[Report of the Medical Officer of Health for Croydon].

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HEALTH REPORT

FOR

1894

FOR THE

Croydon Rural District,

BY THE

MEDICAL OFFICER OF HEALTH.

CROYDON:
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HEALTH REPORT

OF THE

Croydon Rural District,

1894.

To the Members of the Croydon Rural District Council.

Mr. CHAIRMAN, Mrs. PITT, and GENTLEMEN,—

I have the honour to present to you the following report and statistical tables for the year 1894.

I.—AREA AND POPULATION.

The total area of the District is 22,766 acres, and comprises 9 parishes. The largest parish, in point of area, is Coulsdon; and the smallest is Wallington.

The population of the District in 1891, when the census was taken, was 28,717. This figure includes the population of three institutions, which must be deducted to obtain the true population of the District, in order to render the statistical deductions reliable. The three institutions are Cane Hill Asylum, in Coulsdon, and the Holborn Union Workhouse and Schools in Mitcham, the inmates of which numbered in 1891, 2,484. The true population of the District in 1891, was thus reduced to 26,233, and was made up of 12,483 males and 13,750 females. The population of the District at the previous census of 1881, after making corresponding deductions was 21,159. The parish with the largest population was Mitcham, and the smallest Woodmansterne.

The number of inhabited houses in the District in 1891 was 4,845, having increased from 3,730 in 1881.

The average number of persons living in each house in the District was 5·4; the highest average existed in Coulsdon, and the lowest in Woodmansterne and Addington.

The density of the population on area in 1891, in the whole District, was ·86 acre per person, compared with 1·29 acres throughout England and Wales. The densest parishes were Wallington and Mitcham, and the least dense was Sanderstead.

From these facts, it is necessary to estimate what was the population of the District and of its constituent parishes, in the year under review. To obtain correct vital statistics, it is essential that the estimation of the population should be as accurate as circumstances will permit, for population is the basis of all vital statistics. The usual method is that known as the Registrar General's method, which is based on the assumption that the *rate of increase* since the last census year, has been the same as that proved to have existed in the last preceding inter-censal period. This method is accurate enough for most cases, especially if large populations are being dealt with, and in the absence of any special disturbing factors. It is useful, however, to correct the results obtained by this method, by obtaining returns giving the number of inhabited houses in the District, as disclosed by the various rate-books, and multiplying the number by the average number of persons living in each house, as ascertained at the last census.

Estimated by these methods, the population at the middle of 1894 may be assumed to have consisted of 28,200 persons, of which 13,420 were males, and 14,780 females.

The *natural increase* of the population, which means the excess of births over deaths, has been since the census 1,666, and for the year 1894, was 433.

The estimation of the population of the constituent parishes is a more uncertain matter still than that of the District, but, guided mainly by the returns of inhabited houses, I have shown in Table I. the population and sex-distribution of each parish at the middle of 1894, as accurately as possible.

While the population of the District, as a whole, appears to be increasing at the same rate as it did during the last inter-censal period (1881 to 1891), this does not seem to be the case with each individual parish. Still guided principally by the returns of inhabited houses, it appears that the populations of Addington and Merton are not increasing so rapidly as they did between 1881 and 1891 ; those of Beddington, Morden, Sander-

stead, and Wallington are increasing more rapidly; and those of Mitcham, Coulsdon, and Woodmansterne are increasing at about the same rate.

The foregoing facts are shown in detail for each parish in Table I.

Table I.—The AREA in Acres, INHABITED HOUSES, POPULATION, and DENSITY of each Parish in the District in 1891 and 1894.

Parish.	Area in Acres.	Number of Inhabited Houses.		Population.						Density. Acres per person.		Average Persons per House, 1891.
				1891.			Estimated to middle of 1894.					
		1891.	1894.	Persons.	Males.	Females.	Persons.	Males.	Females.	1891.	1894.	
Addington ...	3,605	132	132	670	346	324	670	346	324	5·4	5·4	5·0
Beddington ...	3,128	442	477	2,607	1,162	1,445	2,807	1,252	1,555	1·2	1·1	5·9
Coulsdon ...	4,314	537	577	3,335	1,623	1,712	3,568	1,737	1,831	1·3	1·2	6·2
Merton	1,765	654	691	3,360	1,612	1,748	3,517	1,689	1,828	·52	·50	5·1
Mitcham ...	2 915	2,055	2,223	10,758	5,300	5,458	11,521	5,684	5,837	·27	·25	5·2
Morden	1,475	138	156	763	387	376	852	433	419	1·9	1·7	5·5
Sanderstead ...	3,150	96	104	509	262	247	547	282	265	6·1	5·7	5·3
Wallington ...	823	710	802	3,823	1,587	2,236	4,280	1,778	2,502	·25	·20	5·4
Woodmansterne	1,591	81	88	408	204	204	438	219	219	3·9	3·7	5·0
The District ...	22,766	4,845	5,250	26,233	12,483	13,750	28,200	13,420	14,780	·86	·80	5·4

N.B.—The above Table excludes the *inmates* of three institutions, viz., Cane Hill Asylum, Coulsdon, and the Holborn Union Workhouse and Holborn Schools, in Mitcham. The population and mortality of these institutions are included in those of the Metropolis.

Age-Distribution.

On page 6 of the annual report for 1893, is a table showing the age-constitution of the District as revealed at the census of 1891. After deducting, as accurately as possible, the population of the institutions, the following Table A, the utility of which will be evident later on, has been constructed, and it shows the approximate numbers living in the District at the middle of the years 1891 to 1894, at four groups of ages.

Table A.—Persons living in the District at 4 groups of ages.

Ages.	1891.	1892.	1893.	1894.
Under 5 years	2,930	3,000	3,075	3,130
5 to 15 years	7,210	7,370	7,560	7,700
15 to 25 years	4,830	4,940	5,070	5,160
25 years and upwards	11,430	11,690	12,015	12,210
All ages	26,400	27,000	27,720	28,200

II.—BIRTHS AND DEATHS.

Births.

The births registered in the District during 1894, numbered 732. Of this number, 358 were males, and 374 were females. Fourteen births, of which nine were males and five females, were registered as illegitimate.

The *birth-rate* for the year was 25·9 per 1000 persons living. The proportion of illegitimate births was 1·9 per cent. of the total births.

This is a low birth-rate, and is the lowest of which there is record in the District. The average annual birth-rate in the ten preceding years was 29·9; the highest rate (33·4) having occurred in 1886, and the lowest (27·4) in 1893.

The birth-rate for England and Wales during 1894, was 29·6 per 1000, being the lowest ever recorded.

The distribution of the births in the District, with the corresponding birth-rates, is shown in the following table.

TABLE B.—Births in 1894.

Parish.	Registered Births.			Birth-rate per 1000 of population.
	Males.	Females.	Total.	
Addington	11	9	20	29·8
Beddington	35	18	53	18·9
Coulsdon	40	47	87	24·4
Merton	43	39	82	23·3
Mitcham	164	201	365	31·7
Morden	8	11	19	22·3
Sanderstead	8	6	14	25·6
Wallington	38	37	75	17·5
Woodmansterne	11	6	17	38·8

DEATHS.

