



ANNUAL REPORT

ON THE

HEALTH

OF THE

COUNTY BOROUGH OF CARDIFF,

FOR THE YEAR 1893,

BY

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MEDICAL OFFICER OF HEALTH.

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COUNTY BOROUGH OF CARDIFF.

HEALTH AND PORT SANITARY COMMITTEE.

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COUNCILLOR W. J. TROUNCE, J.P.

Chairman :

ALDERMAN T. WINDSOR JACOBS, J.P.

Deputy-Chairman :

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” ” T. MORFEL.	” ” HUGHES.
” ” N. REES.	” ” MORGAN.
” ” J. JENKINS.	” ” CROSSMAN.

CARDIFF URBAN SANITARY AUTHORITY.

MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

Medical Officer of Health :

EDWARD WALFORD, M.D., D.P.H.

Chief Inspector of Nuisances :

D. VAUGHAN.

District Inspectors :

District No. 1.—L. DAVIES.

„ „ 2.—A. P. PRESTON.

„ „ 3.—F. GLOVER.

„ „ 4.—T. W. WARREN.

Inspector for Infectious Diseases :

G. THOMAS.

Inspector of Common Lodging Houses :

S. EVANS.

Inspector of Dairies, Cowsheds, and Milkshops, and under Sale of Food and Drugs Act :

P. DAVID.

Disinfecter :

W. HOLDEN.

Statistical Clerk :

R. CHATTERTON.

Junior Clerk :

S. HENDERSON.

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 1893, 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.

VITAL STATISTICS.

POPULATION.—The population of the County Borough of Cardiff, as enumerated at the census in April, 1891, was 128,915, being an increase of 56.0 per cent. since the census of 1881.

The population of the borough in the middle of the year 1893, as estimated by the Registrar General on the basis of this enumeration, was 142,435, and the rates given in this report have been calculated on this basis.

TABLE I.

Population at age periods, estimated to the middle of 1893.

Age Period.	Males.	Females.	Persons.
0	9,625	9,453	19,078
5	8,340	8,443	16,783
10	7,410	7,521	14,931
15	6,953	6,890	13,843
20	7,361	7,356	14,717
25	7,095	6,629	13,724
30	6,160	5,357	11,517
35	5,152	4,392	9,544
40	4,121	3,532	7,653
45	3,327	2,853	6,180
50	2,456	2,340	4,796
55	1,682	1,588	3,270
60	1,338	1,472	2,810
65	785	861	1,646
70	477	616	1,093
75	227	301	528
80	131	191	322
Total	72,640	69,795	142,435

TABLE II.

Births, Deaths, and Natural Increase of Population for Forty-nine years,
1845—1893.

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	3,399	1,724	....	1,675
1883	91,204	3,526	1,807	....	1,719
1884	93,468	3,920	2,250	....	1,670
1885	97,034	4,164	2,487	....	1,683
1886	100,736	4,270	2,269	....	2,001
1887	104,580	4,277	2,280	....	1,997
1888	108,570	4,409	2,212	....	2,197
1889	112,712	4,361	2,190	....	2,172
1890	117,012	4,600	2,469	....	2,131
1891	130,283	4,739	2,873	....	1,866
1892	136,181	4,776	2,560	....	2,216
1893	142,435	5,110	2,794	....	2,316

TABLE III.

Distribution of the Population in the Municipal Wards of the Borough according to the Census of 1891.

MUNICIPAL BOROUGH OF CARDIFF.

Borough and Wards.	HOUSES.			POPULATION (CENSUS 1891.)		
	Inhabited.	Un-inhabited.	Building.	Persons.	Males.	Females.
Ward—Adamsdown	2,132	83	—	16,234	9,398	6,836
„ Canton	2,354	96	6	13,166	6,500	6,666
„ Cathays	2,408	25	12	14,523	7,404	7,119
„ Central	2,008	247	9	12,348	6,105	6,243
„ Grangetown	1,809	45	97	11,734	5,975	5,759
„ Park ...	2,587	110	109	14,289	6,754	7,535
„ Riverside	2,373	77	20	14,897	7,359	7,538
„ Roath	1,949	162	31	12,200	5,886	6,314
„ South	1,554	156	13	10,719	5,824	4,895
„ Splott	1,302	85	35	8,805	4,540	4,265
TOTAL	20,476	1,086	332	128,915	65,745	63,170

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

Parish of St. Mary	....	....	2 791 acres
„ St. John	]	....	3,348 „
„ Roath	....	....	2,270 „
„ Canton	....	....	....
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.	Building.	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

MARRIAGES.

The total number of marriages during the year 1893, as furnished by the District Registrar, was 1,447, corresponding to a rate of 10·1 per 1,000 of the population.

A return of marriages in the Borough of Cardiff during the past 10 years, with marriage rate per 1,000, is given below.

TABLE IV.

Year.	Number of Marriages.	Rate per 1,000.
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
1893	1,447	10·1

BIRTHS.

During the year 1893 the births registered in the Borough were 5,110. Of these 2,582 were males, and 2,528 females, giving a birth-rate of 36·0 per 1,000 compared with 31·9, the rate in 33 large towns.

The Annual Birth-rate in Cardiff, compared with that in the large towns, during the 10 years ending 1893, is given in Table V.

TABLE V.

33 LARGE TOWNS.	Annual Birth-rate per 1,000 living.									
	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
London	33·6	32·5	32·3	31·6	30·7	30·3	29·1	31·8	30·9	31·0
West Ham	....	....	....	....	....	....	....	....	37·0	35·6
Croydon	....	....	....	....	....	....	....	....	26·5	26·2
Brighton	28·3	26·0	25·4	25·7	23·3	24·4	23·2	26·3	25·5	25·4
Portsmouth	34·8	34·5	36·2	36·8	35·8	35·1	33·6	30·1	28·0	28·2
Plymouth	32·0	30·5	31·6	31·5	31·7	31·9	31·2	29·8	29·1	29·9
Bristol	31·5	31·1	30·5	29·7	29·3	29·2	28·1	30·4	29·6	30·4
Swansea	....	....	....	....	....	....	....	....	35·2	35·1
Wolverhampton	34·6	34·8	35·1	33·2	32·9	32·4	32·3	34·2	33·7	34·5
Birmingham	35·1	33·8	33·0	31·7	30·7	30·9	30·1	34·2	33·3	32·7
Norwich	34·2	33·5	34·7	33·9	34·6	33·8	33·0	31·9	30·5	30·9
Leicester	36·5	34·3	34·9	32·8	32·7	31·7	30·5	33·9	32·2	32·6
Nottingham	39·9	37·6	35·7	33·2	29·9	28·0	24·9	29·9	29·4	30·2
Derby	34·5	34·2	33·2	30·0	29·4	28·5	26·9	30·6	31·1	32·2
Birkenhead	38·0	34·6	33·7	32·4	30·7	31·2	31·4	33·0	33·4	33·1
Liverpool	35·2	33·6	33·5	31·1	29·7	29·2	28·8	34·6	34·7	36·0
Bolton	33·3	34·5	34·1	32·5	32·7	32·8	31·4	34·1	32·7	33·1
Manchester	36·1	36·3	36·2	35·8	35·3	35·3	34·9	34·1	33·7	33·6
Salford	35·6	34·3	34·3	31·9	31·6	29·9	28·8	36·4	35·9	34·7
Oldham	35·4	35·6	32·5	31·3	30·1	28·4	27·0	31·1	29·1	28·6
Burnley	....	....	....	....	....	....	....	....	34·2	33·9
Blackburn	37·2	36·6	34·7	35·7	34·1	34·3	32·5	33·9	31·9	30·9
Preston	38·7	39·1	39·4	38·4	37·5	38·1	36·1	36·0	34·3	35·1
Huddersfield	29·4	29·1	27·0	27·7	24·6	24·5	22·6	24·4	23·0	23·8
Halifax	29·4	28·8	28·8	28·4	28·5	28·0	27·9	26·2	25·9	24·6
Bradford	29·2	29·1	28·7	27·7	27·4	26·7	25·6	28·7	27·2	27·7
Leeds	34·7	34·6	33·8	33·3	32·6	32·8	33·4	34·1	33·5	32·4
Sheffield	36·9	35·0	34·1	32·9	30·7	33·2	32·4	36·6	35·3	34·8
Hull	37·8	33·8	33·5	32·8	31·1	32·6	31·3	34·6	35·0	34·2
Sunderland	42·6	37·7	36·3	34·6	34·7	36·0	35·5	37·8	37·1	35·6
Gateshead	....	....	....	....	....	....	....	....	35·3	36·5
Newcastle-on-T	39·5	38·3	39·4	39·1	37·9	38·2	39·8	35·8	34·3	33·7
Cardiff	42·0	43·0	42·3	40·8	40·6	38·6	39·3	36·5	35·3	36·0
33 Large Towns	....	....	....	....	....	....	....	....	31·9	31·9

Comparison of births and deaths in Cardiff in successive years.

TABLE VI.

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.
1884	3,920	42·0	2,250	24·0	5·0	167
1885	4,164	43·0	2,481	25·5	5·3	189
1886	4,270	42·3	2,269	22·5	3·2	168
1887	4,277	40·8	2,280	21·8	2·6	172
1888	4,409	40·6	2,212	20·3	2·9	143
1889	4,361	38·6	2,190	19·4	2·1	156
1890	4,600	39·3	2,469	21·1	2·4	165
1891	4,739	36·5	2,873	22·0	2·1	153
1892	4,776	35·0	2,560	18·7	2·7	157
1893	5,110	36·0	2,794	19·6	2·8	171

DEATHS.

During the year 1893, 2,794 deaths were registered in the Borough of Cardiff, of these, 1,461 were males and 1,333 females.

The death-rate was equal to 19·6 per 1,000 of the population, as compared with 21·5 the average rate in the ten preceding years, and with 21·6 the rate in the 33 large towns for the same period. In Cardiff the male death-rate was 20·1, and the female 19·9 per 1,000 of the sexual divisions of the population. In the large towns the death-rate ranged from 16·3 in Croydon, 17·2 in Huddersfield, 17·4 in Halifax, and 18·2 in Derby, to 23·3 in Wolverhampton, 24·1 in Salford, 24·9 in Manchester, 26·4 in Preston, and 27·3 in Liverpool. From the returns supplied to me from the Cardiff Infirmary, the Union Workhouse, and the Hamadryad Hospital Ship, I find that 50 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 1893 would be reduced from 19·6 to 19·2 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.

The distribution of mortality amongst the several Wards of the Borough may be seen on reference to Table VII. From this it will be seen that the highest general death-rate (25·9 per 1,000) occurred in the Riverside Ward, and the lowest (14·0) in the Park Ward. The highest death-rate from Zymotic diseases (4·78 per 1,000), occurred in the Canton Ward, and the lowest (1·89) in the South Ward.

STATISTICS OF WARDS — TABLE VII.

WARDS.	Population. Census—1897	Total Deaths.	Death-rate per 1,000.	Seven Chief Zymotic Diseases.		Small Pox.		Measles.		Scarlatina.		Diphtheria.		Whooping Cough.		Typhoid Fever.		Typhus Fever.		Diarrhoea.		Phtthisis.		Diseases of Respiratory Organs.		Tuberculosis.	
				Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.
Central	13,919	239	17.1	29	2.09	...	...	9	0.64	1	0.07	5	0.35	2	0.14	1	0.07	...	...	11	0.79	19	1.36	47	3.37	2	0.14
South	11,101	222	19.9	22	1.89	...	...	3	0.27	...	...	2	0.18	1	0.09	2	0.18	6	0.54	8	0.72	13	1.17	30	2.70	1	0.09
Cathays	15,706	277	17.6	51	3.24	...	...	8	6.50	3	0.19	20	1.27	4	0.25	1	0.06	2	0.12	13	0.82	25	1.59	45	2.86	4	0.25
Park	18,838	265	14.0	54	2.86	...	...	3	0.15	6	0.31	25	1.32	5	0.26	...	...	...	...	15	0.79	16	0.84	46	2.44	4	0.21
Adamsdown	20,725	390	18.8	47	2.26	...	...	12	0.57	3	0.14	11	0.53	11	0.53	2	0.09	1	0.04	7	0.33	29	1.39	70	3.37	6	0.28
Riverside	15,725	408	25.9	39	2.47	...	...	10	0.63	3	0.19	5	0.31	2	0.12	4	0.25	...	...	15	0.95	54	3.43	41	2.60	15	0.95
Canton	13,580	278	20.4	65	4.78	...	...	22	1.62	11	0.81	4	0.29	2	0.14	1	0.07	...	...	25	1.84	25	1.84	37	2.72	2	0.14
Roath	13,831	225	16.2	47	3.39	...	...	7	0.50	8	0.57	9	0.65	8	0.57	3	0.21	...	...	12	0.86	12	0.86	43	3.10	4	0.28
Grangeton	13,888	285	20.5	49	3.52	...	...	21	1.51	3	0.21	1	0.07	2	0.14	4	0.28	...	...	18	1.29	24	1.72	37	2.66	1	0.07
Splott	10,183	205	20.1	26	2.55	...	...	2	0.19	1	0.09	11	1.08	4	0.39	1	0.09	...	...	7	0.68	13	1.27	45	4.41	1	0.09

During the First Quarter of the year, the number of deaths registered at all ages and from all causes was 733, of these 405 were males and 328 were females. The 733 deaths corresponded to an annual death-rate of 20·6 per 1,000 living, as compared with 21·8, the average rate in the first quarter of the five preceding years, and with 22·0 the average rate in the 33 large towns. The lowest rates in these towns were 18·2 in Derby, 18·3 in Huddersfield, and 18·5 in Swansea, the rates in the other towns ranging upwards to 25·0 in Liverpool, 26·0 in Manchester, and 26·4 in Bolton. The deaths from the chief Zymotic diseases during the first quarter were 107, corresponding to an annual death-rate of 3·00 per 1,000 living, as compared with 1·70 the average rate in the first quarters of the five preceding years and with 2·00 the average rate in the 33 large towns. The rate varied from 0·67 in Wolverhampton and 0·86 in Huddersfield, to 2·83 in Salford, 2·87 in Preston, 3·00 in Cardiff, and 6·53 in Bolton.

The number of deaths registered during the Second Quarter of the year at all ages and from all causes was 688, of these 351 were males and 337 females. The 688 deaths corresponded to an annual death-rate of 19·3 per 1,000 living, as compared with 18·2, the average rate in the second quarter of the five preceding years, and with 19·8 the average rate in the 33 large towns. The lowest rates in these towns were 13·6 in Croydon, 14·7 in Nottingham, 14·8 in West Ham, and 15·5 in Portsmouth, the rates in the other towns ranging upwards to 24·4 in Manchester, 26·2 in Preston, and 27·1 in Liverpool. The deaths from the chief Zymotic diseases during the second quarter were 138, corresponding to an annual rate of 3·89 per 1,000 living, as compared with 2·00 the average rate in the second quarters of the five preceding years, and with 2·77 the average rate in the 33 large towns. The rate varied from 0·78 in Huddersfield, 0·86 in Wolverhampton, and 0·99 in Derby, to 3·68 in Manchester, 3·90 in Liverpool, and 4·74 in Leicester.

During the Third Quarter of the year, the number of deaths registered was 678—351 males and 227 females. This number corresponded to an annual death-rate of 19·1 per 1,000, as compared with 18·7 the average rate in the third quarters of the five preceding years, and with 21·8 the average rate in the 33 large towns. The lowest rates in these towns were 16·1 in Bristol, 16·2 in Huddersfield and Halifax, and 17·8 in Plymouth, the rates in the other towns ranging upwards to 26·5 in Hull, 27·3 in Sunderland, 28·0 in Blackburn, 28·4 in Liverpool, and 33·2 in Preston. The deaths from the chief Zymotic diseases during the third quarter were 130, corresponding to an annual death-rate of 3·66 per 1,000, as compared with 3·37 the average rate in the third quarters of the five preceding years, and with 5·4 the average rate in the 33 large towns. The rate varied from 1·9 in Bristol, 2·2 in Huddersfield, 2·6 in Plymouth, and 3·5 in Swansea, to 8·1 in Sunderland, 8·3 in Burnley, 9·6 in Hull, 10·5 in Blackburn, and 11·6 in Preston.

During the Fourth Quarter of the year, 695 deaths were registered. Of these 354 were males and 341 females. The 695 deaths corresponded to an annual death-rate of 19·5 per 1,000 persons living, as compared with 21·3 the average rate in the fourth quarters of the five preceding years, and with 22·6 the average rate in the 33 large towns. The lowest rates in these towns were 15·9 in Halifax, 15·6 in Croydon, 17·5 in Huddersfield. The rates in the other towns ranging upwards to 24·2 in Manchester, 24·7 in Salford, 26·4 in Wolverhampton, and 28·1 in Liverpool. The deaths from the chief Zymotic diseases during the fourth quarter were 53, corresponding to an annual death-rate of 1·48 per 1,000, as compared with 3·52 the average rate in the fourth quarters of the five preceding years, and with 2·6 the average rate in the 33 large towns. The rate varied from 0·5 in Halifax, 0·9 in Brighton, 1·2 in Huddersfield, and 1·5 in Preston, to 3·0 in London and Sunderland, 3·3 in West Ham, and 4·0 in Norwich.

TABLE VIII.

Showing age distribution of population, number of deaths, and death-rate at age periods.

Age Distribution of Population.		Number of Deaths	Annual Death-rate per 1,000.
Under 5 years of Age	.... 19,078	1,283	67·2
5 and under 15 years	.... 31,714	168	5·2
15 " 25 "	.... 28,560	159	5·5
25 " 60 "	.... 56,684	748	13·1
60 " 80 "	.... 6,077	389	64·0
80 years and upwards	.... 322	47	142·8

TABLE IX.

Annual Death-rate per 1,000 of 33 large Towns in England for the years 1885—1893 inclusive.

