	6th	6.75	16	1.14	22nd	3.94	17	0.79	28th
1883	3.56	21	0.82	20th	2.09	16	0.73	8th	6.14	19	1.53	23rd
1884	4.05	20	0.94	23rd	2.21	9	0.84	31st	1.96	15	0.64	21st
1885	0.72	6	0.31	18th	2.74	12	1.07	6th	6.51	23	1.76	10th
1886	4.85	17	0.71	29th	1.68	9	0.44	9th	4.08	14	0.75	4th
1887	1.51	13	0.85	26th	2.88	11	1.02	16th	4.07	17	1.24	1st
1888	6.83	25	1.16	7th	3.50	17	0.74	29th	1.21	8	0.52	27th
1889	3.85	12	1.16	9th	3.90	15	0.65	2nd	2.09	9	1.53	23rd
1890	3.57	19	0.73	17th	3.95	20	0.95	9th	1.57	11	0.50	17th
1891	2.21	17	0.36	2nd	7.19	22	1.10	26th	2.43	19	0.51	3rd
1892	3.83	9	1.50	12th	4.64	16	1.62	27th	3.95	14	1.38	29th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE SEVENTEEN YEARS, 1876-92.

YEARS.	OCTOBER.				NOVEMBER.				DECEMBER.				Rainfall per annum. Inches.
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Date on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rain fall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	
1876	3.84	17	0.62	16th	5.27	18	0.75	12th	7.13	23	0.80	17th	46.62
1877	4.89	16	1.15	24th	6.54	25	1.06	24th	3.40	25	0.88	28th	46.79
1878	5.76	18	1.09	23rd	5.76	13	0.84	9th	2.70	10	0.75	28th	45.71
1879	1.51	12	0.35	19th	0.43	8	0.18	20th	2.11	9	0.79	31st	44.79
1880	4.94	15	1.45	25th	3.67	15	0.90	15th	6.70	20	1.09	14th	38.85
1881	3.23	13	0.72	22nd	4.98	23	0.65	26th	4.50	15	1.77	7th	41.62
1882	8.33	23	1.64	23rd	6.26	21	0.90	7th	4.86	25	0.73	31st	56.60
1883	4.23	17	0.61	15th	6.38	24	0.80	21st	1.92	17	0.57	10th	38.78
1884	1.01	17	0.35	8th	2.12	16	0.47	30th	5.87	20	0.68	5th	36.89
1885	5.59	22	1.60	22nd	5.47	16	1.11	27th	1.74	17	0.05	5th	40.99
1886	5.09	21	0.87	15th	5.39	21	1.03	5th	6.64	21	1.33	26th	48.11
1887	2.80	13	1.14	29th	3.48	21	0.69	3rd	3.46	20	0.75	12th	29.79
1888	1.74	11	0.52	28th	7.04	26	1.13	12th	3.61	16	0.88	27th	38.18
1889	3.77	25	0.48	8th	1.87	12	0.75	24th	2.40	14	0.80	21st	31.38
1890	1.92	16	0.41	7th	3.89	20	0.67	6th	0.80	4	0.33	18th	29.23
1891	7.12	22	1.32	18th	3.91	15	0.74	28th	6.19	19	0.78	30th	42.34
1892	2.64	15	0.51	27th	3.25	18	0.66	4th	2.23	12	0.62	1st	22.63

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year, 1892.