The deaths registered in the District during the year 1894 numbered 525, of which 259 occurred in the three institutions already mentioned, and must be deducted. To the number thus reduced must be added 33, which is the number of persons, belonging to the District, who died outside its boundaries. The corrected number of deaths to be accounted to the District in 1894, thus becomes 299. Of this number 153 were the deaths of males, and 146 were those of females.

This mortality corresponds to a *death-rate* of 10·6 per 1,000 persons living. The death-rate among males was 11·4, and that among females was 9·8, per 1,000 living of the corresponding sex.

This is a very low death-rate, and is the lowest of which there is record in the District.

The average annual death-rate of the ten preceding years was 12·9 per 1000 living: the highest rate (15·1) having occurred in 1884, and the lowest (10·9) in 1889. The death-rate for England and Wales in 1894 was 16.6 per 1000, being by far the lowest on record.

The distribution of the deaths in the District, with the corresponding death-rates, is shown in the following table.

TABLE C. Mortality in 1894, exclusive of public institutions.

Parish.	Deaths.			Death-rate per 1000 of population.
	Males.	Females	Total.	
Addington	4	2	6	8·9
Beddington	6	13	19	6·8
Coulsdon	19	14	33	9·2
Merton	16	23	39	11·1
Mitcham	82	72	154	13·4
Morden	3	2	5	5·9
Sanderstead	2	3	5	9·1
Wallington...	19	13	32	7·5
Woodmansterne	2	4	6	13·7

The rate thus varies from 5·9 in Morden and 6·8 in Beddington, to 13·4 in Mitcham and 13·7 in Woodmansterne. It is necessary to point out, however, that the death-rates of the various parishes are not strictly comparable. Besides healthiness of surroundings, death-rates vary considerably according to other circumstances, such as sex and age-distribution, and occupation. Thus, the death-rate of persons between the ages of 5 and 55 years is lower than the death-rate for all ages, and the death-rate of females is lower than that for males. Consequently a preponderance of persons between the ages of 5 and 55 years, or of females, would lower the death-rate of the particular place in which such preponderance exists, and vice versâ. For example, suppose two Districts, one of which, A, had from various causes a preponderance of persons between 25 and 35 years, and the other, B, had an undue proportion of old people over 65 years of age, the death-rate of A would be lower than that of B, although B's surroundings might be quite as healthy as those of A.

There are no data at all, whereby the age-distribution of each parish can be estimated, but as regards sex-distribution, while the District contained in 1891, 1102 females to every 1000 males, yet the proportion varied in each parish from only 926 females in Addington to as many as 1240 in Beddington, and 1410 in Wallington, to every 1000 males. This, however, is quite sufficient to show that the death-rates of the various parishes cannot safely be compared one with the other.

To prevent undue congratulation upon the lowness of the death-rate of 1894 in the District as a whole, and in some of the parishes, it is also necessary to point out that a death-rate under 10 or 12, cannot be regarded as a true measure of the longevity of the inhabitants. A rate of 10 per 1000, in a series of years, would mean that every child born reaches the age of 100, or that the average age at death is 100; and a rate of 12 per 1000 would mean an average age at death of over 80.

The death-rate of the District in each of the four quarters of 1894, ending March 31st, June 30th, September 30th, and December 31st, is shown in the following table.

	Deaths.	Death-rate.
1st quarter	81	11·5
2nd ,, ...	81	11·3
3rd ,, ...	71	9·6
4th ,, ...	66	9·1
The year	299	10·6

Mortality at Different Ages.

Infantile mortality.—The number of infants under one year of age who died in 1894 was 71. The infantile death-rate, or proportion of deaths of infants under one year to registered births, was 97 in a thousand, and lower than in any year since 1884, except in 1890, when the rate was 92 in a thousand. The average annual death-rate of infants during the 10 preceding years was 114 per 1000 births. The rate in 1893 was 142.

The infantile death-rate for England and Wales in 1894 was 137 in a thousand, being 10 below the average.

The low infantile death-rate of 1894 was due mainly to the reduction in the mortality from diarrhœa, which, in turn, was due to the unusually cool summer which characterised that year. It was also partly due to a considerable diminution in the deaths from whooping cough.

The infantile mortality in each parish is shown in Table D.

TABLE D.—Infantile Mortality in 1894.

Parish.	Deaths of Infants under 1 year.	Deaths in a 1000 Births Registered.
Addington	1	50
Beddington	2	38
Coulsdon	4	46
Merton	9	110
Mitcham	46	126
Morden	2	105
Sanderstead	3	214
Wallington	3	40
Woodmansterne	1	59

Children under 5 years.—The deaths of children under 5 years of age numbered 102, or 34 per cent. of the deaths at all ages. Expressed in proportion to population living in the District under 5 years, which is a much more reliable method, it is found that the above number represents a death-rate of 32.6 per 1000 living at those ages. The corresponding death-rate in 1893 was 48·1, and the average annual rate in the three years 1891 to 1893, was 43·8 per 1000.

This death-rate, expressed as above, is believed to form a more important sanitary test than the death-rate at any subsequent group of ages, because very few indeed leave their homes under 5 years; consequently up to this period of life the population of any particular place may be looked upon as practically stationary, and therefore fully exposed to all the healthy and unhealthy influences which may exist in it. It is satisfactory, therefore, that the average annual rate for the last four years, is considerably below the average annual rate for England and Wales, which is 63·5 per 1000.

The deaths of persons *between 5 and 15 years* numbered 34, or 11·4 per cent. of the total deaths. In this case also it is far more reliable to state the deaths in proportion to the population living at those ages, and, expressed in this way, they represent a death-rate of 4·4 per 1,000, as compared with 3·3 per 1,000 in 1893, and an average annual rate for the three years 1891 to 1893 of 2·8. The corresponding average annual rate for England and Wales was, for the same years, 3·8 per thousand.

This death-rate is of considerable importance, as the age-group in question represents that portion of the population exposed to the influence and effects of school life. Since 1891 it has steadily *increased* in this District. For the country at large, the rate has continuously *fallen* from 6·3 in the decade 1861 to 1870, to 5·1 in the decade 1871 to 1880, and to 4·1 in the decade 1881 to 1890.

The deaths of persons *between* 15 *and* 25 *years* numbered 13, representing a death-rate of 3·5 per 1,000 living at those ages. The corresponding rate in 1893 was 2 per 1,000, and the annual average rate for the 3 years 1891 to 1893 was 2·2 per 1,000. The corresponding average annual death-rate for England and Wales was for the same years 4·7 per 1,000.

In the following table the above rates are fully shown, and from it, it will be seen that, although the general death-rate was so low in 1894, yet the reduction only affected the first and last groups of the population, and that the death-rate of the remaining groups was higher than the average. The most probable explanation of the former fact is, that the coolness of the summer and the mildness of the winter, which characterised 1894, were the main causes of a reduction in the normal mortality of infants and old people respectively.

TABLE E.—Annual death-rate at four groups of ages.
1891 to 1894.