33 LARGE TOWNS.	Annual Death-rate per 1,000 living.								
	1885	1886	1887	1888	1889	1890	1891	1892	1893
London	19·7	19·9	19·6	18·5	17·4	20·3	21·4	20·6	21·3
West Ham	....	....	....	....	....	....	....	18·6	18·9
Croydon	....	....	....	....	....	....	....	15·8	16·3
Brighton	17·1	17·1	16·9	16·1	15·1	17·8	18·2	19·2	18·4
Portsmouth	19·7	23·9	19·5	18·7	18·1	19·6	19·0	18·5	18·2
Plymouth	22·3	23·5	22·7	22·3	25·2	22·4	22·5	18·8	21·2
Bristol	19·7	19·3	20·4	16·9	17·6	19·2	20·9	19·5	18·9
Swansea	....	....	....	....	....	....	....	20·4	19·6
Wolverhampton	20·2	22·2	21·7	20·7	20·6	21·8	24·2	21·5	23·3
Birmingham	19·3	19·9	19·7	17·8	18·7	20·7	22·2	20·4	22·2
Norwich	20·3	23·3	20·4	20·2	18·3	21·1	19·3	20·0	19·3
Leicester	19·4	19·6	19·0	18·3	16·9	17·9	21·7	18·2	20·0
Nottingham	19·9	20·4	18·7	17·3	17·0	16·5	19·9	18·7	18·5
Derby	18·1	18·2	17·1	16·3	16·3	18·5	19·1	19·3	18·2
Birkenhead	19·5	19·1	21·0	17·8	17·8	19·7	20·9	19·6	20·5
Liverpool	23·8	23·8	23·7	20·3	21·5	23·6	27·0	24·7	27·3
Bolton	20·8	23·1	21·3	21·6	22·0	25·8	21·9	22·8	24·1
Manchester	26·5	26·3	28·7	26·1	26·7	30·6	26·5	23·8	24·9
Salford	21·1	22·1	22·2	21·1	20·4	22·4	26·0	24·6	24·1
Oldham	22·0	22·8	23·8	20·3	20·4	21·2	25·7	22·0	21·0
Burnley	....	....	....	....	....	....	....	20·4	21·9
Blackburn	21·8	25·5	25·5	23·9	25·4	23·5	25·8	21·7	23·3
Preston	27·1	28·9	27·9	23·9	30·0	27·4	27·3	24·1	26·4
Huddersfield	20·1	19·6	23·0	18·5	18·8	19·0	23·0	18·1	17·2
Halifax	19·7	22·7	21·0	19·1	21·5	22·5	22·8	19·5	17·4
Bradford	17·7	19·2	19·9	17·1	19·1	20·4	22·2	18·0	21·0
Leeds	19·9	21·9	21·1	20·6	22·0	22·6	22·9	19·8	22·3
Sheffield	20·7	19·8	21·6	20·5	20·8	24·9	23·9	20·8	22·3
Hull	17·2	18·8	19·3	16·4	20·2	19·2	21·0	19·6	21·8
Sunderland	23·8	19·5	19·7	18·1	22·8	22·7	25·0	20·9	22·5
Gateshead	....	....	....	....	....	....	....	18·9	19·3
Newcastle-on-Tyne	26·1	22·2	25·3	20·5	25·1	25·9	23·8	19·7	21·0
Cardiff	25·7	22·6	21·9	20·3	19·4	21·1	22·0	18·8	19·8
33 Large Towns	....	....	....	....	....	....	....	20·7	21·6

CORRECTED DEATH-RATE.—In comparing the death-rates of different towns, it must be borne in mind that if this comparison is based simply on general death-rates it may lead to erroneous conclusions, as towns differ from each other, often considerably, in respect of the age distribution of their populations. Table VIII. shows the difference in the mortality at certain age periods in Cardiff, from this it will be seen that the mortality of the very young and very old is much higher than that of persons of intermediate ages. It follows that a town containing an unusually large proportion of young children, will shew a higher death-rate than another where young children are in less proportion, although, perhaps, the conditions of both towns as regards sanitation may be similar.

In order, therefore, to make a more correct comparison of the mortality of different towns, it is necessary to know the difference that exists between them in respect of age and sex distribution (the male death-rate being usually higher than the female death-rate). The Registrar General has given "factors" for the large English Towns, based upon the age and sex distribution, as ascertained by the census. In order to obtain this corrected death-rate in each town, he multiplies the recorded death-rate by this factor, the effect of which is to neutralise this disparity and to give rates that would have been recorded in the several towns had their populations been identical, so far as age and sex distribution is concerned, with the population of England and Wales. Table X. is taken from the Annual Summary of the Registrar General for the year 1893. From this it will be seen, on comparing the recorded with the corrected rates, that the mortality of the towns as compared with that of the entire country is, with two exceptions, much greater than would be concluded from a consideration solely of the recorded general death-rate.

RECORDED and CORRECTED DEATH-RATES per 1,000 Persons living in 33 Great Towns in 1893.

TABLE X.

Towns, in the order of their Corrected Death-rates.	Standard Death- rate.*	Factor for Correction for Sex and Age Dis- tribution.†	Recorded Death-rate 1893.	Corrected Death-rate 1893.‡	Comparative Mortality Figure, 1893.§
Cols.	1.	2	3	4	5
England and Wales	19·15	1·0000	19·17	19·17	1000
England and Wales, less the 33 Towns	19·45	0·9845	17·90	17·62	919
33 Towns	17·71	1·0813	21·57	23·32	1216
Croydon	18·37	1·0424	16·30	16·99	886
Norwich	19·99	0·9579	19·28	18·47	963
Brighton	18·94	1·0110	18·42	18·62	971
Portsmouth	18 73	1·0224	18·22	18·63	972
Halifax	17·20	1·1133	17·36	19·33	1008
Bristol	18·33	1·0447	18·93	19·78	1032
Nottingham	17·81	1·0752	18·46	19·85	1035
Huddersfield	16·47	1·1627	17·20	20·00	1043
Derby	17·36	1·1031	18·24	20·12	1050
West Ham	17·75	1·0788	18·91	20·40	1064
Plymouth	19·70	0·9720	21·25	20·66	1078
Gateshead	17·83	1·0740	19·30	20·73	1081
Swansea	17·53	1·0924	19 62	21·43	1118
Leicester	17·64	1·0855	20·01	21·72	1133
Cardiff	17 16	1·1159	19·68	21·96	1146
Birkenhead	17·42	1·0993	20·54	22·58	1178
London	17·97	1·0656	21·31	22·71	1185
Newcastle-on-Tyne	17·58	1·0892	21 00	22·87	1193
Hull	18·23	1·0504	21·84	22·94	1197
Sunderland	18·25	1·0493	22 53	23·64	1233
Bradford	16·73	1·1446	20·96	23·99	1251
Oldham	16·72	1·1453	21·01	24·06	1255
Birmingham	17·33	1·1050	21·98	24·29	1267
Wolverhampton	18·30	1·0464	23·27	24·35	1270
Leeds	17·28	1·1082	22·29	24·70	1288
Sheffield	17·22	1·1120	22·31	24·81	1294
Burnley	16·67	1·1487	21·88	25·13	1311
Blackburn	17·05	1·1231	23·28	26·15	1364
Salford	17·03	1·1244	24·08	27·08	1413
Bolton	16·90	1·1331	24·12	27·33	1426
Manchester	16·90	1·1331	24·90	28·21	1472
Preston	17·42	1·0993	26·37	28·99	1512
Liverpool	17·26	1·1094	27·34	30·33	1582

* The Standard Death-rate signifies the death-rate at all ages calculated on the hypothesis that the rates of each of twelve age-periods in each town were the same as in England and Wales during the ten years 1881—90, the Death-rate at all ages in England and Wales during that period having been 19·15 per 1,000.

† The Factor for Correction is the figure by which the Recorded Death-rate should be multiplied in order to correct for variations of sex and age distribution.

‡ The Corrected Death-rate is the Recorded Death-rate multiplied by the Factor for Correction.

§ The Comparative Mortality Figure represents the Corrected Death-rate in each town, compared with the Recorded Death-rate at all ages in England and Wales in 1893, taken as 1,000.

TABLE XI.

Birth-rate, and Analysis of the Zymotic Death-rate in 33 of the largest English Towns for the year ending December 31st, 1893. Compiled from the Registrar-General's Returns.

Name of Town.	Population.	Birth-rate.	Death-rate.	ZYMOTIC DEATH-RATE.								Deaths under 1 year to 1,000 Births
				Small-Pox.	Meas-les.	Scarlet Fever.	Diph-theria.	Whoop-ing Cough.	Fever.	Diarrh-oea.	Total.	
London	4,306,411	30·9	21·3	0·05	0·39	0·37	0·76	0·54	0·17	0·80	3·08	165
West Ham	227,405	35·6	18·9	0·24	0·18	0·35	0·41	0·67	0·30	1·23	3·38	171
Croydon	108,997	26·2	16·3	0·01	0·18	0·11	0·78	0·24	0·11	0·77	2·20	154
Brighton	117,833	25·3	18·4	0·00	0·11	0·10	0·28	0·47	0·13	0·75	1·84	170
Portsmouth	167,277	28·2	18·2	0·00	0·67	0·19	0·17	0·22	0·33	1·23	2·81	165
Plymouth	86,781	29·9	21·2	0·00	0·98	0·25	0·16	0·53	0·12	0·73	2·77	169
Bristol	225,028	30·3	18·9	0·07	0·13	0·15	0·22	0·34	0·11	0·63	1·65	141
Cardiff	142,435	36·0	19·7	0·00	0·70	0·27	0·69	0·28	0·19	1·17	3·30	178
Swansea	93,816	35·1	19·6	0·00	0·18	0·35	0·05	0·32	0·20	0·73	1·83	170
Wolverhampton	84,298	34·5	23·3	0·01	0·25	0·31	0·06	0·06	0·33	1·82	2·84	209
Birmingham	487,891	30·2	21·9	0·14	0·10	0·16	0·12	0·65	0·20	1·67	3·04	199
Norwich	104,184	30·8	19·2	0·00	0·58	0·19	0·22	0·63	0·35	1·08	3·05	196
Leicester	184,547	32·8	20·2	0·08	0·28	0·44	0·12	0·62	0·25	2·19	3·98	219
Nottingham	220,551	30·2	18·4	0·02	0·14	0·36	0·06	0·26	0·31	1·47	2·62	169
Derby	97,341	32·2	18·2	0·07	0·17	0·14	0·09	0·45	0·22	0·93	2·07	156
Birkenhead	103,817	33·1	20·5	0·01	0·14	0·13	0·15	0·66	0·26	1·46	2·81	197
Liverpool	510,514	35·9	27·3	0·02	0·53	0·45	0·15	0·54	0·52	1·69	3·90	211
Bolton	117,278	33·1	24·1	0·05	1·45	0·29	0·10	0·65	0·30	1·81	4·65	200
Manchester	515,598	36·0	24·9	0·09	0·56	0·27	0·32	0·47	0·27	1·73	3·71	203
Salford	203,431	34·7	24·0	0·11	0·45	0·23	0·28	0·48	0·49	2·09	4·13	211
Oldham	136,469	28·6	21·0	0·48	0·21	0·13	0·13	0·40	0·19	0·94	2·48	186
Burnley	93,462	33·9	21·8	0·06	0·29	0·55	0·15	0·36	0·30	2·08	3·79	223
Blackburn	124,005	30·9	23·2	0·03	1·16	0·04	0·03	0·26	0·24	2·29	4·05	243
Preston	110,225	35·1	26·3	0·00	1·65	0·24	0·12	0·42	0·46	3·12	6·01	268
Huddersfield	97,549	23·7	17·2	0·00	0·23	0·25	0·05	0·13	0·12	0·46	1·24	142
Halifax	91,918	24·3	17·3	0·38	0·05	0·04	0·25	0·35	0·14	0·50	1·71	175
Bradford	221,611	27·7	20·9	0·51	0·33	0·31	0·10	0·50	0·21	1·46	3·42	196
Leeds	382,093	32·4	22·3	0·05	0·89	0·11	0·16	0·43	0·28	1·55	3·47	205
Sheffield	333,922	34·8	22·3	0·01	0·52	0·27	0·17	0·38	0·30	1·87	3·52	191
Hull	280,709	31·7	21·8	0·04	0·61	0·19	0·10	0·38	0·47	2·35	4·14	207
Sunderland	134,515	35·6	22·5	0·03	0·15	0·19	0·08	0·18	0·97	1·76	3·36	190
Gateshead	90,938	36·4	16·8	0·02	0·78	0·11	0·21	0·58	0·23	1·53	3·46	172
Newcastle	196,997	33·7	21·0	0·00	1·08	0·12	0·15	0·17	0·12	0·90	2·54	174

TABLE XII.

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 1893 inclusive, in the Borough of Cardiff.

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	32.7	483	28.9	
1850	17,520	485	27.7		116	6.6	9.8
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		353	15.7	
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	26.7	212	7.2	
1860	30,684	662	21.5		95	3.0	5.4
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		250	7.3	
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	23.6	156	4.1	
1870	38,788	903	23.2		133	3.4	3.9
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		154	3.6	
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	20.0	137	1.7	
1880	82,790	1,634	19.7		306	3.7	3.3
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		476	5.0	
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	
1893	142,435	2,794	19.6		408	2.8	

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 171 as compared 163 in 1892. In the 33 large towns the mean proportion was 181, ranging from 141 in Bristol and Huddersfield, 155 in Croydon, 156 in Derby, to 211 in Liverpool, 220 in Leicester, 241 in Blackburn, and 269 in Preston.

The most common causes of death amongst infants are the ordinary infectious diseases of childhood, diseases of the nervous system, diarrhœal and pulmonary disorders. Table XIII shows the chief causes of death amongst infants under one year of age. The deaths at this period which amounted to 874, comprised 31·2 per cent. of the total deaths. TABLE XIII.

Causes of Death.	Number of Deaths under One Year of Age.
Premature Birth	69
Congenital Defects	19
Measles	19
Whooping Cough	21
Diseases of the Respiratory System	128
" Nervous System ...	106
" Digestive System ..	88
Diarrhœa	110
Tubercular Meningitis	29
Other Tubercular Diseases	44
Violence	3
Other Diseases	238

TABLE XIV.

Infant mortality in Cardiff as compared with that of the large towns during the years 1885—1893 inclusive.

33 LARGE TOWNS.	Deaths under one year to 1,000 births registered.								
	1885	1886	1887	1888	1889	1890	1891	1892	1893
London	148	159	158	146	141	163	154	155	164
West Ham	....	....	....	....	....	....	....	153	170
Croydon	....	....	....	....	....	....	....	123	155
Brighton	131	160	149	148	131	164	137	151	169
Portsmouth	131	174	143	134	139	135	139	156	164
Plymouth	156	154	196	164	166	161	178	137	169
Bristol	152	149	149	123	146	150	146	147	141
Swansea	....	....	....	....	....	....	....	175	170
Wolverhampton	140	175	176	168	181	175	190	172	208
Birmingham	157	175	176	149	170	183	171	166	198
Norwich	136	202	158	165	164	180	159	182	195
Leicester	193	216	215	203	208	195	214	196	220
Nottingham	157	180	170	151	182	159	169	167	170
Derby	137	150	142	143	149	157	142	173	156
Birkenhead	137	162	156	152	170	166	148	168	196
Liverpool	174	188	186	168	188	195	188	181	211
Bolton	160	186	171	173	166	176	165	180	199
Manchester	175	183	191	177	176	187	192	179	203
Salford	174	198	195	184	182	199	194	185	210
Oldham	166	174	187	150	178	180	202	177	187
Burnley	....	....	....	....	....	....	....	192	223
Blackburn	170	209	201	189	203	188	204	198	241
Preston	218	233	214	188	265	241	227	216	269
Huddersfield	157	167	181	157	167	168	185	150	141
Halifax	132	171	153	154	175	170	169	160	173
Bradford	143	167	178	154	183	169	181	155	197
Leeds	155	181	172	173	177	172	177	169	206
Sheffield	164	168	177	178	174	195	170	171	191
Hull	128	164	165	139	184	160	172	166	206
Sunderland	158	151	151	132	181	173	176	157	188
Gateshead	....	....	....	....	....	....	....	154	170
Newcastle-on-Tyne	172	155	174	136	174	169	174	151	174
Cardiff	189	168	172	143	157	165	148	163	171
33 Large Towns	....	....	....	....	....	....	....	164	181

ZYMOTIC DISEASES.—The 2,794 deaths from all causes included :—

97	....	attributed to Measles	18	....	attributed to Enteric Fever
39	....	„ Scarlatina	9	....	„ Typhus Fever
93	....	„ Diphtheria	131	....	„ Diarrhœa
41	....	„ Whooping Cough			

The 408 deaths ascribed to these diseases corresponded to an annual death-rate of 2·8 per 1,000 persons living, as compared with 2·7 the death-rate in 1892, and with 3·1 the average rate in the 10 years 1883—1892 inclusive. The death-rate from these diseases in the 33 large towns was 3·2 per 1,000, and varied from 1·2 in Huddersfield, 1·7 in Bristol and in Halifax, to 4·0 in Leicester, 4·1 in Salford, 4·7 in Bolton and 6·0 in Preston.

The number of cases of Infectious Diseases notified during the year was 1,621, as compared with 2,245 in the year 1892. The total amount paid for notifications received from Medical Practitioners under the provisions of the Infectious Disease Notification Act was £205 7s. 6d.

Table XV. shows the number of cases of Infectious Disease which came to the knowledge of the Health Department during the years 1888 to 1893. 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, in January, 1890, of the Infectious Disease Notification Act, 1889. 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.

It will be readily understood on referring to the number of Infectious cases notified to the Medical Officer of Health that the working of this Act has occupied a large amount of the time of the Officers of this Department.

TABLE XV.

Shows the number of Infectious Disease known to the Health Department during the years 1888—1893 inclusive.

	1888	1889	1890	1891	1892	1893
Small Pox	9	...	...	9	5	4
Diphtheria ... ..	...	42	63	67	155	462
Croup ... ..	...	...	9	3	9	17
Scarlet Fever	151	166	335	685	1851	816
Enteric Fever	114	132	152	130	118	105
Typhus Fever ... ..	...	...	...	...	...	41
Erysipelas ... ..	...	...	45	52	95	152
Puerperal Fever ... ..	...	...	4	10	12	24
TOTAL	274	340	608	956	2245	1621

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	Has there been any communication with an infected house, if so, when and where?
Name, age, and occupation of patient	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 revaccinated.
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 disease, 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.

In the case of adults employed in places of business, or in workshops, etc., a similar process is gone through, notices in these cases being sent to the employer and to the infected house.

TABLE XVI.

Shewing the number of Infectious Diseases reported under the Notification Act, and the Deaths during each Quarter in the year 1893.

	Small Pox.		Cholera.		Diphtheria.		Croup.		Erysipelas.		Scarlet Fever.		Typhoid Fever.		Typhus Fever.		Puerperal Fever.		Relapsing Fever.		Continued 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.	Deaths.	Cases Reported.
1st Quarter	...	4	...	...	38	145	10	8	...	35	8	190	4	26	8	37	...	12	...	...	...	1
2nd "	27	135	6	5	2	32	16	237	2	17	1	3	...	4	...	...	...	1
3rd "	17	91	5	1	1	28	4	197	6	37	...	...	...	6	...	...	...	...
4th "	11	91	4	3	8	57	11	192	6	23	...	1	3	2	...	...	...	...
Year 1893	...	4	...	...	93	462	25	17	11	152	39	816	18	103	9	41	3	24	...	...	...	2

TABLE XVII.
Mortality from principle Zymotic Diseases.