CAUSES OF DEATH.		DEATHS AT AGES							Total.	Death-rate per 1,000	Population 1892
		Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and under 80	80 and upwards			
(CLASSES.)											
I.	Specific Febrile or Zymotic Diseases	153	150	54	16	50	18	1	442	3.245	
II.	Parasitic Diseases	2	...	...	...	...	...	...	2	0.014
III.	Dietic ... ..	...	...	...	...	7	...	...	7	0.051
IV.	Constitutional	57	60	34	52	219	63	...	479	3.517	
V.	Developmental	74	...	...	...	...	66	29	169	1.240
VI.	Local	299	114	39	49	359	192	9	1061	7.791	
VII.	Violence	5	12	21	23	57	5	...	123	0.903	
VIII.	Ill-defined and not specified causes	168	19	4	3	55	26	2	277	2.034	
Total		752	355	152	143	747	370	41	2560	18.79	
CLASS I.—I.—Specific Febrile or Zymotic Diseases.											
<i>Miasmatic Diseases</i>											
	Small Pox—No Statement ... ..	...	...	...	...	1	...	...	1	0.007
	Measles	9	44	5	...	...	...	...	58	0.425
	Scarlet Fever	7	45	28	3	4	...	...	87	0.638
	Typhus ... ..	...	...	...	...	2	...	...	2	0.014
	Influenza	3	2	1	4	20	9	...	39	0.286	
	Whooping-cough	23	22	1	...	...	...	...	46	0.337
	Diphtheria	1	22	13	...	...	...	...	36	0.264
	Enteric Fever ... ..	...	1	4	7	11	1	...	24	0.176
<i>Diarrhæal Diseases.</i>											
	Diarrhæa, Dysentery	94	12	2	...	3	5	1	117	0.859	
<i>Zoogenous Diseases.</i>											
	Cowpox and other effects of Vaccination	1	...	...	...	...	...	...	1	0.007
<i>Veneral Diseases.</i>											
	Syphilis	11	1	...	1	2	...	...	15	0.110
	Gonorrhœa, Stricture of Urethra ... ..	...	...	...	...	1	2	...	3	0.022
<i>Septic Diseases.</i>											
	Erysipelas	2	...	...	...	3	1	...	6	0.044
	Pyæmia, Septicæmia	2	1	...	1	3	...	...	7	0.051
Total		153	150	54	16	50	18	1	442	3.245	
CLASS II.—Parasitic Diseases.											
	Thrush	2	...	...	...	...	...	...	2	0.014
Total		2	...	...	...	...	...	...	2	0.014
CLASS III.—Dietic Diseases.											
	Intemperance—Chronic Alcoholism ... ..	...	...	...	...	6	...	...	6	0.044
	„ Delirium Tremens ... ..	...	...	...	...	1	...	...	1	0.007
Total ... ..		...	...	...	...	7	...	...	7	0.051
CLASS IV.—Constitutional Diseases.											
	Rhematic Fever, Rheumatism of Heart ... ..	...	1	3	1	2	1	...	8	0.058
	Rheumatism ... ..	...	1	1	...	7	2	...	11	0.807
	Gout ... ..	...	...	...	...	1	3	...	4	0.029
	Rickets ... ..	...	4	1	...	...	...	...	5	0.036
	Cancer ... ..	...	...	...	...	39	37	...	76	0.558
	Tabes Mesenterica	18	6	1	...	...	...	...	25	0.183
	Tubercular Meningitis Acute Hydrocephalus	15	34	10	5	3	1	...	68	0.499	
	Phthisis	8	7	12	43	154	18	...	242	1.777	
	Other forms of Tuberculosis, Scrofula... ..	10	7	5	2	10	...	...	49	0.249
	Anæmia, Chlorosis, Leucocythæmia ... ..	...	...	1	1	2	1	...	5	0.036
	Diabetes Mellitus ... ..	...	...	...	...	1	...	...	1	0.007
Total		51	60	34	52	219	63	...	479	3.517	
CLASS V.—Developmental Diseases.											
	Premature Birth	57	...	...	...	...	...	...	57	0.418
	Atelectasis	2	...	...	...	...	...	...	2	0.014
	Cyanosis	3	...	...	...	...	...	...	3	0.022
	Spina Bifida	4	...	...	...	...	...	...	4	0.029
	Cleft Palate, Harelip	3	...	...	...	...	...	...	3	0.022
	Other Congenital Defects	5	...	...	...	...	...	...	5	0.036
	Old Age ... ..	...	...	...	...	...	66	29	95	0.697
Total		74	...	...	...	...	66	29	169	1.240

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year, 1892.