Year.	Deaths per 1000 living.				
	Ages.				
	All Ages.	Under 5.	5 to 15.	15 to 25.	25 & upwds.
1891	12·3	42	2·2	2·5	15·2
1892	13·2	41·3	3	2	14·5
1893	14·5	48·1	3·3	2	18·2
Mean	13·3	43·8	2·8	2·2	16
1894	**10·6**	**32·6**	**4·4**	**3·5**	**12 3**
Mean for England and Wales, 1891 to 1893.	19·5	63·5	3·8	4·7	22 (1893 only).

The foregoing rates are calculated on the estimated population at each given group of ages, as shown in Table A, page 6

Causes of Death.

Zymotic Diseases.—The deaths registered in 1894, included—

1	death	attributed to	Measles
5	deaths	„	Scarlet Fever
21	„	„	Diphtheria
2	„	„	Whooping Cough
2	„	„	"Fever"
9	„	„	Diarrhœa

Thus 40 deaths were ascribed to these zymotic causes, being in the proportion of 1·41 per 1000 living, as compared with an annual average in the ten preceding years of 1·93 per 1000. The corresponding rate in 1894 in England and Wales was 1·76, against an annual average rate in the ten preceding years of 2·25 per 1000.

Deaths ascribed to one or other of the above causes, occurred in the parishes of Addington, Coulsdon, Merton, Mitcham, and Wallington, but not in the other parishes.

The above deaths include no less than 10 which occurred outside the District, although belonging thereto; 3 were due to scarlet fever and 7 to diphtheria.

The mortality from each of the above diseases, in proportion to 1000 persons living, was as follows:—Measles ·04, scarlet fever ·2, diphtheria ·7, whooping cough ·07, "fever" ·07, and diarrhœa ·3. The mortality from measles, whooping cough, diarrhœa, and "fever," were considerably *below* the annual average; that from scarlet fever was nearly equal, and that from diphtheria was much higher.

The number of deaths from diphtheria in 1894, which has once been exceeded, namely, in 1888, represents a death-rate of 745 per *million* living, against an annual average of 279.

The corresponding death-rate for the whole country in 1894 was 218 per million, as compared with an annual average of 191 per million. As regards diphtheria, therefore, the District compares very unfavourably with England and Wales, both in its annual average and its death-rate last year. The mortality, moreover, affected only the parishes of Mitcham and Merton, and, if expressed in proportion to the population of those two parishes, represents a death-rate of no less than 1386 per million living.

Constitutional Diseases.—Sixty deaths were due to constitutional diseases, being in the proportion of 2·1 per 1000, which is a low rate. The most important of this class are tubercular diseases. Phthisis, or pulmonary consumption, caused 30 deaths, giving a rate of 1·06 per 1000, against an annual average of 1·16. The annual average for England and Wales is about 1·6. Other tubercular diseases caused 14 deaths, and of the remaining deaths in this class, six were ascribed to cancer or malignant disease.

Local Diseases.—The diseases of this class caused 133 deaths, giving a rate of 4·72 living, which is also a low rate. Diseases of the nervous, circulatory, and respiratory systems caused 105 of these deaths, or 33, 30, and 42 deaths respectively, corresponding to death-rates of 1·17, 1·07, and 1·5 per 1000, all of which are materially less than the corresponding averages for England and Wales.

Violent Deaths.—Deaths due to violence numbered 15, giving a death-rate of ·52 per 1000, against an average rate of about ·6 per 1000 for England and Wales. Forty-seven per cent. of the deaths were due to accidental causes. The number of deaths due to suicide, was more than double the average relative number in England and Wales.

Inquests and Uncertified Deaths.—The deaths of 1894, apart from those which occurred in institutions, include 33 which were the subjects of coroners' inquests. This number is 11 per cent. of the total deaths, which is a somewhat high percentage, and

compares with 6·3 per cent. for England and Wales in 1894. It includes 16 deaths which were described in the verdicts as due to natural causes, 10 as due to accident or negligence, 6 to suicide, and 1 to homicide.

Besides these deaths, there were four *uncertified deaths*, that is, deaths which were not certified either by a medical practitioner or by a coroner after inquest. The following is a list of these deaths.

TABLE F.—Uncertified Deaths, 1894.

Parish	Date of Death	Sex	Age	Stated Cause of Death
Beddington	Jan. 6th ...	F.	45	Fits and Weak Heart
Mitcham.....	Feb. 6th ...	F.	79	Syncope, due to Senile Decay
Woodmansterne .	May 20th...	F.	85	Decay of Nature
Mitcham.....	June 30th	M.	50	Heart Disease

It need hardly be explained how unsatisfactory it is that there should be any deaths to record under this heading.

Statistical Tables.—Attention may here be drawn to the accompanying Statistical Tables, which I have endeavoured to make as complete as possible, and the results of which, I have taken great care, at the cost of considerable labour, to render accurate and reliable. The vital statistics of the District are now shown, for the first time, compiled in a systematic manner, and members of the Council will be in a position to study the records of the past ten years, in conjunction with those of the year under review. It is necessary to point out, however, that the records of mortality during the years previous to 1893, are not strictly comparable with those of 1893 and 1894, because the deaths occurring outside the District among persons belonging to it, were not included before 1893. The inclusion of these deaths, which both in 1893 and 1894 numbered 33, involves a material increase in the death-rate, probably as much as 1·3 in most years.

Table II.—Showing the POPULATION, MARRIAGES, BIRTHS, and DEATHS, for the year 1894, and 10 years preceding.

GROSS NUMBERS.

The Year.	Estimated Population.	Marriages.	Registered Births.	Corrected No. of Deaths.			Deaths in Public Institutions.
				Total all Ages.	Under One Year.	Under Five Years.	
1894	28200	NO RETURNS.	732	299	71	102	259
1893	27720		760	402	108	148	274
1892	27000		765	355	91	126	221
1891	26400		790	325	90	123	182
1890	25810		722	291	66	104	151
1889	25265		746	274	78	117	172
1888	24730		736	307	73	122	154
1887	24200		726	316	74	120	171
1886	23690		793	296	83	119	102
1885	23180		769	326	89	154	128
1884	22690		673	343	99	158	91
Average of 10 years 1884-93.	25090		748	323	85	129	165

N.B.—Before 1893, the deaths occurring outside the District among persons belonging thereto, were *not* included in the above figures: such deaths would probably number between 30 and 40 for each year.

Table III.—Showing the Annual BIRTH and DEATH RATES, and DEATH RATES OF INFANTS, for the Year 1894 and 10 Years preceding.

In the Year.	Birth Rate per 1000 of the Population	Corrected Death Rate per 1000 of the Population.	Deaths of Children under 1 year, per 1000 of Registered Births.
1894	25·9	10·6	97
1893	27·4	14·5	142
1892	28·3	13·2	119
1891	30·0	12 3	114
1890	28·0	11·3	92
1889	29·5	10·9	105
1888	29·7	12·4	99
1887	30·0	13·1	102
1886	33·4	12·5	105
1885	33·1	14·1	116
1884	29·7	15·1	147
Average of 10 years. 1884 to 1893 ...	29·9	12·9	114

N.B.—Before 1893, the deaths occurring outside the District among persons belonging thereto, were *not* included in the above figures: the inclusion of such deaths in 1893 and 1894 has increased the death rates considerably.

Table IV.—Showing the number of DEATHS from the Principal Zymotic Diseases in the 10 Years 1884 to 1893, and in the Year 1894.