Year.	Mean of Six years, 1878-1883.		Mean of Six years, 1884-1889.		1890.		1891.		1892.		1893.	
	Deaths.	Death rate.	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.	142,346.						
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	97	0.681
Scarlatina ...	35.3	0.410	38.2	0.389	19	0.162	35	0.268	87	0.638	39	0.273
Diphtheria ...	15.3	0.180	20.7	0.208	15	0.128	16	0.122	36	0.264	93	0.653
Whooping Cough	55.1	0.650	62.5	0.559	38	0.324	89	0.683	46	0.337	41	0.288
Fever (Enteric)	24.3	0.286	38.2	0.373	23	0.196	26	0.199	26	0.190	18	0.126
Diarrhea ...	73.1	0.859	114.5	1.134	122	1.042	52	0.399	117	0.859	131	0.920
Total ...	224.7	2.639	363.2	3.598	282	2.410	273	2.095	371	2.720	419	2.943

TABLE XVIII.

Showing the number of infectious cases notified in each Ward during the year 1893.

Localities.		NOTIFIABLE DISEASES.										
		Small Pox.	Cholera.	Scarlatina.	Croup.	Diphtheria.	Erysipelas.	Typhus Fever.	Typhoid Fever.	Relapsing Fever.	Continued Fever.	Febrile Fever.
Borough	Ward	4	...	816	17	462	152	41	103	...	2	24
Central	Ward	1	...	60	2	13	15	9	8	...	...	...
South	"	...	...	26	1	4	6	1	8	...	...	1
Cathays	"	...	...	74	2	78	17	8	7	...	...	...
Park	"	...	...	233	1	133	13	...	9	...	...	2
Adamsdown	"	2	...	56	2	64	23	22	13	...	...	2
Riverside	"	1	...	87	...	14	20	...	12	...	...	...
Canton	"	...	...	58	5	9	9	...	8	...	2	7
Roath	"	...	...	121	2	56	10	...	10	...	...	1
Grangetown	"	...	...	53	1	8	17	...	19	...	...	1
Splott	"	...	...	48	1	83	22	1	9	...	...	10

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 1893:—

TABLE XIX.—CENTRAL WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Bute terrace	...	I	...	...	...	I	...	...	...	...	2
Bakers row	I	...	...	I
Bridge and Little Bridge st.	I	...	I
Blackweir	...	I	...	...	...	...	2	...	4	...	7
Cross street	1	...	...	I
Castle arcade	I	...	I
Canal street	I	...	2	...	3
Carpenters Arms court	I	...	I
Canal Bank	...	I	...	...	...	...	...	...	...	...	I
Dumfries place	I	...	...	...	...	2	...	3
David street	3	...	3
Eisteddfod street	...	I	I	...	...	...	...	...	I	...	3
East terrace	I	1
Edward terrace	I	I	...	2
Edward street	...	I	...	3	...	...	...	...	2	...	6
Frederick street	2	2	2	I	7
Guildford st. and crescent	I	...	I
Gough street	...	I	...	...	...	...	...	I	4	...	6
Havelock street	2	...	I	...	3
Homfray street	I	...	I
Hills terrace	...	I	...	...	...	...	...	2	1	...	4
Hills street	I	...	...	...	I
Kingston court	I	...	...	...	I	...	2
Love Lane	...	I	...	...	...	...	...	I	...	...	2
Millicent street	...	I	...	...	...	...	...	I	1	...	3
Mary Ann street	I	...	...	...	5	...	6
Nelson terrace	I	...	I
Pembroke terrace	I	...	...	I
Park grove	I	...	I
Penarth road	1	...	...	I
Queen street	2	I	...	3
Rodney street	2	...	2
St. Mary street	I	...	I
Stanley street	I	...	2	...	3
Saunders road	I	...	...	I
Tredegar street	I	...	I	...	2
The Hayes	I	...	...	I
Union buildings	I	...	I
Union street	1	...	...	...	2	...	...	3
Wood street	I	...	...	...	I
Wharton street	I	1	...	2
Wellington terrace	I	...	I
Total	...	9	I	5	2	I	II	19	47	2	97

SOUTH WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Alice street	1	...	1
Adelaide street	2	1	...	3
Bute street	2	1	...	3
Bute esplanade	...	1	...	...	...	...	...	...	1	...	2
Christina street	1	...	...	1	1	...	3
Crawshay street	1	...	...	1
Chrichton street	3	...	3
Francis street	1	...	...	2
George street	1	...	1
Harrowby street	1	...	1	...	2
Herbert street	...	1	...	...	...	...	...	...	2	...	3
Henry street	1	...	1
Harpur street	1	...	1
Hamadryad Hospital Ship	7	3	3	...	...	13
James street	1	...	1
Louisa street	1	2	...	3
Loudoun square	1	...	...	2	...	...	...	3
Margaret street	1	...	...	1	...	2
Maria street	1	...	1
Nelson street	1	...	1
Penarth road	...	1	...	...	...	...	1	1	...	...	3
Peel street	1	...	1	...	2
Patrick street	2	...	2
South church street	1	...	1
Sophia street	2	...	2
South William street	1	1	...	2
Stuart street	1	...	...	...	...	...	...	1
Tresillian terrace	1	...	1
Windsor esplanade	1	1	2
Total	...	3	...	2	1	8	8	13	30	1	65

CATHAYS WARD.

Alexander street	...	...	...	...	...	...	1	...	1	...	2
Barracks	...	...	...	...	...	...	1	...	...	1	2
Cairns street	...	...	...	1	1	2	2	3	6	1	16
Cathays terrace	...	2	...	1	1	...	...	1	4	...	9
Catherine street	...	...	...	...	...	...	1	...	1	...	2
Coburn street	...	...	...	...	...	...	1	...	2	...	3
Crwys road	...	...	...	...	...	...	1	...	2	...	3
Cogan terrace	...	...	...	...	...	...	...	...	1	...	1
Cranbrook street	...	...	1	...	...	...	...	1	2	...	4
Daniel street	...	1	...	...	...	...	...	1	2	...	4
Fitzroy street	...	...	...	...	...	...	...	1	...	...	1
Flora street	...	...	...	1	...	...	...	...	...	...	1
Glynrhondda street	...	...	...	1	...	...	...	...	1	...	2
George street	...	...	...	1	1	...	1	1	2	...	7
Harriett street and place	...	...	...	1	...	...	...	...	2	...	3
Hirwain street	...	1	1	...	...	...	...	...	...	...	2
Carried forward	...	4	2	6	3	2	8	8	26	2	62

CATHAYS WARD—continued.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Brought forward	4	2	6	3	2	8	8	26	2	62
Llanbleddian gardens	2	....	....	2
Letty street	1	....	....	....	....	....	1	1	1	4
Llandough street	1	....	....	1
Llantrissant street	1	....	....	....	....	....	1	....	....	2
May street	2	....	....	....	....	1	....	2	....	5
Merthyr street	1	....	....	....	....	....	....	1
Minister street	1	....	1
Miskin street	1	....	....	....	1	2	....	4
M inny street	1	1	....	....	....	....	2	....	4
Munday place	1	....	....	....	2	1	....	4
Rhymney terrace	1	....	....	1
Richard street	1	....	....	....	2	3	1	7
Robert street	3	....	....	....	....	1	....	4
Salisbury road	3	....	....	1	1	....	....	5
Senghenydd place	1	....	....	1
Thesiger street	2	1	....	....	....	1	....	4
Treherbert street	1	....	....	1
Treorky street	1	....	1
Woodville road	1	....	1	3	3	4	....	12
Total	8	3	20	4	3	13	25	45	4	125

PARK WARD.

Albany road	....	....	....	....	....	....	1	1	1	....	3
Arran street	....	....	....	....	....	....	1	....	1	....	2
Arabella street	....	....	....	....	....	....	1	....	1	1	3
Bangor street	....	....	....	....	....	....	....	....	....	1	1
Byron street	....	....	....	....	1	....	....	1	2	....	4
Bedford street and place	....	....	....	....	....	....	1	2	1	....	4
Castle road	....	1	1	2	....	....	....	2	2	....	8
Cyfarthfa street	....	....	....	2	....	....	....	1	3	....	6
Cottrell road	....	....	2	....	....	....	1	....	2	....	5
Croft street	....	....	....	....	....	....	....	....	1	....	1
Crwys road and place	....	....	....	....	....	....	1	....	....	....	1
Diana street	....	....	....	....	....	....	....	....	2	....	2
Elm street	....	....	....	....	....	....	1	....	....	1	2
Glenroy street	....	....	1	2	....	....	1	....	....	....	4
Gordon road	....	....	....	....	....	....	....	....	1	....	1
Inverness place	....	....	....	....	....	....	1	....	....	....	1
Kincraig street	....	....	....	1	1	....	....	....	2	....	4
Keppoch street	....	....	1	1	1	....	....	....	3	....	6
Leason terrace	....	....	....	....	....	....	....	1	1	....	2
Lily street	....	....	....	7	....	....	....	....	1	....	8
Milton street	....	....	....	1	....	....	1	....	4	1	7
Moy road	....	....	....	....	....	....	1	....	2	....	3
Oxford street	....	....	....	....	....	....	....	2	1	....	3
Plasnewydd road	....	....	....	....	1	....	1	2	3	....	7
Ruthven street	....	1	1	1	....	....	1	1	1	....	6
Russell street	....	1	....	3	....	....	....	....	2	....	6
Carried forward	....	3	6	20	4	....	13	13	37	4	100

PARK WARD—continued.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phtthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Brought forward	...	3	6	20	4	...	13	13	37	4	100
Richmond road & crescent	1	1	1	...	3
St. Peter street	1	...	...	...	1
Shakespeare street	1	1	...	2
The Walk	1	...	1
Threharris street	2	1	...	...	...	4	...	7
Talworth street	1	...	...	...	...	...	...	1
Upper Kinraig street	1	...	...	...	...	...	...	1
Violet row	1	...	1
Vere street	1	...	1
Wordsworth street	1	...	...	...	...	...	...	1
Woodland place	1	...	...	1
Total	...	3	6	25	5	...	15	16	46	4	120

ADAMSDOWN WARD.

Augusta street	...	...	...	...	...	...	...	1	2	...	3
Ascog street	...	...	...	...	...	...	...	...	1	...	1
Adam street	...	1	...	...	...	...	1	1	4	...	7
Adamsdown square	...	...	...	...	...	...	...	...	2	...	2
Buzzard street	...	...	...	...	...	...	...	...	2	...	2
Copper street	...	...	...	...	...	...	...	1	...	...	1
Comet street	...	...	...	2	1	...	...	...	1	...	4
Cumnock place	...	...	...	...	...	...	...	1	...	...	1
Clifton street	...	...	1	...	2	...	...	1	1	...	5
Constellation street	...	...	...	1	...	...	...	...	2	1	4
Cumrae street	...	...	...	...	...	...	...	...	2	...	2
Duffryn street	...	...	...	...	1	...	...	...	1	...	2
Davies street	...	...	...	...	...	...	1	1	1	...	3
Evan's court	...	...	...	...	...	...	...	...	1	...	1
Ellen street	...	1	...	...	...	...	...	2	2	...	5
Eclipse street	...	1	...	1	...	...	...	...	1	...	3
Garth street	...	...	...	...	...	...	...	...	1	...	1
Godfrey street	...	2	...	...	...	...	...	...	1	...	3
Howard street	...	...	...	...	...	...	...	1	...	...	1
Howard gardens	...	...	...	1	...	...	...	1	...	...	2
Howard place	...	...	...	...	...	...	...	1	...	...	1
Ivor street and place	...	1	...	...	...	...	...	...	...	...	1
Iron street	...	...	1	...	1	...	...	...	1	...	3
Infirmary	...	1	...	1	1	1	1	3	8	2	18
Kerrycroy street	...	...	...	...	...	...	...	...	1	...	1
Lady Margaret terrace	...	...	...	1	...	...	...	1	1	...	3
Lead street	...	...	...	...	...	...	...	1	...	...	1
Morgan street	...	...	...	...	...	...	...	1	1	...	2
Metal street	...	...	...	...	1	...	...	2	2	...	5
Moon street	...	...	...	1	...	...	...	...	...	...	1
Moira street and terrace	...	...	...	...	1	...	...	1	1	...	3
North Luton place	...	...	...	...	...	1	...	...	1	...	2
North William street	...	...	...	...	...	1	...	...	1	...	2
Newport road	...	...	...	...	...	...	...	...	1	...	1
Carried forward	...	7	2	8	8	3	3	19	44	3	97

ADAMSDOWN WARD—continued.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Brought forward	...	7	2	8	8	3	3	19	41	3	97
Orbit street	2	....	....	2
Pellett street	I	....	....	....	3	....	4
Planet street	2	....	2	....	....	I	....	I	I	7
Pendoylan street	I	3	....	4
Prince Leopold street	2	....	2
Roland street	3	....	3
Rosemary street	I	....	....	....	....	....	....	I	....	2
South Luton place	I	....	....	....	I
Sandon place	I	I	I	....	3
System street	I	2	2	I	6
Sanquhar street	I	....	....	....	I	....	2
Tin street	I	....	I	....	....	I	I	....	4
Tyndall street	2	4	....	6
Victoria street	I	....	....	....	....	....	....	2	I	4
West Luton place	I	....	I
Windsor road	I	....	I	....	....	....	....	....	....	2
Zinc street	I	I	....	2
Total	12	3	11	11	3	7	29	70	6	152

RIVERSIDE WARD.

Ann street	....	I	....	....	....	....	....	....	I	....	2
Beauchamp street	....	....	....	....	....	....	....	....	I	....	I
Blackstone street	....	2	....	....	....	....	....	....	....	....	2
Cowbridge road	....	I	....	....	....	....	....	I	....	....	2
Clare street	....	....	....	....	....	....	....	....	2	....	2
Craddock street	....	....	....	....	....	....	2	....	I	I	4
Cathedral road	....	....	....	I	....	I	I	....	2	....	5
Chancery lane	....	....	....	....	....	....	....	....	I	....	I
De Burgh street	....	....	....	....	....	I	....	I	....	....	2
Despencer street	....	....	....	....	....	....	I	....	....	....	I
East street	....	....	....	....	....	....	....	....	I	....	I
Eldon road	....	....	....	....	....	....	....	....	I	....	I
Gloucester street	....	....	....	....	....	....	....	....	I	....	I
Hamilton street	....	....	....	....	I	....	....	....	....	....	I
King's road	....	....	....	3	I	....	I	I	I	....	7
Lewis street	....	....	....	....	....	....	I	....	....	....	I
Machen place	....	....	....	....	....	....	....	....	I	....	I
Neville street	....	....	....	....	....	....	....	....	....	I	I
Pontcanna place	....	....	....	....	....	....	I	....	....	....	I
Plantagenet street	....	....	....	....	....	....	....	....	I	....	I
Plasturton Gardens	....	....	....	....	....	....	....	....	I	....	I
Pitman street	....	....	I	....	....	....	....	....	....	....	I
Rennie street	....	I	....	....	....	....	....	....	....	....	I
Ryder street	....	....	....	....	....	....	....	I	....	....	I
Rawdon place	....	....	....	....	....	....	....	....	I	....	I
South Morgan street	....	....	....	....	....	....	I	....	....	....	I
Carried forward	....	5	I	4	2	2	8	4	15	2	44

RIVERSIDE WARD—continued.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Brought forward	5	1	4	2	2	8	4	16	2	44
Severn road	2	1	....	....	....	....	3	....	6
Tudor road	1	....	....	....	1
Telford street	1	....	....	1
Union Workhouse	1	....	....	....	....	2	48	16	13	80
Wells street	1	2	....	....	....	3
Wyndham crescent	1	....	....	1
Wyndham road	1	....	....	....	....	....	....	1	....	2
Wellington street	3	....	....	....	....	2	1	1	....	7
Wyndham street	3	....	3
Total	10	3	5	2	3	15	54	41	15	148

CANTON WARD.

Atlas road	....	....	....	....	....	....	....	....	1	....	1
Alexandra road	....	....	....	....	....	....	....	....	1	1	2
Albert street	....	....	....	....	....	....	2	3	....	....	5
Beda road	....	....	....	....	....	....	....	....	1	....	1
Clive road	....	1	....	....	....	....	1	....	2	....	4
Canton square	....	....	....	....	....	....	....	1	....	....	1
Chancery lane	....	....	....	....	....	....	....	1	1	....	2
Cowbridge road	....	2	....	1	....	....	3	3	2	....	11
Commercial street	....	....	....	....	....	....	....	....	1	....	1
Conybeare road	....	....	....	....	....	....	....	1	2	....	3
Carmarthen street	....	1	....	....	....	....	....	....	1	....	2
Daisy street	....	....	1	....	....	....	....	....	....	....	1
De Croche place	....	....	....	....	....	....	....	1	....	....	1
Denton road	....	2	....	....	....	....	....	....	....	....	2
Eldon road	....	....	....	....	....	....	1	....	2	....	3
Evans's terrace	....	....	....	....	....	....	....	....	1	....	1
Ethel street	....	3	....	....	....	....	3	1	2	....	9
Egerton street	....	1	....	....	....	....	....	1	....	....	2
Eton place	....	....	....	....	....	....	....	1	....	....	1
Glamorgan street	....	2	....	....	....	....	....	1	1	....	4
Gray street	....	2	....	....	1	....	....	....	2	....	5
Glynne street	....	1	....	....	....	....	2	....	1	....	4
Harvey street	....	1	....	....	....	....	1	....	1	....	3
Lyttleton street	....	2	2	....	....	....	....	....	....	....	4
Lyndhurst street	....	....	....	....	1	....	....	....	....	....	1
Leckwith road	....	....	....	....	....	....	1	1	....	....	2
Llandaff road	....	....	....	....	....	....	1	1	1	1	4
Llanfair road	....	....	....	....	....	....	....	....	3	....	3
Market road	....	....	....	....	....	....	....	1	....	....	1
Picton place	....	....	....	....	....	....	1	....	....	....	1
Pontcanna place	....	1	....	....	....	....	....	....	....	....	1
Penypeel road	....	2	....	1	....	....	1	....	2	....	6
Pembroke road	....	....	....	1	....	....	1	....	1	....	3
Rectory road	....	....	....	....	....	....	1	1	....	....	2
Rolls street	....	....	....	....	....	....	1	....	1	....	2
Carried forward	....	21	3	3	2	....	20	18	30	2	99

CANTON WARD—*continued.*

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Brought forward	21	3	3	2	....	20	18	30	2	99
Radnor road	1	1	....	....	2
Romilly crescent	1	....	....	1	....	2
Romilly road	1	....	....	....	....	....	....	1
Severn road	2	2	....	....	4
Stagg terrace	1	....	....	1
Sanatorium	7	....	....	....	....	....	....	....	7
Springfield place	2	....	....	2
St. John's crescent	1	....	1	....	2
Wells street	1	....	....	....	....	....	....	2	....	3
Wellington street	1	1	3	....	5
Total	22	10	4	2	1	25	25	37	2	128

ROATH WARD.