CAUSES OF DEATH	DEATHS AT AGES							Total.	Death-rate per 1,000 Population 139,283
	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 50	60 and under 80	80 and upwards		
CLASS VI - Local - Diseases of Nervous System.									
Inflammation of Brain or its Membranes	1	...	...	2	3	1	...	7	0.051
Apoplexy	...	...	...	1	23	16	1	41	0.301
Paralysis	...	...	...	1	7	6	...	14	0.102
Softening of Brain	...	...	...	1	9	4	...	14	0.102
Hemiplegia, Brain Paralysis	1	...	...	3	9	2	...	15	0.110
Paralysis, Agitans	...	...	...	1	1	1	...	2	0.014
Insanity, General Paralysis of Insane	...	...	...	1	...	...	...	1	0.007
Epilepsy	...	...	2	4	2	...	...	8	0.058
Convulsions	99	16	2	...	3	1	...	121	0.888
Laryngismus Stridulus	5	...	...	...	...	...	...	5	0.036
Idiopathic Tetanus	...	...	...	3	1	...	...	4	0.029
Myelitis	...	...	...	1	1	1	...	2	0.014
Paraplegia, Diseases of Spinal Cord	...	...	...	1	2	...	...	3	0.022
Other Diseases of Nervous System	...	...	...	...	1	...	...	1	0.007
<i>Diseases of Organs of Special Sense.</i>									
Otitis, Otorrhoea	1	...	...	1	1	...	...	3	0.022
<i>Diseases of Circulatory System.</i>									
Endocarditis, Valvular Disease	2	...	10	8	77	55	3	155	1.138
Pericarditis	...	...	1	...	...	...	...	1	0.007
Angina Pectoris	...	2	...	...	1	...	...	3	0.022
Syncope	...	...	...	...	2	1	...	3	0.022
Aneurism	...	...	...	...	2	1	...	3	0.022
Senile Gangrene	...	...	...	...	...	3	...	3	0.022
Other Diseases of Circulatory System	...	...	...	...	1	...	...	1	0.007
<i>Diseases of Respiratory System.</i>									
Laryngitis	...	3	...	...	...	1	...	4	0.029
Croup	4	7	3	1	...	...	...	15	0.110
Emphysema, Asthma	...	1	1	1	4	1	...	8	0.058
Bronchitis	70	27	2	2	40	43	1	185	1.358
Pneumonia	51	31	11	11	71	23	...	198	1.453
Pleurisy	...	2	...	1	5	1	...	9	0.066
Other Diseases of the Respiratory System	...	...	...	...	1	...	...	1	0.007
<i>Diseases of Digestive System.</i>									
Stomatitis	2	...	...	...	...	...	...	2	0.014
Dentition	20	16	...	...	...	...	...	36	0.264
Dyspepsia	1	...	...	...	1	1	...	3	0.022
Diseases of Stomach	...	...	...	...	3	...	...	3	0.022
Gastritis	12	1	1	...	3	1	...	18	0.032
Enteritis	17	3	1	3	...	1	...	25	0.183
Ulceration of Intestine	3	...	...	1	1	1	...	6	0.044
Ileus, Obstruction of Intestine	...	...	...	...	4	1	...	5	0.036
Stricture or Strangulation of Intestine	1	...	...	...	1	...	...	2	0.014
Intussusception of Intestine	...	...	1	...	...	...	...	1	0.007
Hernia	...	...	...	...	3	1	...	4	0.029
Peritonitis	2	2	...	7	10	...	...	21	0.154
Jaundice	3	...	...	...	...	1	...	4	0.029
Gallstones	...	...	...	...	1	...	...	1	0.007
Hepatitis	...	...	...	...	1	...	...	1	0.007
Cirrhosis of Liver	...	...	...	...	14	3	...	17	0.124
Other Diseases of Liver	...	...	...	...	1	...	...	1	0.004
<i>Diseases of Urinary System.</i>									
Acute Nephritis	1	2	2	...	8	...	...	13	0.095
Bright's Disease	...	...	...	1	8	5	1	15	0.110
Uræmia	...	...	...	...	3	...	...	3	0.022
Suppression of Urine	...	...	...	...	1	1	...	2	0.014
Disease of Bladder and of Prostate	...	...	...	...	1	1	...	2	0.014
<i>Disease of Organs of Generation.</i>									
Ovarian Disease	...	...	...	...	1	...	...	1	0.007
Diseases of Uterus and Vagina	...	...	...	...	...	1	...	1	0.007
Perineal Abscess	...	...	...	...	1	...	...	1	0.007
Diseases of Testes, Penis, Scrotum, &c.	1	...	...	...	...	...	...	1	0.007
<i>Diseases of Parturition.</i>									
Childbirth	...	...	...	4	15	...	...	19	0.139
Abortion, Miscarriage	...	...	...	...	2	...	...	2	0.014
Puerperal Mania	...	...	...	...	1	...	...	1	0.007
<i>Diseases of Organs of Locomotion.</i>									
Caries, Necrosis	1	...	...	1	3	2	...	7	0.051
Arthritis, Ostitis, Periostitis	...	2	...	...	...	1	...	3	0.022