Disease.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	Annual Average of 10 years, 1884—1893.	Proportion of Deaths to 1000 Population in 10 years, 1884—1893.	Total Deaths in 1894.	Proportion of Deaths to 1000 Population in 1894.
Small-pox	—	—	—	—	—	—	—	—	1	—	·1	·00	0	—
Measles	13	16	3	25	3	4	12	6	17	7	10·6	·42	1	·03
Scarlet Fever ...	2	2	5	5	3	0	19	1	3	4	4·4	·17	5	·18
Diphtheria	6	7	4	9	22	6	4	5	5	2	7·0	·3	21	·74
Whooping Cough..	19	13	14	0	2	21	2	11	3	22	10·7	·4	2	·07
Fever (Typhus ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever (Enteric ...	2	3	1	4	1	2	1	1	4	4	2·3	·09	2	·07
Fever (Simple continued	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhœa	18	9	20	16	7	2	11	11	20	20*	13·4	·53	9	·32
Totals	60	50	47	59	38	35	49	35	53	59	48·5	1·93	40	1·41
Zymotic Death-rate	2·64	2·16	2·0	2·44	1·54	1·38	1·82	1·33	1·96	2·13		1·93	—	1·41
Zymotic Death-rate in England and Wales	2·81	2·23	2·42	2·42	1·88	2·23	2·15	1·91	2·0	2·47		2·25	—	1·76

* Including a case of cholera.

N.B.—Before 1893, the deaths occurring outside the District among persons belonging thereto were *not* included in the above figures.

Table V.—Showing the number of DEATHS at all ages in 1894, from certain groups of Diseases, and proportions to 1000 of Population, and to 1000 Deaths from all causes; also the number of Deaths of Infants, under one year of age, from other groups of Diseases, and proportions to 1000 Births, and to 1000 Deaths from all causes under one year.

Division I. (Adults).	Total Deaths.	Deaths per 1000 of Population at all ages.	Deaths per 1000 of Total Deaths, at all ages.
1. Principal Zymotic Diseases	40	1·41	134
2. Pulmonary Diseases	42	1·45	140
3. Principal Tubercular Diseases	45	1·60	150
Division II. (Infants under One Year).	**Total Deaths.**	**Deaths per 1000 of Births.**	**Deaths per 1000 of Total Deaths under One Year.**
4. Wasting Diseases ...	20	27	282
5. Convulsive Diseases	11	15	155

NOTICE.

1. Includes small-pox, measles, scarlet fever, diphtheria, whooping cough, typhus, enteric (or typhoid), and simple continued fevers, and diarrhœa. Ten of the deaths occurred in Hospitals situated beyond the limits of the District.

3. Includes phthisis, scrofula, tuberculosis, rickets, and tabes.

4. Includes marasmus, atrophy, debility, want of breast milk, and premature birth.

5. Includes hydrocephalus, infantile meningitis, convulsions, and teething

Table VI.—DEATHS Registered from all Causes during the Year 1894.

NOTE.—The Deaths of Non-Residents occurring in Public Institutions situated in the District are excluded, and the Deaths of Residents occurring in Public Institutions situated beyond the limits of the District are included.

	Ages.											Totals.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 & upwds	
I. SPECIFIC FEBRILE, OR ZYMOTIC DISEASES ...	9	12	18		3	1			1	1		45
II. PARASITIC DISEASES												
III. DIETETIC DISEASES	1											1
IV. CONSTITUTIONAL DISEASES	6	7	6	8	5	13	6	5	3	1		60
V. DEVELOPMENTAL DISEASES	14								5	11	6	36
VI. LOCAL DISEASES	31	11	9	3	6	5	14	13	22	16	3	133
VII. DEATHS FROM VIOLENCE	3		1	2	2	3	3				1	15
VIII. DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES	7	1							1			9
TOTALS	71	31	34	13	16	22	23	18	32	29	10	299

I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES.

1.—MIASMATIC DISEASES.

Small-pox (Vaccinated ... ...)												
Small-pox (Unvaccinated ... ...)												
Small-pox (No statement ... ...)												
Measles			1									1
Scarlet Fever		2	3									5
Typhus												
Whooping Cough	1	1										2
Diphtheria		8	13									21
Simple Continued and Ill-defined Fever					2							2
Enteric or Typhoid Fever									1			1
Influenza												

2.—DIARRHŒAL DISEASES.

Simple Cholera												
Diarrhœa, Dysentery	7	1								1		9

3.—MALARIAL DISEASES.

Remittent Fever												
Ague												

4.—ZOOGENOUS DISEASES.

Cowpox and Effects of Vaccination												
Other Diseases (*e.g.*, Hydrophobia, Glanders, and Splenic Fever)												

5.—VENEREAL DISEASES.

Syphilis												
Gonorrhœa, Stricture of Urethra												

6.—SEPTIC DISEASES.

Erysipelas	1											1
Pyæmia, Septicæmia			1									1
Puerperal Fever					1	1						2

Deaths Registered from all Causes—continued.

	Ages.											
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 & upwds	Totals.
II.—PARASITIC DISEASES.												
Thrush, and other Vegetable Parasitic Diseases ...												
Worms, Hydatids, and other Animal Parasitic Diseases												
III.—DIETETIC DISEASES.												
Want of Breast Milk, Starvation	1											1
Scurvy												
Chronic Alcoholism												
Delirium Tremens												
IV.—CONSTITUTIONAL DISEASES.												
Rheumatic Fever, Rheumatism of the Heart ...			2	1		1						4
Rheumatism				1								1
Gout								1				1
Rickets	1											1
Cancer, Malignant Disease						2	1		2	1		6
Tabes Mesenterica												
Tubercular Meningitis, Hydrocephalus	2	4	1									7
Phthisis		1	2	5	4	10	3	4	1			30
Other forms of Tuberculosis, Scrofula	3	2		1	1							7
Purpura, Hæmorrhagic Diathesis							1					1
Anæmia, Chlorosis, Leucocythæmia												
Glycosuria, Diabetes Mellitus			1				1					2
Other Constitutional Diseases												
V.—DEVELOPMENTAL DISEASES.												
Premature Birth	9											9
Atelectasis	3											3
Congenital Malformations	2											2
Old Age									5	11	6	22
VI.—LOCAL DISEASES.												
1.—Diseases of Nervous System.												
Inflammation of Brain or Membranes		1	2						1			4
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis						1	3	1	3	2	2	12
Insanity, General Paralysis of the Insane								1				1
Epilepsy							1					1
Convulsions	8	2										10
Laryngismus Stridulus (Spasm of Glottis)	1											1
Disease of Spinal Cord, Paraplegia, Paralysis Agitans						1		1	1			3
Other Diseases of Nervous System			1									1
2.—Diseases of Organs of Special Sense. (*e.g.*, of Ear, Eye, Nose)												

Deaths Registered from all Causes—continued.