Arthur street	....	....	2	....	....	....	....	....	....	....	2
Beresford road	....	....	....	....	....	....	....	....	1	....	1
Bertram road	....	....	1	....	1	....	....	....	1	....	3
Blanche street	....	....	....	....	....	....	....	....	2	....	2
Broadway	....	3	1	3	....	....	2	1	3	....	13
Croft street	....	....	....	1	....	....	....	....	....	....	1
Cecil street	....	....	....	....	1	....	....	....	2	....	3
Clifton street	....	....	....	....	1	....	....	....	1	....	2
Cyril crescent	....	....	....	....	....	....	1	....	....	....	1
Claud road	....	....	....	....	....	....	....	....	1	....	1
Diamond street	....	....	1	....	....	....	1	....	3	1	6
Emerald street	....	1	....	....	....	....	1	....	2	....	4
Elm street	....	....	....	....	....	....	....	....	....	1	1
Grouse street	....	....	....	....	....	....	....	1	....	....	1
Harold street	....	....	....	....	....	....	....	1	....	....	1
Helen street	....	....	....	....	1	....	2	2	2	....	7
Maud street	....	....	....	....	....	....	....	....	1	....	1
Nora street	....	....	....	....	....	....	....	....	3	....	3
Newport road	....	....	....	....	....	....	....	....	3	....	3
Partridge road	....	....	....	....	....	1	1	3	1	....	6
Pearl street	....	....	2	1	2	1	2	....	7	1	16
Ruby street	....	2	....	....	1	....	....	1	3	....	7
Richards terrace	....	....	....	....	....	....	....	....	1	....	1
Stacey road	....	....	....	1	....	....	....	....	2	....	3
Sapphire street	....	....	....	1	....	....	....	1	1	....	3
Spring garden, place, & terr.	....	....	1	....	....	1	....	....	1	1	4
Snipe street	....	....	....	....	....	....	....	1	....	....	1
Theodore street	....	1	....	....	....	....	2	2	....	....	5
Topaz street	....	....	....	2	1	....	....	....	1	....	4
Total	....	7	8	9	8	3	12	12	43	4	106

GRANGETOWN WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Andrews terrace	I	....	....	I
Amherst street	I	....	....	....	....	....	I	....	....	2
Bromfield street	I	....	....	....	....	....	....	....	....	1
Bromsgrove street	I	2	....	3
Corporation road	I	....	....	....	....	....	I	....	....	2
Clive street	2	....	....	....	1	I	2	I	....	7
Compton street	I	....	....	....	....	I	....	I	....	3
Cornwall street	I	2	....	....	3
Clare road	I	....	....	....	....	....	I	5	....	7
Court road	I	....	....	....	1
Chester street	I	....	....	1
Cambridge street	I	....	....	....	I	....	....	....	....	2
Devon street and place	I	....	....	I
Earl street	I	....	I
Ferry road	I	....	I
Frances street	I	....	....	I
Forrest street	I	....	....	....	....	....	....	....	I
Holmesdale street	4	....	....	....	....	....	2	....	....	6
Hewell street	I	....	I	....	2
Hereford street	I	....	....	....	....	....	I	....	....	2
Kent street	2	....	....	2	....	4
Knole street	I	....	....	....	....	....	....	....	....	I
Lanmaes street	I	I	I	3
Lucknow street	I	....	I
Monmouth street	I	....	....	....	I
Matthews terrace	2	....	2
Madras street	I	2	....	3
Machen street	I	....	....	....	1
North Clive street	I	....	I	....	2
Newport street	I	....	....	....	....	....	....	I	....	2
Oakley street	I	....	....	....	....	2	....	....	....	3
Pentrebane street	I	....	I
Penarth road	I	....	....	....	....	3	2	....	6
Paget street	2	I	....	....	....	....	....	I	....	4
Penhefud street	I	....	....	....	....	....	1
Rutland street	I	....	....	....	....	I	....	2
Rhydlafer street	I	2	I	....	4
St. Fagans street	I	....	I
Sevenoak street	I	....	I	....	2
Stoughton street	I	....	....	....	....	I	....	3	....	5
Saltmead road	I	....	....	I	....	....	2
Sir Edward terrace	2	....	I	....	3
Stockland street	..	I	....	....	....	....	....	....	I	....	2
Tynant street	I	....	....	....	I
Thomas street	I	I	I	....	3
Van street	I	....	....	....	....	....	....	....	....	I
Warwick street	I	....	I	....	2
Total	21	3	I	2	4	18	24	37	I	111

SPLOT WARD.

Name of Street.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Tuberculosis.	Total.
Adeline street	I	I	I	....	I	....	5	....	9
Burnaby street	I	....	....	....	....	....	1
Bridgend street	2	....	2
Coveny street	I	2	....	3
Cornelia street	I	....	....	I	....	....	....	2
Carlisle street	I	....	....	3	I	3	....	8
Caerphilly street	I	....	....	1
Elaine street	I	....	....	1
Enid street	2	....	2
Habershon street	2	4	....	6
Howard street	3	....	....	....	....	....	....	3
Howard terrace	I	....	1
Janet street	I	....	I	....	2	I	....	5
Layard street	2	....	....	....	....	....	....	2
Llanelly street	I	....	....	....	....	....	....	....	....	1
Moorland road	I	....	....	1
Marion street	1	....	1
Milford street	2	....	2
Menelaus street	I	....	....	....	I	....	2
Ordell street	I	....	....	....	I	4	....	6
Portmanmoor road	I	....	....	2	5	....	8
Pontypridd street	I	....	1
Railway street	I	....	....	2	....	7	....	10
Seymour street	I	I	....	2
Spot road	I	....	1
Swansea terrace	I	1
Tenby street	I	....	....	....	....	....	....	I	....	2
Walkers' road	I	....	1
Total	2	I	II	4	I	7	13	45	I	85

SMALL POX.—No deaths from this disease were registered during the year in the Borough. During the first quarter of the year, four cases of small pox were reported to the Health Department. The disease was brought into the town in the first instance, by a tramp named Charles Griffiths, who was admitted to the Cardiff Union Workhouse, on February 27th, when on examination by the Resident Medical Officer, he was found to have the characteristic rash well developed. The man had travelled through Breconshire and Monmouthshire on his way to Cardiff, and had probably contracted the disease at Newport, where he slept on February 13th. The patient was isolated and treated in the wards set apart for infectious diseases in the Union Workhouse. No other case of small pox occurred in connection with this case. On 1st of March, two cases of small pox were reported, one that of a lad named Henry O'Reilly, aged 14 years, living in a common lodging-house, No. 2, Homfray Street; the other a man named Thomas Brown, aged 35 years, in the Cardiff Gaol, but who had been living in the same lodging-house in Homfray Street, until the day of his committal to prison, on February 20th. In both cases the eruption appeared on the same day, namely February 27th, and in both the disease was evidently contracted from some inmate of the lodging-house. A most careful examination, however, of the persons found in the house failed to throw any light on the origin of these cases. In all probability a passing tramp had brought the infection into the house. The next case was that of the hospital warder in the gaol, William Taylor, aged 29, who had been attending to the prisoner Brown until his removal from prison. Feeling ill, he went to his house in 2, North Luton Street, from whence he was removed to the hospital on March 12th. These three cases were removed to the Infectious ward of the Hamadryad Hospital Ship. They were all mild cases, modified by vaccination in infancy, and they made a good recovery. No spread of the disease occurred in any of the above-mentioned cases, thus showing the value of early isolation in small pox. Re-vaccination was performed in the infected houses, and the infected articles were disinfected, and in some cases destroyed. No other cases of small pox were reported to the Sanitary Authority during the year.

MEASLES.—Ninety-seven deaths were registered from Measles during the year, as compared with fifty-eight in 1892. The deaths corresponded to an annual death-rate of 0·68 per 1000 persons living, as compared with 0·65 the average annual rate from this disease, during the ten years 1883-1892. Of these 97 deaths, 33 occurred in the first quarter of the year, 52 in the second quarter, 11 in the third quarter, and 1 in the fourth quarter. Of the total number of deaths, 89 occurred amongst children under 5 years of age. The disease prevailed most extensively, and was most fatal, in the Canton and Grangetown wards, and during the second quarter of the year. In these wards, the death-rate from measles for the year, was equal to 1·62 and 1·51 respectively per 1,000 of the population in each ward.

WHOOPIING COUGH.—There were 40 deaths from this disease during the year, as compared with 46 in the year 1892. The deaths were equal to an annual death-rate of 0·28 per 1000, as compared with 0·57 the average annual rate in the ten years 1883-1892. The chief incidence of the mortality fell upon very young children.

SCARLET FEVER.—Thirty-nine deaths were registered from this disease during the year, as compared with 87 in 1892. The deaths were equal to an annual death-rate of 0·27 per 1000 persons living, against 0·42 the rate in 1892, and 0·38 the rate in the ten years 1883-1892. The total number of cases reported under the provisions of the Infectious Disease Notification Act, amounted to 816, as compared with 851 in 1892. The number increasing from 190 in the first quarter of the year, to 237 in the second quarter; and decreasing from 197 in the third quarter, to 192 in the fourth quarter. The proportion of deaths to notified cases was 4·7 per cent.; the case mortality being 4·2 per cent. in the first quarter of the year, 6·7 per cent. in the second quarter, 2 per cent. in the 3rd quarter, and 5·7 per cent. in the fourth quarter. The proportion of deaths to cases notified amongst children under 5 years of age, was equal to 11·5 per cent., whilst amongst persons over 5 years, the proportion was only 1·9 per cent. During the year, 184 cases of scarlet fever were admitted into the Cardiff Sanatorium, being 22 per cent. of the cases notified during that period, as compared with 13 per cent., the proportion admitted during the previous year. Scarlet fever was relatively most prevalent in the Park ward, where the disease attacked 123 per 10,000 of the population. In the other

wards, the proportion of cases notified per 10,000 persons, was as follows:—Roath Ward 87, Riverside Ward 55, Cathays and Splott Wards 47, Central Ward 43, Canton Ward 41, Grangetown Ward 38, Adamsdown Ward 27, and South Ward 23. The mortality was greatest in the Canton and Roath Wards.

The returns of the Registrar General show that in the large towns of England and Wales, the rate of mortality from scarlet fever was equal to 0·29 per 1000 persons living, and was slightly below the average. In London, the death-rate from this disease was equal to 0·37 per 1000, while it ranged from 0·55 in Burnley, 0·45 in Liverpool, and 0·44 in Leicester, to 0·04 in Blackburn and Halifax.

ENTERIC OR TYPHOID FEVER.—The eighteen deaths registered from this disease were equal to an annual death-rate of 0·12 per 1,000 persons living, as compared with 0·17 in the year 1892, and with 0·19 the rate in the years 1890 and 1891. The mean death-rate from fever* during the ten years 1883-1892 was 0·32 per 1,000.

The number of cases of enteric fever notified within the Borough, and the number of deaths registered during each year since the adoption of the Infectious Disease Notification Act is given below:—

YEAR.		CASES NOTIFIED.		DEATHS.
1890	....	152	....	23
1891	....	130	....	26
1892	....	118	....	24
1893	....	103	....	18

The following Table shows the cases reported and the number of deaths during each quarter of the year 1893.

		CASES NOTIFIED.		DEATHS.
First Quarter	....	26	....	4
Second do.	....	17	....	2
Third do.	....	37	....	6
Fourth do.	....	23	....	6

The proportion of deaths to cases notified during the year was 17·4 per cent. The total number of houses invaded was 95, in 3 of which multiple attacks occurred. A careful enquiry was made into the sanitary surroundings of these cases, with a view of ascertaining if possible any cause which might have contributed to the development of the disease. Structural defects and other insanitary conditions were found in 24 houses, and in each case a notice to remedy the defect was served upon the responsible person, and the nuisance was promptly abated. The cases notified appeared to be mostly of a sporadic nature, and were totally unconnected with any common exciting cause, such as a polluted public water supply, a contaminated milk supply, or defective main sewerage. Of the total number of persons attacked with typhoid fever, 14 were sailors who contracted the disease in some other port; in these cases the illness could in the majority of instances be traced with a high degree of probability to the use of impure water. I have again with satisfaction to report a low rate of mortality from typhoid fever. On referring to the statistical tables appended, it will be seen that the death-rate from this disease 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 the average rate has been 0·16 per 1,000, a high testimony to the improved sanitary condition of the town. Typhoid fever is a disease which is perhaps more closely associated with insanitary conditions than any other of the zymotic class. We may fairly assume, therefore, that the reduction of the death-rate from 2·0 to 0·16 per 1,000, which has taken place during the past forty years, is largely due to the improvements effected by the Sanitary Authority. Amongst these may be mentioned a pure water supply, a complete and efficient system of sewerage, a satisfactory method of collecting house and trade refuse, and a vigorous and systematic inspection of the district and the prompt abatement of nuisances therein.

* Typhus, Enteric and Continued Fevers are included in the term "Fever."

TYPHUS FEVER.—Nine deaths were registered from this disease during the year, corresponding to a death-rate of 0·06 per 1,000 persons living. Typhus fever, which is now a comparatively rare disease in England, has been absent from Cardiff since the year 1885. The outbreak commenced in December, 1892, the first official intimation being received on the 18th of that month from a house in Roland street, a street situated in a part of the town occupied almost exclusively by the poorest and most destitute Irish, and in the same district which was visited by typhus on previous occasions. The outbreak was almost entirely confined to this district, the chief incidence of the disease falling on Roland Street and North William Street. The first cases notified were all members of one family. The mother, aged 47 years, was taken ill about December 7th, the father and two children were subsequently taken ill about the 15th. The nature of the disease was not recognised until the 18th, when the mother was found to be dying. These cases, with the exception of the mother who died on the 23rd, were removed to the hospital, where the father died on the 24th. From this family, named Scanlan, nearly all the other cases were directly or indirectly derived by personal contact. These four cases were all well marked typical cases of typhus, the eruption being in each case distinct. On December 22nd, in the same house (16, Roland Street), another case was discovered (Anne Donovan, aged 13 years), and on January 6th two others (Peter Donovan, aged 34 years, and Catherine Sherrin, aged 26 years). They were all removed to the hospital, Peter Donovan dying on January 13th and Catherine Sherrin on the 25th. In this house, therefore, there were seven cases, four of which proved fatal. Those who died were between the ages of 26 and 47 years, those who recovered between 6 and 14 years of age. On December 24th a case of typhus fever was reported in 14, North William Street—a girl named Catherine Hayde, aged 17 years, who had been nursing her relatives, the Scanlans, in Roland Street. In this case the initial symptoms dated apparently from about December 15th or 16th. The incubation period could in this instance hardly have exceeded eight days, presuming that the patient contracted the disease from Mrs. Scanlan, who was taken ill about December 7th. The appended table gives the date of attack and the result in each case, and the probable origin in the case of 38 attacks is shown in the genealogical table. From this it would seem that in all 47 persons were attacked, and that the fever was confined to 28 houses. Twenty-three of the cases occurred in the two streets—Roland Street and North William Street the back premises of which were contiguous. In point of time the outbreak occurred at the time of year which is known to be most favourable to the development of typhus fever, namely, the winter months. Age appeared to influence the mortality in a most remarkable manner, as will be seen by the following table, which gives the age at attack and at death in these forty-seven cases:—

AGE PERIOD.	NO. OF ATTACKS.	NO. OF DEATHS.
0—10	9	0
10—20	18	0
20—30	3	1
30—50	17	9

The proportion of deaths to cases between the ages of thirty and fifty being equal to 53 per cent. The total case mortality in this outbreak was equal to 21·2 per cent. This was a decidedly high rate of mortality, and it would seem probable that a certain proportion of mild cases amongst children were unrecognised, and were, therefore, not brought to the knowledge of the sanitary authority, and that the true case mortality would be somewhat lower than the above. The rate given by Dr. J. W. Moore, from observations made in the case of 2,895 persons admitted into the Cork Street Fever Hospital, Dublin, being 12·6 per cent. or nearly 1 in 8. In the London Fever Hospital the mortality was higher, out of 18,268 patients admitted 3,457 died, giving a mortality of 18·9 per cent. In some cases, for various reasons, medical aid was not called in until a comparatively late period of the illness, time being given for the disease to spread amongst those who came into contact with the patients before isolation could be effected. For instance, in the case of Catherine Hayde, of 14, North William Street, notified on the eighth or tenth day of the disease, no less than fourteen cases were directly or indirectly traceable to this one source of infection. Again, in No. 12, North William Street, the mother of James Loughlin vigorously and successfully obstructed his removal to hospital, with the result that she and eight other inmates of the same house were soon afterwards attacked, the disease proving fatal in the case of the mother.

Notwithstanding the most searching inquiries, it was found impossible to discover the source from whence the infection was brought to the house in which the first case was discovered. Mr. Spear has pointed out that typhus is likely to be overlooked or diagnosed as typhoid fever, especially when it occurs amongst children, in whom the disease usually assumes a mild form. During the past few years, however, the entire Urban District of Cardiff has been remarkably free from typhoid fever, and in this particular part of the town very few cases indeed of this disease have occurred, and certainly none have come to the knowledge of the Sanitary Authority which could possibly have been mistaken for typhus. There was, however, one circumstance connected with this outbreak of some significance as bearing upon the possible origin.