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year, 1892.

CAUSES OF DEATH	DEATHS AT AGES								Total.	Death-rate per 1,000 Population 190,251
	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and under 80	80 and upwards			
<i>Diseases of Integumentary System.</i>										
Phlegmon Cellulitis	...	...	...	...	4	...	...	4	0'029
Ulcer, Bedsore	1	1	...	...	3	1	...	6	0'044
Total	299	114	39	49	359	192	9	1061	7'793	
<i>CLASS VII.—Violence, Accident, or Negligence</i>										
Fractures, Contusions	...	1	8	13	30	3	...	55	0'403	
Gunshot Wounds	...	...	4	1	1	...	...	2	0'014
Burn, Scald	...	11	...	...	1	...	...	17	0'124
Drowning	2	...	9	7	15	1	...	34	0'249	
Suffocation	3	...	...	...	2	...	...	5	0'036
Otherwise	...	...	...	...	3	...	...	3	0'022
<i>Suicide.</i>										
Poison	...	...	...	...	1	...	...	1	0'007
Drowning	...	...	...	1	...	1	...	2	0'014
Hanging	...	...	...	...	2	...	...	2	0'014
Otherwise	...	...	...	...	2	...	...	2	0'014
Total	5	12	21	23	57	5	...	123	0'903	
<i>CLASS VIII.—Ill-Defined and not Specified Causes.</i>										
Dropsy	...	...	1	...	...	...	...	1	0'007
Debility, Atrophy, Inanition	143	13	1	...	7	7	1	172	1'263	
Tumour	1	...	...	1	4	5	...	11	0'807
Abscess	1	3	...	...	2	2	...	8	0'058
Hæmorrhage	1	1	...	2	13	6	...	23	0'168	
Sudden (Cause unascertained)	18	2	2	...	26	5	1	54	0'396	
Other ill defined not specified	4	...	...	...	3	1	...	8	0'058
Total	168	19	4	3	55	26	2	277	2'034	

LOCAL GOVERNMENT BOARD TABLES.

K^s 3. TABLE OF DEATHS DURING THE YEAR 1892, IN THE URBAN SANITARY DISTRICT OF CARDIFF, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

NAMES OF LOCALITIES adopted for the purposes of these Statistics; public institutions being shown as separate localities.	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.												Total							
	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	FEVERS.						Phthisis.	Bronchitis, Pneumonia and Pleurisy.	Heart Disease.	Infarctus.	All other Diseases.									
									MEMBRANOUS GROUP.			Typhus.								Typhoid.			Typhoid.					
(a)	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	Typhoid.	
Cardiff Urban Sanitary District	2246	724	338	138	118	575	353	Under 5 upwards	48	23	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
Cardiff Sanatorium, for Infectious Diseases	2	2	2	2	2	2	2	Under 5 upwards	35	13	4	1	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Union	211	25	6	3	7	114	56	Under 5 upwards	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	31
Infirmary	82	3	9	10	13	45	2	Under 5 upwards	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	180
Hamadryad Hospital Ship	19	19	19	19	19	19	19	Under 5 upwards	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
TOTALS	2560	752	355	152	143	747	411	Under 5 upwards	52	23	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1107
									1	35	13	4	2	23	1	11	7	1	1	1	1	1	1	1	1	1	1	1453

PUBLIC INSTITUTIONS.