	Ages.											Totals.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 & upwds	
3.—Diseases of Circulatory System.												
Pericarditis												
Acute Endocarditis			1									1
Valvular Diseases of Heart							1		1	1		3
Other Diseases of Heart	1			1		2	5	4	6	5		24
Aneurism												
Embolism, Thrombosis							1					1
Other Diseases of Blood Vessels									1			1
4.—Diseases of Respiratory System.												
Laryngitis												
Croup												
Emphysema, Asthma										1		1
Bronchitis	9	2	2					2	3	4		22
Pneumonia	3	4	2	2	3		2			1	1	18
Pleurisy	1											1
Other Diseases of Respiratory System												
5.—Diseases of Digestive System.												
Dentition		1										1
Sore Throat, Quinsy												
Diseases of Stomach	2									1		3
Enteritis	2											2
Obstructive Diseases of Intestines	2		1									3
Peritonitis												
Ascites												
Cirrhosis of Liver					1			1	1			3
Jaundice and other Diseases of Liver	1							2	1			4
Other Diseases of Digestive System						1						1
6.—Diseases of Lymphatic System.												
e.g., of Lymphatics and of Spleen)												
7.—Diseases of Gland-like Organs of Uncertain Use.												
e.g., Bronchocele, Addison's Disease)												
8.—Diseases of Urinary System.												
Nephritis		1						1	2			4
Bright's Disease, Albuminuria									1			1
Disease of Bladder or of Prostate							1		1	1		3
Other Diseases of the Urinary System												
9.—Diseases of Reproductive System.												
A. *Of Organs of Generation.*												
Male Organs												
Female Organs												
B. *Of Parturition.*												
Abortion, Miscarriage												
Puerperal Convulsions												
Placenta Prævia, Flooding					2							2
Other Accidents of Childbirth												

Deaths Registered from all Causes—continued.

	Ages.											Totals.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 88	85 & upwds	
10.—Diseases of Bones and Joints.												
Caries, Necrosis												
Arthritis, Ostitis, Periostitis												
Other Diseases of Bones and Joints												
11.—Diseases of Integumentary System.												
Carbuncle, Phlegmon												
Other Diseases of Integumentary System	1											1
VII.—DEATHS FROM VIOLENCE.												
1.—Accident or Negligence.												
Fractures or Contusions												
Gunshot Wounds												
Cut, Stab			1	1								2
Burn, Scald												
Poison												
Drowning							1				1	2
Suffocation	2						1					3
Otherwise							1					1
2.—Homicide.												
Manslaughter												
Murder	1											1
3.—Suicide.												
Gunshot Wounds					1	1						2
Cut, Stab						2						2
Poison				1								1
Drowning												
Hanging												
Otherwise					1							1
4.—Execution.												
Hanging												
VIII.—DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.												
Dropsy												
Debility, Atrophy, Inanition	7								1			8
Mortification												
Tumour												
Abscess		1										1
Hæmorrhage												
Sudden Death (cause not ascertained)												
Causes not Specified or Ill-defined												

SUMMARY OF TABLE VI.

	No. of Deaths.
I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES.	
1. Miasmatic Diseases	32
2. Diarrhœal ,, ...	9
3. Malarial ,, ...	—
4. Zoogenous ,, ...	—
5. Venereal ,, ...	—
6. Septic ,, ...	4
II.—PARASITIC DISEASES	—
III.—DIETETIC DISEASES	1
IV.—CONSTITUTIONAL DISEASES	60
V.—DEVELOPMENTAL DISEASES	36
VI.—LOCAL DISEASES.	
1. Diseases of Nervous System	33
2. Diseases of Organs of Special Sense	—
3. Diseases of Circulatory System	30
4. Diseases of Respiratory System	42
5. Diseases of Digestive System	17
6. Diseases of Lymphatic System	—
7. Diseases of Gland-like Organs of Uncertain Use ...	—
8. Diseases of Urinary System	8
9. Diseases of Reproductive System—	
(a) Diseases of Organs of Generation	—
(b) Diseases of Parturition	2
10. Diseases of Bones and Joints	—
11. Diseases of Integumentary System	1
VII.—VIOLENCE.	
1. Accident or Negligence	8
2. Homicide	1
3. Suicide	6
4. Execution	—
VIII.—ILL-DEFINED AND NOT SPECIFIED CAUSES	9
TOTAL	299

Deaths in Public Institutions.

The deaths in institutions in the District numbered 263 in 1894, 132 being those of males, and 131 those of females.

One hundred and eighty-five deaths occurred at Cane Hill Asylum, in Coulsdon parish, which is one of the large Metropolitan County Asylums for the Insane, and contained on an average 2,016 inmates in 1894. One death was due to erysipelas, one to diarrhœa, and 35 to pulmonary consumption. There were also 2 deaths, concerning which coroners' inquests were held, the cause of death in each being attributed to natural causes.

Sixty-nine deaths occurred at the Holborn Union Workhouse, in the parish of Mitcham, which contained on an average 872 inmates. Nine of the deaths were due to pulmonary consumption. Three of the deaths were referred to the coroner, an inquest being held on two; the "uncertified" death being ascribed to "hæmoptysis." One of the deaths, concerning which inquests were held, was due to "accidental," and the other to "natural" causes.

Five deaths occurred in the Industrial Schools of the Holborn Union, also in Mitcham parish, the average number of residents being 447; 3 of these deaths were due to whooping cough.

Two deaths also occurred at Reedham Orphanage, in Coulsdon parish; and 2 at the Russell Hill School, in Beddington parish; these deaths have been included in those accounted to the District itself.

III.—INFECTIOUS DISEASE.

The Infectious Disease (Notification) Act has been in force in the District since the early part of 1890; and in July, 1890, measles was included as one of the notifiable diseases.

During 1894, 664 cases of infectious disease were notified; 81 of which occurred in public institutions.

The following table shows the number of cases of infectious disease notified in the District for each year since the Act came into force.

	1890.	1891.	1892.	1893.	1894.	
					Private Houses.	Public Institutions.
Small-pox	—	—	7	1	1	1
Scarlatina	109	83	117	316	80	19
Diphtheria	19	17	16	44	63	—
Membranous Croup...	1	—	—	—	1	—
Typhoid Fever	14	8	12	23	12	—
Continued Fever ...	—	—	—	1	—	—
Puerperal Fever ...	1	1	1	4	6	—
Cholera	—	—	—	1	—	—
Erysipelas	4	13	22	31	13	5
Measles	134	247	579	138	402	56
*Acute Diarrhœa ...	—	—	—	—	5	—
Totals	282	369	754	559	583	81

The following table shows the number of notified cases in each parish in the District.

TABLE G.—Notified cases of infectious disease in 1894, including institutions.

Parishes.	Addington.	Beddington.	Coulsdon.	Merton.	Mitcham.	Morden.	Sanderstead.	Wallington.	Woodmansterne.	The District.
Small-pox	—		1		1					2
Scarlatina	1	8	2	17	53	4	5	9		99
Diphtheria and Membranous Croup ...			6	6	50			2		64
Typhoid Fever			4	2	2			4		12
Puerperal Fever					3	2		1		6
Erysipelas		3	3	5	6			1		18
Measles		14	19	4	83	2		336		458
Acute Diarrhœa					5					5
Totals	1	25	35	34	203	8	5	353		664

* Acute diarrhœa was a notifiable disease for a few weeks in September, 1894.