At the first onset of the outbreak, on visiting the house in which the first known case occurred, namely, 16, Roland Street, I found that the back premises were used as a store by a dealer in rags and marine stores, who collected these articles chiefly from this particular district. The question is, did these rags in the first instance convey infection to this house from some undiscovered case in the neighbourhood? The rag dealer did not himself reside in this or the neighbouring street, but in Mary Ann Street, some little distance from Roland street. He was usually accompanied in his rounds by his wife and child, and it is curiously suggestive, that later on, towards the end of January, these members of his family were both taken ill with typhus fever. Two other cases also occurred in the same house. Were they again due to contact with infected rags, or to some more close personal contact with infected persons? I am not aware that any previous outbreak of typhus fever in this country has ever been attributed to the distribution of rags, but I presume that there is nothing very improbable in this mode of origin. We know that actual contact with the sick is not essential to the transmission of this fever. The contagion is cast off from the breath and skin, and possibly by evacuations, and may cling to articles of clothing. It is said that it is more readily absorbed by dark coloured rather than by light coloured clothing, its absorption being regulated by the laws which govern the absorption of light, and that after absorption the contagion retains its vitality for very considerable periods. I was unable to discover that the infection was brought into the district from without; with one exception, all the inmates of the infected houses had resided in the neighbourhood for a long period. The exception was that of a soldier who came home from Pembroke Dock, on sick leave, about the end of October. He was supposed to have suffered from pneumonia, with great debility. A certain amount of suspicion attaches to this case, as subsequently two other inmates of the house in which he resided (13, North William Street) were taken ill, but the nature of their illness did not transpire. I found, on enquiry, that no cases of typhus had been heard of in the neighbourhood of Pembroke Dock. On December 23rd, however, in the same house notification was received of a case which turned out to be one of typhus fever. But by whatever means the infection was brought to Roland Street, when once there it soon found a soil favourable for its development. The inhabitants are of the poorest and most destitute class, living under conditions suitable to the spread of such a disease as typhus fever; dirt, foul air, a certain degree of overcrowding, and extreme poverty, were the characteristics of this particular district. Structurally, there is nothing much to complain of in these houses. The road in front is thirty feet wide. Each house possesses through ventilation, and contains five rooms—two on the ground floor and three bedrooms; at the back of each house there is a small yard. The rooms on the ground floor contain each about 900 cubic feet of space, and the bedrooms from 500 to 1,000 cubic feet each. The number of inhabitants in each house varied from two to ten persons; generally it was six or seven. No. 16, Roland Street, is a double house, consisting of eight rooms, with a total cubic capacity of nearly 7,000 cubic feet. At the time of the onset of the disease it contained eighteen persons belonging to three separate families. Had the inmates of these houses been at all evenly distributed throughout the rooms, probably very little overcrowding would have taken place, but from want of furniture and fuel, or for other reasons best known to themselves, the occupants of each house—or, at any rate, the members of one family—congregated in a single room during the night, thus rendering the air of it unbearably foul. In this outbreak it appears to me that the spread of the disease was entirely due to the bad conditions of the sufferers themselves, and not to any faulty arrangements construction of their dwellings. On looking at the list of cases in the table seen that the disease was practically confined to a small area, two or three :

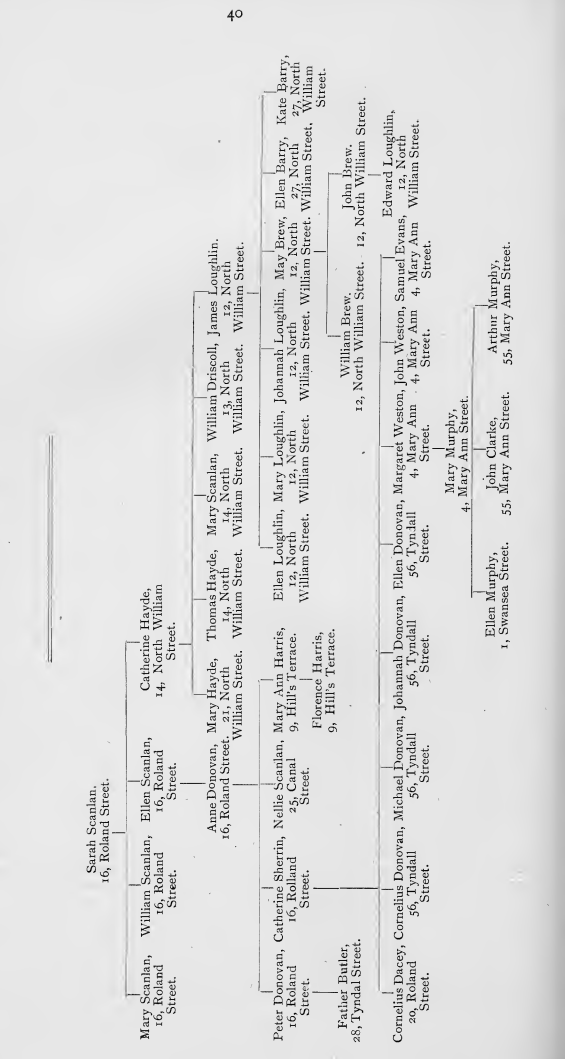
streets, and that when on one or two occasions it was conveyed to houses beyond this district, it did not in any instance extend in the neighbourhood to which it was brought. It was noticeable also that the majority of persons affected were related or closely connected, and that they were nearly all of the poorest class. Two persons whose duty brought them into close contact with the patients, contracted typhus, namely, a Roman Catholic priest and a hospital nurse, the disease proving fatal in the case of the nurse. It is of interest to note the effect of early removal to the hospital on the spread of disease. In seven instances in which the patients were removed in the early stage of the disease single cases only occurred, whereas when from one cause or another patients were allowed to remain any time in the house the disease rapidly spread amongst the inmates. In the first house attacked, for instance, in which the nature of the disease was not ascertained until about the tenth or twelfth day of the illness, no less than seven cases occurred, and again in No. 12, North William Street, where the mother refused to allow her child to be removed, eight persons were attacked. The chief means which were adopted for stamping out the outbreak were the isolation of the cases in the authority's hospital. In addition to this, the inmates of the infected houses were removed from their abodes to a temporary shelter, provided under the powers given by section 15 of the Infectious Disease Prevention Act, 1890. By this means only could a thorough cleansing and disinfection of the infected premises be effected. Directly a case occurred the patient was, if possible, removed to hospital, and the remainder of the occupants of the infected dwellings were sent to this shelter (at No. 56, Tyndall Street). The advantage of this procedure was shown also by the fact that some of those who had been exposed to the infection were attacked during the period of quarantine. These of course were sent to the hospital without delay. The Guardians of the Cardiff Union most readily responded to the suggestion of the Health Committee by providing necessary relief to the most necessitous persons in the district.

TABLE XX.

Showing the date of attack, name, age, etc., of each case of Typhus Fever.

Date of Attack.	Name.	Age.	Sex.	Address.	Recovered.	If died, date of death.	Remarks.
1892							
Dec. 7	S.S.	47	F	16, Roland Street	....	Dec. 23	Treated at home
" 15	M.S.	14	F	" "	....	—	Removed to Hospital
" 15	W.S.	38	M	" "	....	Dec. 24	" "
" 15	E.S.	6	F	" "	....	—	" "
" 15-16	C.H.	17	F	14, North William Street	....	—	" "
" 22	A.D.	13	F	16, Roland Street	....	—	" "
" 23	W.D.	18	M	13, North William Street	....	—	" "
" 23	M.H.	30	F	21, " "	....	—	" "
" 29	F.L.	12	M	12, " "	....	—	Treated at home
1893							
Jan. 4	N.S.	33	F	25, Canal Street	....	—	Removed to Hospital
" 6	C.S.	26	F	16, Roland Street	....	Jan. 25	" "
" 6	P.D.	34	M	" "	....	Jan. 13	" "
" 6	E.C.	18	F	5, Garth Street	....	—	Treated at home, doubtful case
" 8	M.H.	39	F	9, Hill's Terrace	....	—	" " "
" 9	M.S.	22	F	14, North William Street	....	—	Removed to Hospital
" 9	T. H.	13	M	" "	....	—	" " doubtful case
" 9	R. B.	40	M	28, Tyndall Street	....	—	Treated at home
" 10	K. B.	7	F	27, North William Street	....	—	Removed to Hospital
" 10	N. B.	5	F	" "	....	—	" "
" 19	J. L.	48	F	12, " "	....	Feb. 2	" "
" 23	M. L.	32	F	" "	....	—	" "
" 23	E. L.	15	F	" "	....	—	" "
" 23	M. B.	11	F	" "	....	—	" "
" 28	C. D.	13	M	56, Tyndall Street	....	—	" "
" 28	M. D.	11	M	" "	....	—	" "
" 28	M. W.	36	F	4, Mary Ann Street	....	—	" "
" 28	J. W.	7	M	" "	....	—	" "
" 30	S. E.	36	M	" "	....	Feb. 6	" "
Feb. 1	J. D.	15	M	56, Tyndall Street	....	—	" "
" 2	M. M.	46	F	4, Mary Ann Street	....	Feb. 14	" "
" 3	E. D.	40	F	56, Tyndall Street	....	—	" "
" 3	C. D.	12	M	20, Roland Street	....	—	" "
" 9	F. H.	16	F	9, Hill's Terrace	....	—	Treated at Home
" 11	M. J. H.	12	F	86, Cairns Street	....	—	" "
" 12	M. N.	6	F	" "	....	—	" "
" 12	M.A.N.	31	F	" "	....	—	" "
" 19	W. B.	7	M	12, North William Street	....	—	" "
" 19	J. B.	2	M	" "	....	—	" "
" 21	N. M.	16	F	1, Swansea Street	....	—	Removed to Hospital
" 21	J. B.	49	M	Fever Hospital	....	Feb. 26	Male Nurse at Hospital
" 28	E. L.	20	M	12, North William Street	....	—	Treated at Hospital
March 6	A. M.	10	M	55, Mary Ann Street	....	—	Treated at home
" 8	A. H.	38	M	86, Cairns Street	....	Mar. 15	" "
" 8	M. H.	2	F	" "	....	—	" "
" 11	W. H.	8	M	" "	....	—	" "
" 18	W. N.	34	M	" "	....	Mar. 28	" "
April 4	W. N.	13	M	" "	....	—	" "

Chart showing the probable Origin in the case of 38 Attacks of Typhus Fever.



DIPHTHERIA.—Ninety-three deaths were registered as due to Diphtheria, giving a mortality of 0·65 per 1,000, as compared with 0·26 the death-rate in 1892, and with 0·20 the average annual death-rate from this disease for the ten years 1883—1892. The total number of cases reported to the Sanitary Authority amounted to 462, as compared with 155 in the year 1892. The proportion of deaths to cases notified being 20 per cent. As usual the mortality fell chiefly upon young children, 55 per cent. of the total deaths from this disease being amongst children under 5 years of age.

The following table gives the distribution of cases and mortality in the various Wards in each quarter of the year:—

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	2	2	4	2	4	1	3	....
South „	1	....	....	....	1	1	2	1
Cathays „	32	11	22	4	17	4	7	1
Park „	45	9	52	11	21	4	15	1
Adamsdown „	22	4	19	2	15	3	7	1
Riverside „	2	....	7	4	2	....	3	1
Canton „	1	....	2	1	1	1	5	2
Roath „	17	3	18	1	11	2	10	3
Grangetown „ ....	....	....	1	....	5	1	2	....
Splott „	22	8	10	2	14	....	37	1
Union Workhouse ....	....	....	....	....	....	....	....	....
Infirmary „	1	1	....	....	....	....	....	....
Hamadryad Hosp. Ship	....	....	....	....	....	....	....	....
Total	145	38	135	27	91	17	91	11

From the above table it will be seen that the number of cases reported gradually declined from 145 in the First Quarter, to 91 in the Fourth Quarter of the year. The disease was distributed more or less all over the town. The Cathays, Park, Adamsdown, Roath, and Splott Wards suffering chiefly. I was unable to attribute the prevalence of this disease to any insanitary conditions in the affected districts. My inquiries were directed to such points as the sewerage, house drainage, dampness of soil, methods of ventilation of the houses, the water and milk supply, but I entirely failed to connect the spread of Diphtheria with any of these matters. I was lead, therefore, to look for the injurious influences in other directions.

A reference to the table of mortality in the Appendix to this Report will show that the diphtheria deaths were almost entirely amongst children under fifteen years of age, and an analysis of the cases reported shows that a large majority of those attacked were between the ages of three and twelve, that is at school ages. Taking the whole number of cases notified, viz. 462, I found that 44 per cent. were attending school immediately before the illness, and that in many cases the origin of the disease in the remainder was distinctly traceable to infection brought from school. This peculiar incidence of diphtheria amongst school children has been frequently noticed by those who have made the etiology of this disease a special study, and it has been suggested that the increase of diphtheria in London and in most of the large towns which has taken place of late years, is due, in great measure, to the progress and perfection of compulsory education, acting by causing the aggregation of the most susceptible of the community.

I have every reason to believe that in Cardiff, school attendance acts as the most potent factor in spreading the disease by bringing together large numbers of children under conditions favourable to the spread of the infection. Owing to the rapid increase of the population it has been difficult for the School Board to keep pace, as regards accommodation with the requirements of the district, and a certain amount of overcrowding, even beyond that allowed by the Education Department, has been inevitable. Most of the Public Elementary Schools in the district are in an excellent sanitary condition, they have, of course, been designed and built by the most competent architects and builders, and there is not the slightest suspicion of any structural defect. As usual every endeavour was made to prevent the attendance at school of children from infected houses. The Schoolmasters and Mistresses received notices in all cases when their pupils were attacked, and notices were sent to the parents warning them against sending their children to school until after the recovery of the patient and the disinfection of the premises. Unfortunately, many mild and unrecognisable cases occurred, of which the Sanitary Authority had no notice, these cases were, no doubt, frequently the means of introducing the infection into the schools. The Sanitary Authority has power under the Education Code to compel the closure of any Public Elementary School for a specified time, or to require the exclusion of any scholars in order to prevent the spread of the disease. I advised the adoption of the latter course, and children from infected houses were rigidly excluded from school attendance. Under the circumstances, it did not seem likely that the complete closure would be attended with any advantage, or that the results would be likely to justify the serious interference with the educational work of the district which would be entailed by the compulsory closure of the public schools in the town.

DIARRHOEA.—The deaths from Diarrhoea numbered 131, as compared with 117 in 1892. The number of deaths was equal to an annual rate of 1·17 per 1,000 persons, as compared with 0·85 the death-rate in 1892, and with 0·99 the mean death-rate from this disease during the ten years 1883—1892.

The Deaths were distributed as follows:—

	1st. Quarter.	2nd. Quarter.	3rd. Quarter.	4th. Quarter.	Year.
Under one year	1	23	78	8	110
One and under five years .....	.....	.....	7	.....	7
Five and under fifteen years .....	.....	.....	1	.....	1
Fifteen and under twenty-five years.....	.....	.....	.....	2	2
Twenty-five and under sixty years	1	1	2	3	7
Sixty years and upwards	2	1	1	.....	4
TOTAL	4	25	89	13	131

From the above it will be seen that the majority of deaths were amongst infants under one year of age, and that 60·3 per cent. of the entire number of deaths occurred in the third quarter of the year. The number of deaths from Diarrhoea during July, August and September was 89, giving an annual death-rate of 2·50 per 1,000, as compared with 1·97 the average rate in the five preceding third quarters of the year. Throughout the country the mortality from summer diarrhoea was above the average. In the 33 large towns the deaths from diarrhoea during the third quarter were equal to an annual death-rate of 3·48 per 1,000. The relation between the temperature of the air and the prevalence of fatal diarrhoea is shown in the accompanying Chart.

THE CARDIFF SANATORIUM.—The temporary buildings in connection with the New Hospital for Infectious Diseases have proved of the utmost service as a means of isolating cases of scarlet fever. The pavilion which properly containing space for only 24, has since it was opened in July, 1892, accommodated no less than 281 patients. Of this number 184 were admitted during the year to which this report refers. There has, therefore, been no reluctance on the part of the public to take advantage of this means of isolation. In this respect our

experience is similar to that of other towns where suitable hospital accommodation is provided, and where it is found that parents, for the most part, appreciate the advantage of this effectual means of separating the sick from the healthy. The popularity of the sanatorium is doubtless due to the pleasant and healthy surroundings, to its accessibility, to the cheerful and attractive appearance of the wards, and to the efficient nursing arrangements which exist. The number of cases of scarlet fever admitted amounted to 22.4 per cent. of the total number notified to the Sanitary Authority during the year.

From the subjoined tables it will be seen that the proportion of deaths in the Sanatorium amounted to 3.8 per cent. of the cases admitted, against 5 per cent., the proportion of deaths to cases treated at home. It may, of course, be anticipated that when the new hospital is in use, a much larger proportion to infectious cases will be isolated. At present, with the exception of the Small Pox Wards in connection with the Seaman's Hospital Ship, only one kind of infectious disease can be thus dealt with, and the accommodation for this one disease is inadequate for the requirements of the town. In fact, during the year, on more than one occasion, supplemental cots were placed in the wards for cases in which removal from home was urgently needed, and not infrequently, from want of space, it was necessary to refuse admission. It is therefore highly satisfactory to find that such rapid progress has been made with the new buildings, and that there is every reason to expect that they will be ready for occupation some time during the next year.

SANITARY CONDITION OF THE DISTRICT, AND SUMMARY OF WORK

PERFORMED BY THE

OFFICERS OF THE HEALTH DEPARTMENT.

The systematic house to house inspection of the district, commenced in January, 1891, was continued throughout the year. 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 Engineer and 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.	Scully Sinks connected direct with Drains.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Canal Street	28	...	1	1	1	...	...	28	3
Union Buildings	13	...	...	...	1	...	...	8	10
Love Lane	35	...	1	2	...	...	...	35	3
Stanley street	26	...	1	...	...	...	1	26	1
Mary Ann street	50	...	...	1	1	...	...	49	13
Canal Bank	9	...	...	...	...	...	...	...	...
Total	161	...	3	4	3	...	1	146	30

SOUTH WARD.

Crichton street	39	...	...	2	19	...	...	38	10
Crichton place	14	...	2	...	1	2	...	14	6
East Wharf	3	...	...	...	1	...	...	3	1
Wharf street	2	...	...	...	1	...	...	2	1
Canal parade	22	...	...	...	4	...	...	22	4
North Loudoun place	5	...	...	...	2	...	1	5	6
South Loudoun place	5	...	...	...	2	3	...	5	2
Bute street	230	22	2	43	62	13	11	95	72
Bute place	4	1	...	1	3	2	...	...	4
Bute crescent	7	1	...	4	...	7	...	...	3
Bute lane	4	...	...	...	...	...	...	3	2
Loudoun square	62	3	1	8	24	11	1	49	30
Hannah street	11	1	...	3	7	...	...	11	7
Henry street	17	...	...	5	14	...	...	16	6
Alice street	36	...	2	7	27	...	...	36	19
Patrick street	33	5	1	7	16	1	...	22	14
George street	53	...	...	7	35	2	...	49	23
Mount Stuart square	60	7	...	13	14	7	1	12	18
James street	62	9	1	19	22	2	2	19	10
South William street	49	...	...	8	28	...	...	46	10
West Bute street	33	1	2	6	4	4	...	11	5
Louisa street	49	2	1	8	23	...	...	49	9
Margaret Street	26	4	2	2	14	...	...	26	...
Adelaide street	44	4	...	5	17	...	...	42	11
Evelyn street	36	3	...	5	12	...	...	36	13
Total	906	63	14	153	352	54	16	611	286

CATHAYS WARD.

Name of Street.	No. of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Symbons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Sullery Sinks connected direct with Drains.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Cranbrook street	41	3	2	...	19	...	...	41	8
Senghenydd place	5	...	...	3	1	3	...	5	1
Llantwit street	23	...	...	3	6	1	...	14	2
Cathays terrace	182	7	3	12	42	...	...	169	72
Catherine street	25	2	1	1	8	...	...	25	9
Fanny street	12	...	...	...	1	...	...	12	2
Letty street	39	4	1	2	17	...	...	29	7
Total	327	16	7	21	94	4	...	295	101

PARK WARD.

Milton street	67	2	2	8	9	..	...	67	28
Clive place	9	1	1	...	...	...	...	9	8
Lily street	29	4	...	4	21	...	...	27	21
Rose street	47	1	...	8	25	...	...	47	18
Plasnewydd road	42	15	...	5	29	1	...	42	23
Croft street	50	8	...	6	25	2	...	50	10
Bedford street	108	10	...	6	56	...	...	107	30
Russell street	50	7	1	6	27	...	...	50	41
Total	402	48	4	43	192	3	...	399	179

ADAMSDOWN WARD.

Lead street	26	...	...	1	18	2	...	26	8
South Luton place	28	...	...	3	11	...	...	28	7
Iron street	27	...	...	...	17	1	...	27	8
Tin street	22	...	...	1	16	...	...	22	20
Zinc street	36	1	...	...	28	...	...	35	9
Little Clifton street	17	...	...	2	13	1	...	17	9
Platinum street	18	3	...	3	10	...	...	18	7
Sun street	7	...	...	...	4	...	...	7	4
Clifton street	18	...	...	3	13	...	...	18	8
Moon street	24	2	1	3	18	...	...	24	3
Cycle street	29	1	...	3	12	...	...	29	11
Constellation street	60	2	...	8	31	1	...	58	22
Galston street	31	...	...	3	12	...	...	31	1
Galston place	11	...	...	...	...	...	...	11	..
Prince Leopold street	31	1	...	5	16	...	...	31	3
Clyde street	23	...	...	2	9	...	...	23	1
North William street	35	1	1	1	...	...	...	35	4
System street	74	5	1	3	37	...	...	74	12
Longcross street	39	1	1	3	17	4	2	27	1
Planet street	47	8	...	3	14	...	...	47	9
Comet street	45	1	1	...	22	...	...	45	18
Ellen street	35	...	...	1	2	...	...	35	4
Rosemary street	7	...	...	...	...	...	...	7	3
Thomas Court	3	...	...	...	...	...	...	3	...
Roland street	31	...	...	...	1	...	...	31	4
Pendoylan street	30	...	...	3	2	...	...	30	3
Tyndall street	52	...	1	5	1	...	...	52	14
Eclipse street	46	2	...	7	21	...	...	46	9
Meteor street	42	3	...	6	23	2	...	42	3
Seymour street	21	...	...	1	...	...	...	21	4
Total	950	32	6	70	369	11	2	935	212

RIVERSIDE 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 Gases.	Sullery Sinks connected direct with Drains.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Halket street	52	3	2	7	19	...	...	52	25

CANTON WARD.

Clive road	73	...	...	3	6	1	...	59	9
Egerton street	42	...	...	1	22	...	...	42	5
Radnor road	50	...	1	...	...	...	...	21	9
Thornhill street	16	...	...	...	...	...	...	16	6
Gray street	56	1	...	1	29	...	...	56	26
Cardigan street	15	...	...	2	...	...	...	15	6
Pen-y-peel Road	50	...	...	4	11	...	...	50	3
Anglesea street	15	...	...	2	...	...	...	15	6
Harvey street	35	...	...	...	15	...	...	35	2
Glamorgan street	78	...	...	2	9	1	...	78	9
Carmarthen street	33	...	...	...	...	...	...	33	...
Evans' terrace	10	...	...	2	4	2	...	10	5
Spacey terrace	10	...	...	7	1	...	...	10	10
Springfield place	52	3	8	2	...	...	...	52	19
Lewis court	9	...	...	...	3	...	...	9	5
Glynne street	56	...	...	1	26	...	...	56	7
Market road	22	...	...	2	2	...	...	22	1
Cowbridge road	111	7	3	7	37	6	1	72	41
Total	733	11	12	36	165	10	1	651	169

ROATH WARD.

Norah street	75	...	...	1	26	...	...	75	10
Helen street	68	1	...	8	23	...	...	68	17
Newport road	66	1	...	...	5	...	...	36	6
Total	209	2	...	9	54	...	...	179	33

GRANGETOWN WARD.

Corporation road	38	...	...	...	1	...	...	32	4
Hewell street	74	...	...	1	30	...	...	74	11
Cambridge street	11	...	1	...	1	...	...	11	1
Total	123	...	1	1	32	...	...	117	16

SPLOTT WARD.

Habershon street	116	...	2	2	...	...	...	16	4
Railway street	31	1	1	1	...	...	...	31	23
Fishguard street	15	1	...	1	...	...	...	15	3
Coveney street	47	...	...	3	...	...	...	47	2
Swinton street	8	...	...	...	...	...	...	7	...
Eyre street	34	...	...	2	...	...	...	34	...
Total	251	2	3	9	...	...	...	150	32

INSPECTION OF COMMON LODGING HOUSES.—These houses are regulated under special powers contained in certain sections of the Public Health Act, 1875. Section 80 empowers the Sanitary Authority to make Bye-Laws for regulating the number of lodgers and separation of the sexes, for promoting cleanliness and ventilation, for giving notice and taking precautions in case of infectious diseases, and for the general well-ordering of such houses. In 1891, your Authority adopted Bye-Laws which corresponded very closely with those known as the "Local Government Board Model Bye-Laws." Since that date special attention has been paid to the Inspection of Common Lodging Houses. An Inspector, S. Evans, has been appointed, whose whole time is devoted to the supervision of these houses and to the enforcement of the Bye-Laws. At the time of registration, he supplies each Lodging House Keeper with a copy of Bye-Laws, together with a statement of the provisions of Sections 75-89 of the Public Health Act, which contain some of the most important regulations in relation to Common Lodging Houses. Altogether 112 houses have been registered, the keepers having previously placed their premises in a good sanitary condition. During the year many structural alterations have been effected, and the cleanliness of the houses have been much improved. The inmates have been remarkably free from infectious disease, no cases of illness of that nature occurred in any of the Lodging Houses during the year. Overcrowding, which was formerly exceedingly common, was not found in any house to any illegal extent. The following table is a summary of the result of the inspection of these houses during the year.

COMMON LODGING HOUSES.

Total Number on Register ....	....	....	....	68
Registered Rooms ....	....	....	....	294
Number of Persons Certified to Accommodate ....	....	....	....	1,256
Number of Inspections made				956
Structural Alterations Effected	....	....	....	....
Houses Repaired	....	....	....	49
Rooms Ventilated	....	....	....	5
Additional Water Closets Constructed	....	....	....	6
Water Closets Repaired	....	....	....	20
Water laid on to Water Closets	....	....	....	18
Drains Trapped and Repaired	....	....	....	40
Limewashing and Cleansing				98

INSPECTION OF FACTORIES AND WORKSHOPS.—During the year special attention has been paid to the sanitary condition of the Workshops in the Borough. The Factory and Workshops' Act of 1891, has transferred the supervision of Workshops from H.M. Inspector of Factories to the Sanitary Authority. This Act in conjunction with the Acts of 1878 and 1883, imposes upon the Authority the following duties and powers :—

AS TO FACTORIES—

All New Factories, in which more than 40 persons are employed, are to be constructed so as to provide means of escape in case of fire from all stories above the ground floor.

All Factories existing at the date of the Act coming into operation are to be provided with similar means of escape in case of fire.

AS TO WORKSHOPS—

Workshops are to be kept in a cleanly state, and ventilated so as to render harmless any gases, dust, or other impurities arising from the work carried on therein. Workshops are not to be overcrowded, and are to be limewashed and cleansed, and kept free from effluvia arising from drains, closets, &c.

Due notice is to be given to the Factory Inspector of any child, young person, or woman employed in a workshop.

AS TO RETAIL BAKEHOUSES—

Bakehouses must be properly ventilated and not overcrowded, and be kept in a cleanly state, free from effluvia arising from drains, no closet or ashpit must be within or communicate with any bakehouse. No drain must open within a bakehouse. The water supply to a bakehouse must be entirely separate from any cistern supplying water to a

water closet. The walls and ceilings must be periodically painted and varnished or limewashed.

Except under certain conditions, no part of the bakehouse premises must be used as a sleeping place.

The Medical Officer of Health, the Chief Inspector of Nuisances, and four Assistant Inspectors have been appointed to carry out the provisions of the Factory and Workshops' Acts, and the Shop Hours Act of 1892. A Register of Workshops is kept, and the results of the inspections are recorded in the subjoined form. In connection with the arrangements made for the inspection of these places, I have to acknowledge my indebtedness to Mr. Augustus Lewis, H.M. Inspector of Factories for South Wales, from whom I have, from time to time, received much valuable advice and assistance.

FORM OF REGISTER OF WORKSHOPS.

Name and Address of Occupier.	Description and position of Workshop	Method of Ventilation.	Sanitary Accommodation.	MEASUREMENTS.				No. of Persons Workshop will Accommodate during daytime, 250 cubic ft. per head.	No. of Persons Workshop will Accommodate working overtime 400 cubic ft. per head.	Date of Inspection.	REMARKS. (Number of persons working when inspected, whether Abstract of Factories Act was posted up.)
				Length.	Width.	Height.	Cubic feet.				

The following is a summary of the work done during the year.

INSPECTION OF WORKSHOPS.

Nature of Workshop.	Number Inspected.
Bakehouses	364
Dressmakers and Milliners....	148
Tailors	251
Boot and Shoe Makers	16
Coach Builders	3
Oilskin Makers	5
Smiths	2
Upholsterers	1
Box Makers	1
Hose Makers	1
Butchers Clothiers	1
Plumbers	1
Joiners	1
Printers	1
Organ Manufacturers	1
Shipwrights	4
Timber Yards....	2
Tinmen	1
Cabinet Makers	2
Oatmeal Packers	1
Tobacco Pipe Makers	1
Sugar Boilers	1
Mat Makers	1
Saddlers	1
Brush Makers	2
Sewing Machine Makers	1
Electricians	1
Foundries	1

WORKSHOPS.

Nature of Nuisance Abated.	Bake-houses.	Dress Makers and Milliners	Tailors.	Boot and Shoe Makers.	Hose Makers.	Printers.	Tobacco Pipe Makers.	Smiths.	Foundries.	Timber Yards.	Shipwrights.	Total.
Water closets cleansed and repaired	2	5	7	2	1	...	...	1	...	...	...	18
Do. supplied with water	...	1	4	...	...	1	1	...	...	...	...	7
Drains trapped and repaired	9	4	2	...	...	...	...	...	...	...	...	15
Ventilation provided	...	3	6	1	...	...	...	...	...	...	...	10
Linewashed	21	8	8	...	...	...	...	...	...	...	...	37
Repaired	10	3	4	1	...	...	...	...	...	...	...	18
Overcrowded	...	14	8	3	...	...	...	...	...	...	...	25
Closed	...	...	2	...	...	...	...	...	...	...	...	2
W.C. accommodation provided	...	1	1	...	...	1	1	...	1	2	3	10
TOTAL	42	39	42	7	1	2	2	1	1	2	3	142

During the year, I presented the following Report to the Health Committee:—

FACTORY AND WORKSHOPS ACTS, 1878-1891.

I beg to report on the circular of the Local Government Board, dated 19th November, 1892, relating to the Factory and Workshops Act, 1878-1891. In this circular the Board calls the attention of the Sanitary Authority to an order which has recently been issued by the Secretary of State requiring lists to be kept of out-workers in the following businesses, viz. :—

The manufacture of articles of wearing apparel.
Cabinet and furniture making and upholstery work.
The manufacture of electro-plate.
The manufacture of files.

The order requires the occupier of every factory and workshop in any of the businesses above mentioned to keep in the prescribed form a list shewing the names of all persons employed by him in the business outside the factory or workshop and the places where they are employed. The object of this provision is to ensure the proper sanitary supervision of the workshops and houses in which these outside workers are employed. With this view the Local Government Board suggest that Sanitary Authorities should at once take measures to secure that the order is made known to those whom it affects, and that the Medical Officer of Health and Inspector of Nuisances should be instructed from time to time to examine the lists, so that they may become aware of the places in which out-workers in the trades in question are employed, and may be able to take prompt measures for the suppression of any sanitary evil existing in these places. Should your committee decide to carry out the suggestion of the Local Government Board, I would advise that the necessary steps be at once taken to make the order known by advertisements in the local newspapers, and by the circulation of handbills and placards. The work of inspection of these workshops and houses, and the removal of sanitary defects will of necessity fall upon the Department of the Medical Officer of Health, and will most conveniently be performed in connection with the work recently thrown on that department by the Factory and Workshops Acts, and by the Shop Hours Act, 1892.

I would here desire to call your attention to the 8th section of the latter Act, in which it is provided that the Council of any county or borough may appoint such Inspectors as they may think necessary for the execution of this Act, and certain sections of the Factory and Workshops Act, 1878, referring to the power of entry and inspection, and taking legal proceedings apply in the case of such Inspectors. I would therefore suggest that your Committee should, by resolution, authorise your Chief Inspector of Nuisances and his assistants to carry out the provisions of these Acts under the direction of the Medical Officer of Health. I may add that I have made careful inquiry into the working of these Acts in other towns, and I find that in some instances the work is undertaken by Inspectors who are quite independent of the Health Department. The number of Inspectors connected with this Department being in many cases far too small to enable them to perform the additional duties.

As in the Shop Hours Act the term "shop" includes retail and wholesale Shops, Markets, Stalls, and Warehouses, it will be readily understood that the work of inspecting these places is one of considerable magnitude. In addition to this, the new order of the Secretary of State already alluded to requires the frequent inspection of premises occupied by the out-workers in certain specified businesses. Although in some cases, as before stated, this inspection has been thrown on the police or on independent inspectors, I submit that as the proper administration of these Acts is a matter closely connected with the Public Health, it is advisable that it should be undertaken by your Committee. The recent additions which have been made to the staff of Inspectors will, I think, subject to a slight alteration in the distribution of their duties, enable this work to be satisfactorily carried out.

FOOD SUPPLY AND SLAUGHTER HOUSES.—The Public Abattoirs have been regularly inspected. 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	....	....	1,154	...	8,552
Calves	....	....	604	....	4,050
Sheep	....	....	1,201	....	48,594
Pigs	....	....	2,559	....	16,519
Total			5,518		77,715

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. Altogether, 6,214 lbs. of food were seized and condemned, and subsequently destroyed by order of the Magistrates.

“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 obtained.	Number of Samples.	Number of Genuine Samples.	Number of Samples Adulterated.	Fines.
Milk	385	374	11	10 convictions—Fines £5 £3, £2, £1, & 10s. respect.
Ice-cream	12	12	....
Sugar	12	12	....
Bread	18	18	....
Butter	54	53	1	1 conviction—Fine £3.
Coffee	57	57	....
Lard	6	5	1	1 conviction—Fine £3.
Pepper	15	15	....
Condensed Milk	9	7	2	
Flour	18	18	....
Tea	13	13	....
Total	599	584	15	

MAGISTERIAL PROCEEDINGS.

	No. of Cases.	Fines.		
		£	s.	d.
Exposing persons whilst suffering from an infectious disease	2	8	0	0
Refusing to allow disinfection of infected bedding, &c.	1	5	0	0
Non-compliance with notices	1	3	0	0
Proceedings under Sale of Food and Drugs Act	15	24	10	0

In conclusion, I have the pleasure of reporting that your Inspectors of Nuisances have carried out their work in a satisfactory manner, and that they 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 the Chief Inspector of Nuisances, Mr. D. VAUGHAN, for the Year 1893.

Nuisances inspected	....	....	....	3,138
Notices issued	....	....	....	3,039
Nuisances abated without legal proceedings	....	....	....	3,034
" " with " "	....	....	....	5
Animals kept so as to be a nuisance	....	....	....	11
Injurious and foul accumulations	....	....	....	766
Nuisances from smoke	....	....	....	—
Suspected samples of water obtained for analysis	....	....	....	2
Cesspools cleansed	....	....	....	5
" abolished	....	....	....	9
Defective drainage	....	....	....	413
Drains unstopped and cleansed	....	....	....	347
" trapped and repaired	....	....	....	987
" tested	....	....	....	204
Foul and offensive closets cleansed	....	....	....	258
Defective apparatus to water closets repaired	....	....	....	104
Water laid on to dwelling houses	....	....	....	2
" " water closets	....	....	....	54
" " urinals	....	....	....	9
Premises connected to main drain	....	....	....	8
Dilapidated and dirty houses cleansed and repaired	....	....	....	2
Overcrowding notices	....	....	....	16
Additional w.c. accommodation provided	....	....	....	4
DISINFECTION :				
Houses disinfected	....	....	....	946
Articles of bedding and clothing disinfected	....	....	....	7,326
" " " destroyed	....	....	....	165
OFFENSIVE TRADES :				
Premises visited	....	....	....	78
SHOP HOURS ACT :				
Number of inspections	....	....	....	253
SLAUGHTER HOUSES AND MARKETS :				
Visits paid to slaughter houses	....	....	....	228
" " markets	....	....	....	316
ARTICLES DESTROYED AS UNFIT FOR FOOD :				
Beef	....	....	....	684 lbs.
Fish	....	....	....	4,536 "
Pork	....	....	....	490 "
Plucks	....	....	....	308 "
Mutton	....	....	....	196 "
BUTCHER'S AND PROVISION SHOPS :				
Inspected	....	....	....	1,041
COWSHEDS AND MILKSHOPS :				
Number of cowkeepers on register	....	....	....	82
" milksellers	....	....	....	403
Total				485
Number of cowkeepers registered during the year	....	....	....	15
" milksellers	....	....	....	123
Total				138
Number of cowsheds inspected	....	....	....	235
" milkshops	....	....	....	1,083
" revisits	....	....	....	165
Total				1,483
Notices served written	....	....	....	59
" " verbal	....	....	....	60
Total				119

CANAL BOATS:—

Number of boats on register	....	....	....	47
” of inspections	....	....	....	113
” found in good condition	....	....	....	98
” found with defective ventilation	....	....	....	7
” found with roof leaking	....	....	....	3
” found with wrong register number	....	....	....	4
” found without water vessel	....	....	....	3
” of notices served	....	....	....	4
” of boats re-painted	....	....	....	24
” of notices of change of master	....	....	....	9
” of certificates cancelled	....	....	....	4
” of new boats registered	....	....	....	1
” re-registered through change of owner	....	....	....	4

COWSHEDS, MILKSHOPS AND DAIRIES.

PARTICULARS OF INSPECTION.		Cow Sheds.	Milk Shops.
Total number inspected	....	235	1083
Found in good condition	....	183	1016
Impure water supply	....	....	....
Water closets, sinks, or drains defective	....	4	18
” ” communicating with premises	....	....	....
Receptacles for manure erected	....	2	1
Cesspools	....	....	....
Yards badly paved, and accumulations of rubbish	....	33	48
Dairies or milkshops used for purposes incompatible with proper preservation of milk	....	....	....
Dirty milk vessels	....	....	....
Infectious disease amongst persons employed	....	....	4
Swine kept on premises	....	....	....
Cowsheds with defective lighting, cleansing, and ventilation or air space	....	13	....
” with cattle disease	....	....	....