Small-pox.—Two mild cases of this disease were reported. The first case was notified on April 26th, from a house in Kenley, in the parish of Coulsdon. The household consisted of 5 adults, 3 females, and 2 males, both of whom were engaged daily in business in London. There was also a domestic servant, who slept at her own home near at hand. The information given was that all had been re-vaccinated about 15 years previously, except one of the sons, aged 30. This gentleman was attacked with lumbar pain on April 2nd, and had some spots on the 4th, but thinking that he had an attack of influenza, did not consult a medical man at all, and, indeed, travelled daily by railway to London, and went about his occupation as usual. On April 22nd his sister first complained of feeling unwell, and after consulting a medical man, the case was pronounced to be one of modified small-pox, and was so reported on the 26th. Upon this diagnosis, the brother, who had first been unwell, made enquiries, and found that on March 21st, exactly 12 days before he felt ill, he had conversed for some little time with, and had received some cash from, a man whose wife and children had just previously been removed to a small-pox hospital, and who, moreover, was himself removed 2 days later. There cannot be much doubt, therefore, but that this gentleman had in reality suffered from a mild attack of small-pox, and that his sister caught the disease from him. Another sister left her home in Kenley to stay with friends on April 13th, and it appeared that she was also attacked with lumbar pain on April 20th, but although I communicated with the Medical Officer of Health, the only information obtained was that the diagnosis was influenza. The domestic servant alluded to above, was a daughter of the local constable, whose family consisted of a wife and 4 children. The girl was employed daily at the infected house until 26th April, and when the diagnosis of small-pox was made, was promptly sent home. Steps were immediately taken with a view to prevent the spread of the disease in this household, and on my urgent representations, the entire family was re-vaccinated successfully, except the father, who, in

accordance with police regulations, had been vaccinated 4 or 5 times.

As regards the infected house, it was only with the greatest difficulty that I succeeded in getting the most ordinary precautions observed, and re-vaccination was strenuously opposed, although urged by Dr. Seaton as well as myself. The persons concerned were opposed on principle to vaccination, and the medical attendant also declined to advise it. The disinfection of the house was carried out thoroughly, and quarantine was maintained with great difficulty for nearly 14 days afterwards. Under the circumstances it was fortunate that no further case occurred.

The other case occurred at the Holborn Union Workhouse, in Mitcham; this was also a very mild case, and as soon as diagnosed, was removed to the South Eastern Fever Hospital, and everything possible was done in the way of disinfection. Nearly all the inmates of this Workhouse had been re-vaccinated about 18 months previously, the person attacked having been among them. There was no clue to the source of this case, except that he had slept in a bed next to one, which had been occupied, for a few nights only, by a casual inmate.

Scarlatina.—This disease was not very prevalent during 1894, only 80 cases having been reported from private houses, which is a great reduction from the record of the previous year, when 316 cases were notified. There were five deaths, including two in the Croydon Infirmary, registered as due to "(1) scarlatina, and (2) diphtheria;" which gives a case-mortality of $6\frac{1}{4}$ per cent. Nineteen cases occurred in institutions; 12 being at the Holborn Schools, and 7 in a charitable home in Merton parish. The first outbreak (4 cases) occurred here in July; the cases were removed, and the premises disinfected; but 12 days afterwards another case occurred, whereupon I examined all the boys, and succeeded in finding one who was in the "peeling" stage, and who had had no observed eruption.

Only one more case occurred, soon after this boy was isolated, but doubtless others would have arisen from this hidden one, had no examination been made.

Diphtheria and Membranous Croup.—The prevalence of diphtheria has been one of the features of 1894. Sixty-four cases (including one of membranous croup) were notified from 37 houses. Special reports, dealing in detail with the prevalence of this disease, have been laid before the Sanitary Authority and the Council, and therefore it will only be necessary to record here the salient points.

The monthly incidence of the disease is shown in the following table.

TABLE H.—Cases of diphtheria notified in 1894.

	Mitcham.		Merton.		Other parts of District.		Total.	
	Cases.	Houses Infected	Cases.	Houses Infected	Cases.	Houses Infected	Cases.	Houses Infected
January	2	1			1	1	3	2
February	9	6	1	*1			10	7
March			1	*1	4	3	5	4
April	16	} 6					16	} 8
May	4	}	2	2			6	}
June	3	3					3	3
July	1	1			1	1	2	2
August...	4	1			1	1	5	2
September	2	2			1	1	3	3
October								
November	4	1					4	1
December	5	4	2	1			7	5
Total	50	25	6	5	8	7	64	37

The number of deaths was 21, including one from membranous croup, giving a case-mortality of 32·8 per cent. All the fatal cases occurred in Mitcham and Merton, the case-mortality being 37½ per cent. for those parishes.

* These two houses closely adjoin Mitcham parish.

Thirty-four males and 30 females suffered from the disease, and 13 males and 8 females died.

The ages of those suffering from the disease is shown in the following table :—

	Cases	Deaths	Case-mortality
Under 5 years	19	8	42 per cent.
5 to 10 years	26	8	30½ per cent.
10 to 15 years	10	5	50 per cent.
15 years and upwards	9	nil	—

The majority of the cases is thus seen to have occurred in those of school age (5 to 15 years).

The special feature of this disease in 1894, namely, its disproportionate incidence upon a particular portion of Mitcham, and closely adjoining portion of Merton, has been the subject of one of the special reports above alluded to, which attempted to show that serious conditions affecting the sewerage of that locality, resulting from the "heading back" of sewage in the sewers, have led to pollution of the soil by sewage, which has in turn contributed to the extensive prevalence of unhealthy throats among the population, as was proved by examination of the children attending the Board School in this neighbourhood, where no less than 47 per cent. of the scholars were discovered to be the subjects of chronic tonsillitis and a very pronounced form of granular pharyngitis.

Diphtheria is now known to be caused by a bacillus, known as the Klebs and Löffler bacillus, which usually takes up its position in the throat, and there produces various substances, which are absorbed by the system generally, and cause symptoms of profound poisoning.

The development of this bacillus, like that of all bacilli, is greatly influenced by the soil on which it has to grow, and the resistance it has to overcome. It is only reasonable to conclude that an "unhealthy" throat is, in itself, more favourable for its reception and development than a healthy one, and when this is combined with a somewhat lowered vitality such as must exist

among those living in a locality, the soil of which is more or less polluted with sewage, it is by no means surprising that in the conflict for supremacy which takes place between the individual and the bacillus, the latter should frequently gain the upper hand.

Although, therefore, it would not be accurate to say that sewage-polluted soil caused, or could have caused, the diphtheria prevalence, yet, given the initial presence of the diphtheria bacillus—and near London it would be difficult to exclude it altogether—it is obvious that such a condition must in time render the locality a favoured spot for the disease, since it produces conditions which are favourable for the reception of its micro-organism, its multiplication, and the development of its most vigorous properties.

In consequence of recent researches, the view taken now by the best authorities, is that diphtheria is not a "filth" disease as was once so commonly thought; that is, that the presence of unsanitary conditions, such as bad drainage, accumulations of filth, dampness, or offensive nuisances, cannot actually *cause* diphtheria, provided that the specific bacillus is absent.

Evidence is constantly accumulating, which tends to prove this in regard to diphtheria, as well as most infectious disorders; but this evidence also points to the conclusion that there must be some other factors, besides the presence of bacilli, which determine whether an individual is attacked with such diseases or not; otherwise, infectious disorders would be much more universally prevalent.

Briefly stated, the most important factor is what is called the *susceptibility* of the individual, and probably the most potent agents which influence this susceptibility, are the healthy or unhealthy conditions under which the individual lives.

Although, then, the opinion now prevails that "smells," "bad drains," and so forth, cannot *cause* diphtheria, or, probably, any infectious disease, as was once firmly believed, yet such

conditions operate very largely indeed in determining the susceptibility of persons, when the specific micro-organism happens to appear, so that it is as important as ever that such matters should receive attention, and that their causes should be removed.

Nevertheless, it is very important that as much as possible should be done to discover the existence of these active organisms; and it may be presumed that at some future time every District will have a centre, at which investigations in this direction can be carried out, not only to determine the possibility of certain diseases appearing, but also to determine the positive existence of such disease.

In the case of diphtheria, it is becoming a more and more common practice to decide by such bacteriological methods whether the disease is diphtheria or not; and also to decide when the disease, or rather its infectivity, has come to an end. The necessity for the latter was shown in a striking way in this District. Two persons, suffering from diphtheria, were removed from a house in Mitcham to the Croydon Infirmary, towards the end of August, and one of them died there. The other was detained until the second week in November, owing to protacted cardiac weakness; nevertheless, after this prolonged detention, as soon as the patient returned home, the disease reappeared among her relatives, and the patient herself had a second attack. I understand, also, that a young man living in Croydon, to whom this patient was engaged, was also attacked with the disease, and died. Consequently, on my advice, arrangements were made towards the close of the year for the bacteriological examination of throats after diphtheria, to determine the actual termination of the illness, and in the future this will be carried out in every case in the District before isolation is relaxed, or disinfection performed.

Fever.—Twelve cases of Enteric or Typhoid Fever were notified, the diagnosis of one of which was afterwards reviewed and altered. Of the eleven remaining cases, three occurred in

persons who had arrived in the District, either actually suffering from the disease, or who were attacked within a few days, and therefore could not have contracted the disease in the District. There were two other cases, which might also have been contracted outside the District.

Besides these, there was one which occurred in a person who had frequently consumed water from the river Wandle; another in a person who had slept for twelve nights with a friend, a visitor in the District, who was then detained at St. Bartholomew's Hospital for typhoid fever; and another was in a young man who was occupied as a watercress seller.

The possibility that watercress can give rise to this disease was brought prominently before the public towards the end of the year, and the matter being one which very closely concerns portions of the District, I suggested to the Council at its first meeting, without expressing any opinion as to the probability of the danger, that it would be advisable to have a bacteriological examination made by Dr. Klein, and this the Council agreed to at a subsequent meeting. The result of this investigation will be awaited with great interest.

Four of the eleven cases of typhoid occurred in Wallington, 3 in Coulsdon (1 in Purley and 2 in Kenley), 2 in Mitcham, and 2 in Merton. Two of the cases were fatal.

Puerperal Fever.—Six cases of this disease occurred, in four of which the patients had been attended by midwives. Two of the cases occurred in the practice of one midwife, and she was cautioned not to attend any more women for some time, and her clothing was disinfected. There were two deaths.

Measles.—The prevalence of this disease in Wallington was another of the features of the year under review. Throughout the District 458 cases of measles were notified, 402 of which occurred in private houses; the remaining 56 cases occurred in the Holborn Schools, in Mitcham.

The monthly occurrence is shown in the following table :—

TABLE J.—Cases of measles notified in 1894.

Month.	Cases at the Holborn Schools.	Cases in Private Houses.	Private *Houses* infected.
January	36	3	3
February ...	1	10	5
March		1	1
April		2	2
May		10	6
June		5	4
July		12	10
August	2	11	8
September ...	11	10	8
October	2	196	100
November ...	4	120	58
December ...		22	10
Total	56	402	215

Exclusive of the cases notified from the Holborn School, the incidence of the disease on the separate parishes, was as follows : 2 cases occurred in Morden, 4 in Merton, 14 in Beddington, 19 in Coulsdon, 27 in Mitcham, and 336 in Wallington. Assuming, for the present, that every case was notified, it is thus seen that the disease, although present to a greater or less extent in most of the parishes, was epidemic in Wallington only.

The epidemic in this parish commenced towards the end of September, was at its height in October and November, and came to an end with the close of the year. Of 348 cases notified in these last four months, 326 occurred in the parish of Wallington. It commenced in Upper Wallington and South Beddington by means of a few scattered cases, which, being unnotified, were not discovered until the schools in Wallington proper had become infected, and the great outburst occurred. The National Schools were closed on October 3rd, and it is worthy of note, that after the 20th of that month no fresh house was invaded, from which children had attended either of the National Schools. The date of invasion was almost invariably regarded as the date

on which the rash was first noticed, and since the rash appears usually on the fourth day of illness, the above fact shows that the incubation period was in no case longer than thirteen days; which is in general accordance with the records of most observers.

From Wallington proper, the disease spread towards the end of October to the Hackbridge and Beddington Corner divisions of the parish, but as the cases were not so numerous, the National School at the latter place was not closed.

It is a remarkable fact that but one death was registered as due to measles throughout this epidemic—one death in 336 known cases, it being more than probable that there were several other cases which were not notified.

The District is, I believe, the only district in the County of Surrey, and one of the very few in England and Wales, where measles is a notifiable disease. The utility of the notification of this disease is a very debateable question, and the opinion I have formed from the experience of this epidemic is, that if notifiable at all, it should be so on a basis somewhat different from that of other diseases.

Measles is a disease which is highly infectious for several days before it can be recognised and notified, owing to the late appearance of its distinctive rash; consequently much of the mischief is done before notification. Numerous cases are so mild that no medical man is consulted, and no medical notification is obtained; the only notification being then from householders, which is frequently not forthcoming, and even when it is, it is obvious that the diagnosis must frequently be faulty, and thus notification from such a source is not of very great value. In the epidemic in question, the first or most important cases thus escaped notification. The disease, moreover, spreads so rapidly, that it is absolutely impracticable, in a district such as this, to carry out those measures of disinfection which we regard as essential in other diseases; and finally, it is a disease that is not seriously regarded by the public, which renders it extremely

difficult to secure the adoption of proper precautions. If the last reason was the only one that could be put forward against the notification of measles, it would be argued that no doubt, in time, the public would gradually become alive to the importance of co-operating in checking its spread, but, apart from this, the characteristics of the disease seem to be such that notification fails in leading to appreciable prevention, and therefore entails an expenditure which does not yield an adequate return.

If the notification, in regard to measles, of first cases only, or infected houses, could be required, as much benefit would accrue as under the present system, and the saving thereby effected could be more usefully employed by requiring the notification of Diarrhœa and Phthisis.

Whooping Cough.—This disease caused only two deaths, and it is safe to presume that it was not very prevalent in 1894, a fact of some interest, because it has frequently been observed that epidemics of measles and of whooping cough occur concurrently.