Meteorological Observations for the Year 1893.

MONTH.	Attached Thermometer.	Barometer. Inches.	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.	Relative Humidity.	Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which rain fell.	All Causes.	Chief Zymotic Diseases.
								1 foot.	4 feet.									
January	48	30.114	52.08	18.03	41.02	32.05	36.08	36.8	42.0	36.9	35.7	89	2.38	0.43	16th	13	20.7	2.02
February	52	29.774	55.0	28.02	46.9	37.05	42.02	42.4	48.4	42.0	41.02	94	6.04	0.95	25th	22	17.2	1.93
March	54	29.712	64.8	30.90	55.6	38.7	47.1	44.5	44.4	48.2	44.9	78	0.31	0.14	2nd	6	23.7	4.21
April	58	30.150	79.1	33.0	62.8	43.2	53.0	50.0	47.2	52.3	48.0	73	0.29	0.16	1st	5	17.9	3.62
May	61	30.050	76.0	57.7	66.0	48.6	57.3	56.1	51.6	58.3	53.4	72	2.80	0.72	19th	12	20.6	4.46
June	66	30.002	86.7	44.9	71.9	52.9	62.4	61.4	55.5	61.8	56.8	71	0.67	0.23	22nd	9	19.3	3.54
July	67	29.924	84.00	49.5	71.2	56.0	63.6	63.2	58.1	64.3	58.6	69	3.88	0.80	10th	17	19.9	5.73
August	68	30.037	85.3	47.2	73.3	56.4	64.8	63.9	59.6	65.7	60.6	73	3.05	0.52	20th	14	20.7	3.45
September	63	29.880	73.0	38.5	64.9	49.4	57.1	57.7	57.9	58.4	54.6	77	2.03	0.89	28th	15	16.4	1.77
October	60	29.910	65.5	30.8	57.4	44.7	51.0	52.6	54.5	51.5	49.4	86	5.98	1.29	4th	21	15.1	1.60
November	55	29.961	56.0	28.0	48.1	38.4	43.2	45.6	50.5	43.7	41.4	84	2.30	0.58	1st	13	23.0	1.18
December	54	29.941	55.9	22.9	47.6	36.6	42.1	43.3	47.2	42.4	40.6	86	4.18	0.94	12th	19	20.3	1.68

70.9 53.6
15.9 44.6
44.6

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

MONTH.	1888	1889	1890	1891	1892	MEAN OF 5 YEARS.	1893
January	38°4	38°9	41°8	35°5	36°2	38°2	36°8 -
February	36°7	39°1	38°1	41°6	38°6	38°8	42°2 +
March	39°8	41°8	45°1	40°8	35°9	40°6	47°1 +
April	44°6	43°4	45°1	45°5	43°2	44°3	53°0 +
May	52°4	55°3	54°7	50°9	50°7	52°8	57°3 +
June	56°9	61°6	57°7	60°2	54°5	58°1	62°4 +
July	58°1	60°8	59°7	60°2	64°1	60°5	63°6 +
August	58°9	59°5	59°8	56°4	61°3	59°1	64°8 +
September	55°8	56°7	59°8	57°0	56°0	57°0	57°1 +
October	48°6	52°2	47°5	48°8	42°9	48°0	51°0 +
November	47°5	46°2	45°3	41°7	43°8	44°9	43°2 -
December	42°2	39°9	35°3	40°4	35°8	38°7	42°1 +

The following Table illustrates the daily direction of Winds throughout the year 1893 :—

Direction.	Jan.	Feb.	Mar.	Aprl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1893.	
N.	1	....	....	1	....	1	....	1	2	1	8	
N.E.	11	6	4	13	7	9	6	4	4	6	14	5	89
N.W.	9	2	7	2	5	3	8	2	10	7	5	5	65
N.N.E.	
N.N.W.	
S.	2	1	2	1	1	2	4	1	....	....	5	21	
S.E.	2	2	3	5	3	2	1	1	1	20
S.W.	5	6	4	6	3	3	11	3	8	3	8	60
S.S.E.	
S.S.W.	
E.	1	2	7	10	4	7	1	2	3	1	1	39
W.	3	8	5	1	2	6	7	6	7	8	5	5	63

TABLE SHEWING RAINFALL AT CARDIEF IN EACH MONTH, DURING THE EIGHTEEN YEARS, 1876-1893.

YEAR.	JANUARY.						FEBRUARY.						MARCH.					
	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 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	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	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	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	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	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	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	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	0·60	10	0·12	19th		
1884	6·03	21	0·99	31st	4·40	22	1·35	17th	3·39	16	1·27	3rd	3·39	16	1·27	3rd		
1885	3·71	20	0·58	9th	3·65	22	0·67	26th	1·87	16	0·53	29th	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	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	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	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	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	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	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	1·18	6	0·48	15th		
1893	2·38	19	0·94	12th	6·04	22	0·95	25th	0·31	6	0·14	2nd	0·31	6	0·14	2nd		

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE EIGHTEEN YEARS, 1876-1893.

YEAR.	APRIL.				MAY.				JUNE.			
	Rainfall in Month.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
	Inches.	0.01 or more	0.01 or more		Inches.	0.01 or more	0.01 or more		Inches.	0.01 or more	0.01 or more	
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
1893	0.29	5	0.16	1st	2.80	12	0.72	19th	0.67	9	0.23	22nd

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE EIGHTEEN YEARS, 1876-1893.

YEAR.	JULY.					AUGUST.					SEPTEMBER.					
	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which rain fell.	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	1'91	10	0'41	6th
1877	4'94	18	1'27	14th	5'70	21	1'14	27th	3'25	8	1'39	27th	4'94	18	1'27	14th
1878	2'01	9	0'78	23rd	10'82	24	3'64	15th	3'21	9	1'28	22nd	2'01	9	0'78	23rd
1879	4'00	21	0'81	19th	8'12	22	1'34	27th	4'85	17	0'69	7th	4'00	21	0'81	19th
1880	6'64	23	0'95	17th	0'77	7	0'27	2nd	3'67	15	0'77	17th	6'64	23	0'95	17th
1881	2'62	15	0'77	30th	6'94	20	1'45	22nd	2'09	13	0'48	22nd	2'62	15	0'77	30th
1882	5'77	24	0'84	6th	6'75	16	1'14	22nd	3'94	17	0'79	28th	5'77	24	0'84	6th
1883	3'56	21	0'82	20th	2'09	16	0'73	8th	6'14	19	1'53	23rd	3'56	21	0'82	20th
1884	4'05	20	0'94	23rd	2'21	9	0'84	31st	1'96	15	0'64	21st	4'05	20	0'94	23rd
1885	0'72	6	0'31	18th	2'74	12	1'07	6th	6'51	23	1'76	10th	0'72	6	0'31	18th
1886	4'85	17	0'71	29th	1'68	9	0'44	9th	4'08	14	0'75	4th	4'85	17	0'71	29th
1887	1'51	13	0'85	26th	2'88	11	1'02	16th	4'07	17	1'24	1st	1'51	13	0'85	26th
1888	6'83	25	1'16	7th	3'50	17	0'74	29th	1'21	8	0'52	27th	6'83	25	1'16	7th
1889	3'85	12	1'16	9th	3'90	15	0'65	2nd	2'09	9	1'53	23rd	3'85	12	1'16	9th
1890	3'57	19	0'73	17th	3'95	20	0'95	9th	1'57	11	0'50	17th	3'57	19	0'73	17th
1891	2'21	17	0'36	2nd	7'19	22	1'10	26th	2'43	19	0'5:	3rd	2'21	17	0'36	2nd
1892	3'83	9	1'50	12th	4'64	16	1'62	27th	3'95	14	1'38	29th	3'83	9	1'50	12th
1893	3'88	17	0'80	10th	3'05	14	0'52	20th	2'03	15	0'89	28th	3'88	17	0'80	10th

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE EIGHTEEN YEARS, 1876—1893

YEAR.	OCTOBER.				NOVEMBER.				DECEMBER.				YEARS.
	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.		Rainfall per annum. Inches.
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	0·1	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
1893	5·98	21	1·29	4th	2·30	13	0·58	1st	4·18	19	0·94	12th	33·91

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year 1893.

CAUSES OF DEATH.	DEATHS AT AGES.							TOTAL.	Death Rate per 1000. Population 142,435.
	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.		
(CLASSES.)									
I. Specific Febrile or Zymotic Diseases ...	176	177	66	17	46	13	2	497	3'491
II. Parasitic Diseases ...	2	...	...	...	...	...	...	2	0'014
III. Dietic ...	...	...	...	...	9	2	...	11	0'077
IV. Constitutional ...	78	47	31	76	222	39	1	494	3'470
V. Developmental ...	88	...	...	...	...	64	27	179	1'257
VI. Local ...	331	150	50	43	354	235	13	1,176	8'261
VII. Violence ...	4	19	13	12	45	5	...	98	0'688
VIII. Ill-defined and not specified causes ...	195	16	8	11	72	31	4	337	2'367
Total ...	874	409	168	159	748	389	47	2,794	19'62
CLASS I. Specific Febrile or Zymotic Diseases.									
MIASMATIC DISEASES.									
Chickenpox ...	...	1	...	...	...	...	...	1	0'007
Measles ...	19	70	8	...	...	...	...	97	0'681
Scarlet Fever ...	1	27	10	1	...	...	...	39	0'273
Typhus ...	...	...	...	...	9	...	...	9	0'063
Influenza ...	...	3	1	3	12	9	...	28	0'198
Whooping-cough ...	21	20	...	...	...	...	...	41	0'288
Mumps ...	...	...	...	1	...	...	...	1	0'007
Diphtheria ...	5	47	39	1	1	...	...	93	0'653
Enteric Fever ...	...	1	7	6	4	...	...	18	0'126
DIARRHOEAL DISEASES.									
Diarrhoea, Dysentery ...	110	7	1	2	7	2	2	131	0'920
VENEREAL DISEASES.									
Syphilis ...	18	1	...	...	1	...	...	20	0'140
Gonorrhoea, Stricture of Urethra ...	...	...	...	...	2	...	...	2	0'014
SEPTIC DISEASES.									
Erysipelas ...	2	...	...	2	5	2	...	11	0'077
Pyæmia, Septicæmia ...	...	...	...	...	3	...	...	3	0'021
Puerperal Fever ...	...	...	...	1	2	...	...	3	0'021
Total ...	176	177	66	17	46	13	2	497	3'491
CLASS II. Parasitic Diseases.									
Thrush ...	1	...	...	...	...	...	...	2	0'014
Total ...	2	...	...	...	...	...	...	2	0'014
CLASS III. Dietic Diseases.									
Intemperance—Chronic Alcoholism ...	...	...	...	...	8	2	...	10	0'070
„ Delirium Tremens ...	...	...	...	...	1	...	...	1	0'007
Total ...	...	...	...	...	9	2	...	11	0'077
CLASS IV. Constitutional Diseases.									
Rheumatic Fever, Rheumatism of Heart ...	...	...	1	4	4	...	...	9	0'063
Rheumatism ...	...	...	1	3	6	...	...	10	0'070
Rickets ...	5	1	...	...	...	...	...	6	0'042
Cancer ...	...	1	...	...	50	26	...	77	0'540
Tabes Mesenterica ...	25	3	...	...	...	...	...	28	0'198
Tubercular Meningitis (Acute Hydrocephalus) ...	29	29	20	2	2	1	...	83	0'583
Phthisis ...	10	4	5	57	143	10	1	230	1'615
Other Forms of Tuberculosis, Scrofula ...	9	8	3	9	11	...	...	40	0'281
Anæmia, Chlorosis, Leucocythæmia ...	...	1	...	1	2	...	...	4	0'028
Diabetes Mellitus ...	...	...	1	...	4	2	...	7	0'049
Total ...	78	47	31	76	222	39	1	494	3'470
CLASS V. Developmental Diseases.									
Premature Birth ...	69	...	...	...	...	...	...	69	0'484
Atelectasis ...	5	...	...	...	...	...	...	5	0'035
Cyanosis... ..	1	...	...	...	...	...	...	1	0'007
Spina Bifida ...	5	...	...	...	...	...	...	5	0'035
Imperforate Anus ...	1	...	...	...	...	...	...	1	0'007
Cleft Palate, Harelip ...	2	...	...	...	...	...	...	2	0'014
Other Congenital Defects ...	5	...	...	...	...	...	...	5	0'035
Old Age ...	...	...	...	...	...	64	27	91	0'639
Total ...	88	...	...	...	...	64	27	179	1'257

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year 1893.

CAUSES OF DEATH.	DEATHS AT AGES.							TOTAL.	Death Rate per 1000.
	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.		
CLASS VI. Local.									
(1). DISEASES OF NERVOUS SYSTEM.									
Inflammation of Brain or its Membranes ...	...	...	...	...	2	3	...	5	0'035
Apoplexy ...	...	...	...	...	21	26	...	47	0'330
Paralysis... ..	...	1	...	1	10	5	...	17	0'119
Softening of Brain ...	...	...	...	...	5	6	...	11	0'077
Hemiplegia, Brain Paralysis ...	...	...	...	...	3	8	...	11	0'077
Paralysis, Agitans ...	...	...	1	...	4	5	...	10	0'070
Insanity, General Paralysis of Insane	...	...	...	...	...	1	...	1	0'007
Chorea ...	...	...	1	...	...	...	...	1	0'007
Epilepsy... ..	...	1	1	2	3	3	...	10	0'070
Convulsions ...	105	15	1	1	2	...	...	124	0'871
Laryngismus Stridulus ...	1	3	1	...	...	...	...	5	0'035
Idiopathic Tetanus ...	...	...	...	2	1	...	...	3	0'021
Myelitis ...	...	...	...	...	1	...	...	1	0'007
Paraplegia, Diseases of Spinal Cord	...	1	...	2	7	2	...	12	0'084
Other Diseases of Nervous System	...	...	...	...	1	...	...	1	0'007
(2). DISEASES OF ORGANS OF SPECIAL SENSE.									
Otitis, Otorrhoea ...	...	3	2	...	...	...	...	5	0'035
(3). DISEASES OF CIRCULATORY SYSTEM.									
Endocarditis, Valvular Disease ...	...	1	8	3	80	48	5	145	1'018
Pericarditis ...	...	...	1	1	1	...	...	3	0'021
Hypertrophy of Heart	...	...	...	...	1	...	...	1	0'007
Angina Pectoris ...	...	1	...	...	2	2	...	5	0'035
Syncope ...	...	1	...	1	4	3	...	9	0'063
Aneurism ...	...	...	...	...	2	2	...	4	0'028
Senile Gangrene ...	...	...	2	...	1	1	...	4	0'028
(4). DISEASES OF RESPIRATORY SYSTEM.									
Laryngitis ...	1	3	1	...	2	2	...	9	0'063
Croup ...	6	14	5	...	...	...	...	25	0'175
Other Diseases of Larynx and Trachea	1	1	2	...	...	...	...	4	0'028
Emphysema, Asthma ...	...	...	...	...	3	3	...	6	0'042
Bronchitis ...	65	28	2	...	32	58	4	189	1'327
Pneumonia ...	54	51	7	12	74	24	2	224	1'573
Pleurisy ...	1	...	1	6	...	...	1	9	0'063
(5). DISEASES OF DIGESTIVE SYSTEM.									
Stomatitis ...	2	...	...	...	1	...	...	3	0'021
Dentition ...	28	15	...	...	...	...	...	43	0'302
Dyspepsia ...	2	...	...	...	1	...	...	3	0'021
Gastritis ...	7	...	1	...	5	1	...	14	0'098
Enteritis ...	33	6	...	1	1	1	1	43	0'302
Ulceration of Intestine	2	1	1	...	...	2	...	6	0'042
Ileus, Obstruction of Intestine	1	...	...	...	8	2	...	11	0'077
Stricture or Strangulation of Intestine	1	...	...	...	1	...	...	2	0'014
Intussusception of Intestine	1	...	...	...	...	...	...	1	0'007
Hernia ...	2	...	...	...	2	4	...	8	0'056
Fistula ...	...	...	...	...	1	...	...	1	0'007
Peritonitis ...	5	1	6	2	5	3	...	22	0'154
Jaundice... ..	3	1	...	...	1	2	...	7	0'049
Hepatitis ...	1	...	...	...	2	...	...	3	0'021
Cirrhosis of Liver ...	...	...	...	...	13	4	...	17	0'119
Other Diseases of Digestive System	...	...	...	...	...	1	...	1	0'007
(6). DISEASES OF LYMPHATIC SYSTEM AND DUCTLESS GLANDS.									
Addison's Disease ...	...	...	1	...	...	1	...	2	0'014
(7). DISEASES OF URINARY SYSTEM.									
Acute Nephritis ...	...	1	5	4	9	1	...	20	0'140
Bright's Disease ...	...	1	1	2	12	7	...	23	0'161
Suppression of Urine	1	...	...	...	...	...	...	1	0'007
Disease of Bladder and of Prostate	...	...	...	...	...	2	...	2	0'014
(8). DISEASES OF ORGANS OF GENERATION.									
Ovarian Disease ...	...	...	...	...	2	...	...	2	0'014
Diseases of Uterus and Vagina ...	...	...	...	...	1	...	...	1	0'007
(9). DISEASES OF PARTURITION.									
Childbirth ...	...	...	...	...	17	...	...	17	0'119
Abortion, Miscarriage ...	...	...	...	...	1	...	...	1	0'007
Placenta Prævia, Flooding ...	...	...	...	...	2	...	...	2	0'014

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES.

Year 1893.

CAUSES OF DEATH.	DEATHS AT AGES.							TOTAL.	Death Rate per 1000.
	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.		
(10). DISEASES OF ORGANS OF LOCOMOTION.									
Caries, Necrosis ...	...	...	...	1	...	...	...	1	0'007
Arthritis, Ostitis, Periostitis ...	...	1	...	...	...	...	...	1	0'007
Other Diseases of Organs of Locomotion ...	...	...	...	...	1	...	...	1	0'007
(11). DISEASES OF INTEGUMENTARY SYSTEM.									
Phlegmon, Cellulitis ...	...	...	...	2	...	...	...	2	0'014
Ulcer, Bedsore ...	...	...	...	1	3	2	...	6	0'042
Eczema ...	...	2	...	...	1	...	...	3	0'021
Pemphigus ...	...	5	...	...	...	...	...	5	0'035
Total ...	331	150	50	43	354	235	13	1,176	8'261
CLASS VII. Violence.									
ACCIDENT OR NEGLIGENCE.									
Fractures, Contusions ...	...	5	5	8	27	3	...	48	0'337
Gunshot Wounds ...	...	...	...	...	2	...	...	2	0'014
Burn, Scald ...	...	13	3	...	1	...	...	17	0'119
Poison ...	...	...	1	1	3	...	...	5	0'035
Drowning ...	...	1	4	3	5	...	...	13	0'091
Suffocation ...	...	3	...	...	1	...	...	4	0'028
Otherwise ...	...	...	...	...	1	1	...	2	0'014
HOMICIDE.									
Murder, Manslaughter ...	...	1	...	...	1	...	...	2	0'014
SUICIDE.									
Cut, Stab ...	...	...	...	...	...	1	...	1	0'007
Poison ...	...	...	...	...	1	...	...	1	0'007
Hanging... ..	...	...	...	...	1	...	...	1	0'007
Otherwise ...	...	...	...	...	2	...	...	2	0'014
Total ...	4	19	13	12	45	5	...	98	0'688
CLASS VIII. Ill-defined and Not Specified Causes.									
Dropsy ...	...	...	...	...	1	1	...	2	0'014
Debility, Atrophy, Inanition ...	156	7	3	2	8	7	2	185	1'299
Tumour ...	1	...	2	1	10	...	...	14	0'098
Abscess ...	6	1	...	1	7	...	...	15	0'105
Hæmorrhage ...	2	1	1	2	6	3	1	16	0'112
Sudden (Cause unascertained) ...	30	5	2	5	35	19	1	97	0'681
Other ill-defined and not specified ...	...	2	...	...	5	1	...	8	0'056
Total ...	195	16	8	11	72	31	4	337	2'367

LOCAL GOVERNMENT BOARD TABLES.

K² 3 TABLE OF DEATHS DURING THE YEAR 1893, 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.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	(a)	(b)		(c)		(d)		(e)		(f)		(g)		(h)		65 and upwards.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.		25 and under 65.	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards	Under 5 upwards																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)																							(w)	(x)	(y)	(z)	(aa)	(ab)	(ac)	(ad)	(ae)	(af)	(ag)	(ah)	(ai)	(aj)	(ak)	(al)	(am)	(an)	(ao)	(ap)	(aq)	(ar)	(as)	(at)	(au)	(av)	(aw)	(ax)	(ay)	(az)	(ba)	(bb)	(bc)	(bd)	(be)	(bf)	(bg)	(bh)	(bi)	(bj)	(bk)	(bl)	(bm)	(bn)	(bo)	(bp)	(bq)	(br)	(bs)	(bt)	(bu)	(bv)	(bw)	(bx)	(by)	(bz)	(ca)	(cb)	(cc)	(cd)	(ce)	(cf)	(cg)	(ch)	(ci)	(cj)	(ck)	(cl)	(cm)	(cn)	(co)	(cp)	(cq)	(cr)	(cs)	(ct)	(cu)	(cv)	(cw)	(cx)	(cy)	(cz)	(da)	(db)	(dc)	(dd)	(de)	(df)	(dg)	(dh)	(di)	(dj)	(dk)	(dl)	(dm)	(dn)	(do)	(dp)	(dq)	(dr)	(ds)	(dt)	(du)	(dv)	(dw)	(dx)	(dy)	(dz)	(ea)	(eb)	(ec)	(ed)	(ee)	(ef)	(eg)	(eh)	(ei)	(ej)	(ek)	(el)	(em)	(en)	(eo)	(ep)	(eq)	(er)	(es)	(et)	(eu)	(ev)	(ew)	(ex)	(ey)	(ez)	(fa)	(fb)	(fc)	(fd)	(fe)	(ff)	(fg)	(fh)	(fi)	(fj)	(fk)	(fl)	(fm)	(fn)	(fo)	(fp)	(fq)	(fr)	(fs)	(ft)	(fu)	(fv)	(fw)	(fx)	(fy)	(fz)	(ga)	(gb)	(gc)	(gd)	(ge)	(gf)	(gg)	(gh)	(gi)	(gj)	(gk)	(gl)	(gm)	(gn)	(go)	(gp)	(gq)	(gr)	(gs)	(gt)	(gu)	(gv)	(gw)	(gx)	(gy)	(gz)	(ha)	(hb)	(hc)	(hd)	(he)	(hf)	(hg)	(hh)	(hi)	(hj)	(hk)	(hl)	(hm)	(hn)	(ho)	(hp)	(hq)	(hr)	(hs)	(ht)	(hu)	(hv)	(hw)	(hx)	(hy)	(hz)	(ia)	(ib)	(ic)	(id)	(ie)	(if)	(ig)	(ih)	(ii)	(ij)	(ik)	(il)	(im)	(in)	(io)	(ip)	(iq)	(ir)	(is)	(it)	(iu)	(iv)	(iw)	(ix)	(iy)	(iz)	(ja)	(jb)	(jc)	(jd)	(je)	(jf)	(jg)	(jh)	(ji)	(jj)	(jk)	(jl)	(jm)	(jn)	(jo)	(jp)	(jq)	(jr)	(js)	(jt)	(ju)	(jv)	(jw)	(jx)	(jy)	(jz)	(ka)	(kb)	(kc)	(kd)	(ke)	(kf)	(kg)	(kh)	(ki)	(kj)	(kk)	(kl)	(km)	(kn)	(ko)	(kp)	(kq)	(kr)	(ks)	(kt)	(ku)	(kv)	(kw)	(kx)	(ky)	(kz)	(la)	(lb)	(lc)	(ld)	(le)	(lf)	(lg)	(lh)	(li)	(lj)	(lk)	(ll)	(lm)	(ln)	(lo)	(lp)	(lq)	(lr)	(ls)	(lt)	(lu)	(lv)	(lw)	(lx)	(ly)	(lz)	(ma)	(mb)	(mc)	(md)	(me)	(mf)	(mg)	(mh)	(mi)	(mj)	(mk)	(ml)	(mn)	(mo)	(mp)	(mq)	(mr)	(ms)	(mt)	(mu)	(mv)	(mw)	(mx)	(my)	(mz)	(na)	(nb)	(nc)	(nd)	(ne)	(nf)	(ng)	(nh)	(ni)	(nj)	(nk)	(nl)	(nm)	(nn)	(no)	(np)	(nq)	(nr)	(ns)	(nt)	(nu)	(nv)	(nw)	(nx)	(ny)	(nz)	(oa)	(ob)	(oc)	(od)	(oe)	(of)	(og)	(oh)	(oi)	(oj)	(ok)	(ol)	(om)	(on)	(oo)	(op)	(oq)	(or)	(os)	(ot)	(ou)	(ov)	(ow)	(ox)	(oy)	(oz)	(pa)	(pb)	(pc)	(pd)	(pe)	(pf)	(pg)	(ph)	(pi)	(pj)	(pk)	(pl)	(pm)	(pn)	(po)	(pp)	(pq)	(pr)	(ps)	(pt)	(pu)	(pv)	(pw)	(px)	(py)	(pz)	(qa)	(qb)	(qc)	(qd)	(qe)	(qf)	(qg)	(qh)	(qi)	(qj)	(qk)	(ql)	(qm)	(qn)	(qo)	(qp)	(qq)	(qr)	(qs)	(qt)	(qu)	(qv)	(qw)	(qx)	(qy)	(qz)	(ra)	(rb)	(rc)	(rd)	(re)	(rf)	(rg)	(rh)	(ri)	(rj)	(rk)	(rl)	(rm)	(rn)	(ro)	(rp)	(rq)	(rr)	(rs)	(rt)	(ru)	(rv)	(rw)	(rx)	(ry)	(rz)	(sa)	(sb)	(sc)	(sd)	(se)	(sf)	(sg)	(sh)	(si)	(sj)	(sk)	(sl)	(sm)	(sn)	(so)	(sp)	(sq)	(sr)	(ss)	(st)	(su)	(sv)	(sw)	(sx)	(sy)	(sz)	(ta)	(tb)	(tc)	(td)	(te)	(tf)	(tg)	(th)	(ti)	(tj)	(tk)	(tl)	(tm)	(tn)	(to)	(tp)	(tq)	(tr)	(ts)	(tt)	(tu)	(tv)	(tw)	(tx)	(ty)	(tz)	(ua)	(ub)	(uc)	(ud)	(ue)	(uf)	(ug)	(uh)	(ui)	(uj)	(uk)	(ul)	(um)	(un)	(uo)	(up)	(uq)	(ur)	(us)	(ut)	(uu)	(uv)	(uw)	(ux)	(uy)	(uz)	(va)	(vb)	(vc)	(vd)	(ve)	(vf)	(vg)	(vh)	(vi)	(vj)	(vk)	(vl)	(vm)	(vn)	(vo)	(vp)	(vq)	(vr)	(vs)	(vt)	(vu)	(vv)	(vw)	(vx)	(vy)	(vz)	(wa)	(wb)	(wc)	(wd)	(we)	(wf)	(wg)	(wh)	(wi)	(wj)	(wk)	(wl)	(wm)	(wn)	(wo)	(wp)	(wq)	(wr)	(ws)	(wt)	(wu)	(wv)	(ww)	(wx)	(wy)	(wz)	(xa)	(xb)	(xc)	(xd)	(xe)	(xf)	(xg)	(xh)	(xi)	(xj)	(xk)	(xl)	(xm)	(xn)	(xo)	(xp)	(xq)	(xr)	(xs)	(xt)	(xu)	(xv)	(xw)	(xx)	(xy)	(xz)	(ya)	(yb)	(yc)	(yd)	(ye)	(yf)	(yg)	(yh)	(yi)	(yj)	(yk)	(yl)	(ym)	(yn)	(yo)	(yp)	(yq)	(yr)	(ys)	(yt)	(yu)	(yv)	(yw)	(yx)	(yy)	(yz)	(za)	(zb)
Cardiff Urban Sanitary District	2464	845	387	152	125	568	387	Under 5 upwards	23	51	20	1	8	8	2	87	40	117	8	9	14	198	1	17	661	1232																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Cardiff Sanatorium for Infectious Diseases	7	5	2	...	...	...	...	Under 5 upwards	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Union	212	28	5	1	13	120	45	Under 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Infirmary	83	1	12	13	10	43	4	Under 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Hamadryad Hospital Ship	28	...	...	...	11	17	...	Under 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	179																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
TOTALS	2794	874	409	168	159	748	436	Under 5 upwards	28	52	20	1	89	41	117	8	9	14	9	14	199	1	23	696	1283																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	...	11	41	5	9	17	...	5 upwards	11	41	5	9	17	757																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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PUBLIC INSTITUTIONS.

CHART SHEWING THE NUMBER OF DEATHS FROM ALL CAUSES AND FROM THE SEVEN CHIEF ZYMOTIC DISEASES DURING EACH WEEK IN THE YEAR 1893.

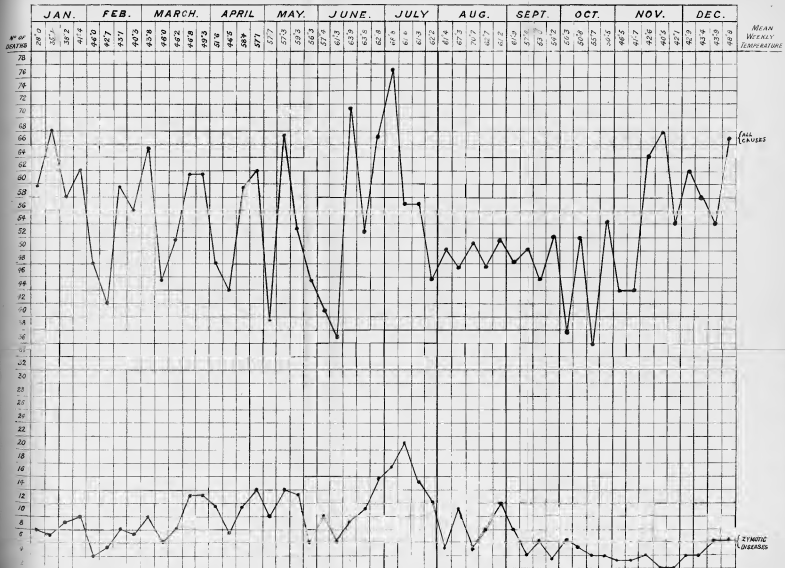


CHART SHEWING THE NUMBER OF DEATHS FROM THE RESPIRATORY DISEASES DURING EACH WEEK IN THE YEAR 1893.

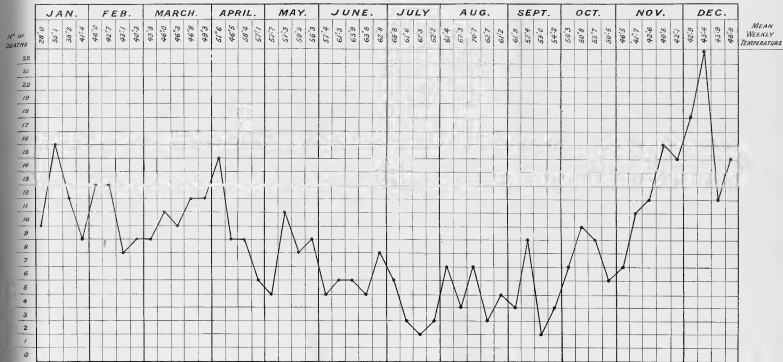


CHART SHEWING THE NUMBER OF DEATHS FROM SCARLET FEVER & DIPHThERIA DURING EACH WEEK IN THE YEAR 1893.

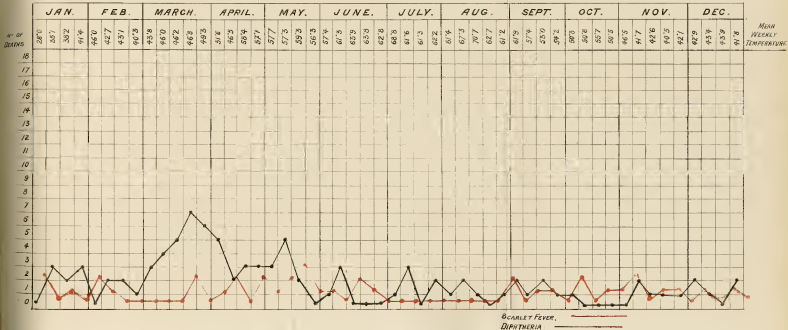


CHART SHEWING THE NUMBER OF DEATHS FROM MEASLES & WHOOPING COUGH DURING EACH WEEK IN THE YEAR 1893.

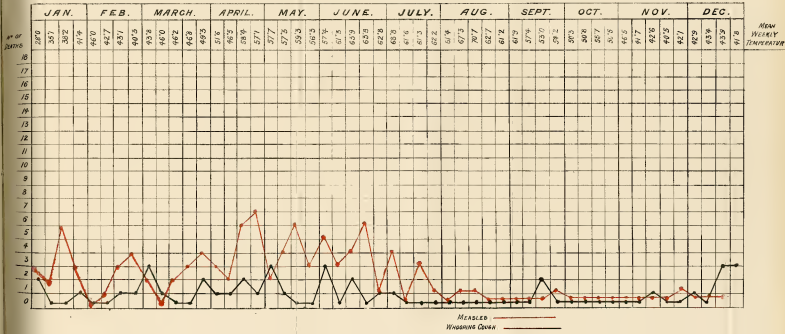


CHART SHEWING THE NUMBER OF DEATHS FROM ENTERIC FEVER & DIARRHOEA DURING EACH WEEK IN THE YEAR 1893.

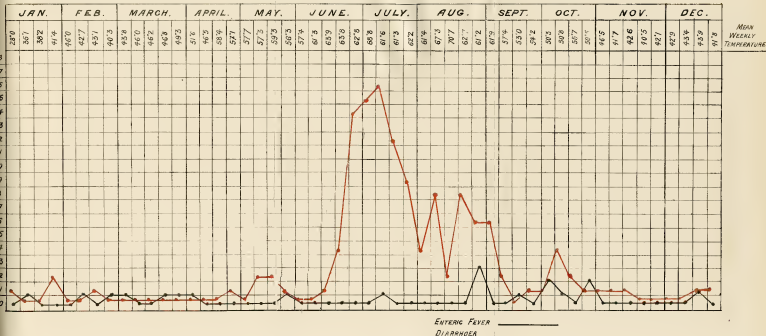
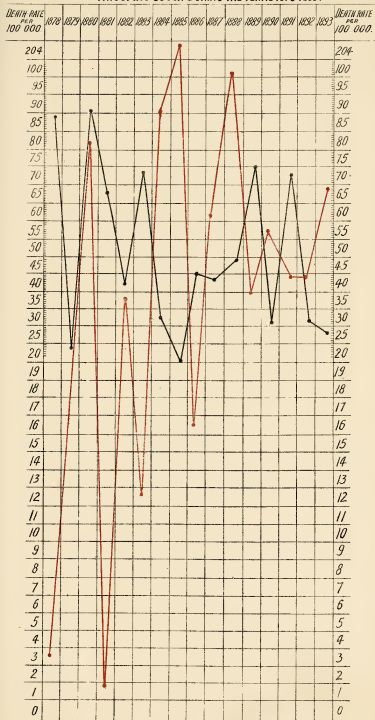


CHART SHEWING THE DEATH-RATE PER 100,000 FROM MEASLES AND
 WHOOPING COUGH DURING THE YEARS 1878-1893.



MEASLES
 WHOOPING COUGH

CHART SHEWING DEATH-RATE PER 100,000 FROM SCARLET FEVER,
DIPHTHERIA AND SMALL POX DURING THE YEARS 1878-1893.



SCARLET FEVER —————
 DIPHTHERIA —————
 SMALL POX - - - - -

Chart showing the Death-rate per 100,000 from Enteric
Fever and Diarrhoea during the years 1878-1893.

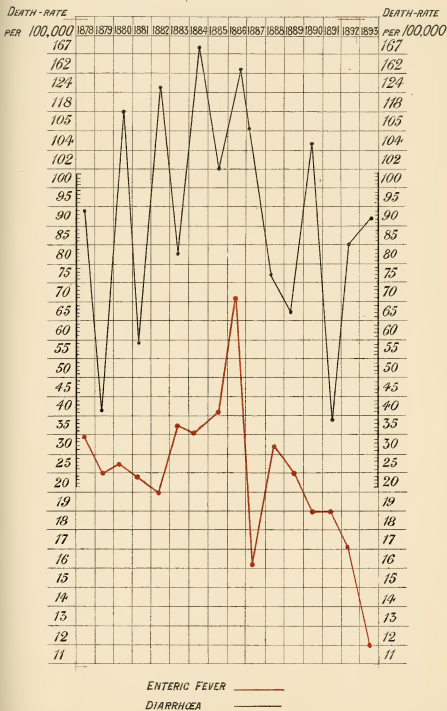


Chart showing the influence of temperature of the diarrheal death rate in Cardiff during the summer quarters of the years 1872 - 93.