Diarrhœa.—The year 1894 was, almost everywhere, marked by an unusually low prevalence of this disease, due mainly, no doubt, to the cold, wet summer of that year, contrasting sharply with the experience of the previous hot year. Nine deaths, only, occurred in the District, as compared with 20 in 1893, and an annual average during the preceding 10 years of over 13. Six of the deaths occurred in Mitcham. In accordance with a suggestion from the Local Government Board, made in view of a possible reappearance of cholera, the Sanitary Authority adopted "acute diarrhœa" as a notifiable disease from the beginning of September until the 30th of that month. During that period, five case were notified, all of which occurred in Mitcham. Three of the cases occurred in two adjoining houses, supplied with water from the same cistern, which had evidently become fouled in some way; everybody who drank the water suffered from diarrhœa, or other abdominal trouble.

Diarrhœa is a disease which is so commonly intimately dependent on sanitary shortcomings, that great benefit would, beyond a doubt, accrue to the District if it were, in its acute form, a notifiable disease, as has been mentioned under the subject of measles.

Notification of Infectious Disease outside the District.—A report was presented to the Sanitary Authority during the year, showing that it would be very useful if periodical information could be given of the prevalence of infectious disease in the Districts adjoining this, and, in consequence, a communication was addressed to the Surrey County Council, asking if arrangements could be made by which this could be effected. The County Council received the suggestion cordially, and it is understood that in the coming year, provided it can be mutually arranged, Dr. Seaton will be enabled to supply the various Medical Officers of Health in the county with periodical returns for their information, showing the prevalence in each District of certain diseases—returns which will necessarily be of great value, and probably tend to check the spread of disease from one District to another.

IV.—ISOLATION AND DISINFECTION.

The year 1894 has been the first complete year during which this District has been without an Isolation Hospital. Until September, 1893, patients from the District were admitted into the infectious wards of the Croydon Union Infirmary, but in consequence of the objections of the Local Government Board, since that date this accommodation has not been available, except for the comparatively small number who are classed as "paupers."

Our means of dealing with outbreaks of infectious disease have thus been seriously interfered with, and the result is plainly shown in the history of the prevalence of diphtheria in the District in 1894, when it frequently happened that several cases occurred in a house, owing to the impossibility of procuring anything like efficient isolation.

As soon as the Croydon Union Infirmary was closed to the infectious sick of this District, the Sanitary Authority took steps to find a suitable site for an Isolation Hospital of their own. Enquiries were made of a large number of owners of land in the most central portions of the District, but for a long time unsuccessfully. The Croydon Corporation was approached as to some land in their possession near Beddington Corner, but without success. The Conservators of Mitcham Common were also approached, but they replied that they had no power to sell land for this purpose, which was very unfortunate, for several suitable sites, inconveniencing nobody, could have been found on the fringes of the common. The Ecclesiastical Commissioners were also approached in regard to some land near Waddon Marsh-lane, but although willing to sell a portion to the Authority, they declined to proceed further, upon Croydon objecting to the proposal, the land in question being just within the borough boundary, though not far from the Borough Isotion Hospital.

Several private owners were also approached, but while some were willing to sell very large areas only, others were willing to sell suitable sites, until the purpose for which land was required had to be explained.

However, towards the end of the year a site was found, the owner of which was willing to entertain the subject, and eventually the Sanitary Authority decided to purchase it, provided the sanction of the Local Government Board was obtained.

The site is on sloping ground adjoining the river Wandle, near Beddington Corner, and is just within the boundary of Carshalton parish. It is central, approached by very good roads, and provided with easy means of water supply and sewerage, its only fault being that it is somewhat large. As the year closed, application was made to the Local Government Board to sanction a loan of £4,500, for the purchase of this site.

In the absence of any outside means of isolation, as much as possible has been done to prevent the spread of infectious disease.

In all cases of small-pox, scarlet fever, diphtheria, typhoid fever, puerperal fever, and measles, visits have been paid by the Medical Officer of Health or one of the Inspectors, instructions have been given as to the most efficient means of isolation, and the precautions to be observed to prevent the spread of infection. Disinfectants (perchloride of mercury in cases of typhoid fever, and carbolic acid in other cases) have been issued free of charge. Notifications, prohibiting attendance, have been sent to schools; and, where necessary, persons have been warned not to pursue their occupations. Whenever possible, cases have been removed to the Croydon Infirmary.

Upon the receipt of a certificate of the termination of a case from the medical attendant, infected rooms have been fumigated by the officers of the Council, and subsequently cleansed thoroughly by owners. Disinfection of 111 houses was thus carried out. Ultimately, after periods varying for different diseases, notices permitting attendance at school have been given.

At the commencement of the year, arrangements were completed for the removal of all infected bedding and clothing to the steam disinfector, attached to the Croydon Infirmary, where 2,675 articles have been disinfected during the year, with comparatively very few complaints of damage from owners of the clothing.

In cases of typhoid fever, the excreta pails have always been provided for the reception of all infected material, and periodically removed to the Sewage Works, where the contents are burnt.

In cases of puerperal fever, infected bedding has been destroyed, and compensation paid.

The shelter for the accommodation of persons temporarily displaced from their homes during disinfection, which was provided at the end of 1893, has been very useful occasionally, and, doubtless, when better known, advantage will be more frequently taken of it.

V.—WATER SUPPLY.

The mains of several Water Companies extend through the different parishes in the District, and form the main source of supply to the inhabitants. Part of Addington is supplied from the waterworks belonging to the Croydon Corporation; Kenley and Purley, in Coulsdon parish, and Sanderstead, are supplied by the East Surrey Water Company; Beddington, Wallington, Woodmansterne, and Morden, by the Sutton Water Company; and Mitcham and Merton by the Lambeth Water Company.

Other sources of supply, such as deep wells, artesian wells, and shallow surface wells, exist in various parts, and in eight cases have been analysed by Dr. Stevenson. Five of these water supplies were condemned by him as unfit for drinking purposes, Water Company's water being in each case substituted; one was stated to be suspicious, while the remaining two were certified to be of high organic purity.

As the year closed, a room was provided, and the necessary materials and chemicals obtained at a small outlay, for establishing a laboratory for the chemical examination of water-samples, and in the coming year the Medical Officer of Health will be in a position to analyse drinking waters, and samples of effluent from the Sewage Works, at a much diminished cost to the District. It would be as well if apparatus were obtained, to enable the more important bacteriological investigations connected with water, as well as certain diseases, to be carried out at this laboratory.

Besides the above cases, there were two others where it was unnecessary to analyse the water, and in which steps have been taken to remove the existing source of supply.

One was the case of four houses supplied by a spring, on the banks of the river Wandle in Beddington, which was unprotected from contamination by surface water from the adjoining road, and was also occasionally fouled by escapes of gas from the

contiguous mains in the road. As the year closed, the Sanitary Authority were about to connect the houses with the water mains, in default of the owner.

The other case has been previously referred to in the annual report for 1893, page 24. The Sanitary Authority, in consequence of reports made to them, requested the East Surrey Water Company to extend their mains for the benefit of several houses at Coulsdon Common, supplied by rain water. Upon this request being complied with, a notice was duly served upon the owner to connect the houses with the extended main.

After some delay the necessary pipes were laid, and fittings and taps supplied in the various houses, but as soon as the water was turned on from the main, it was turned off by order of the owner.

This proceeding was reported to the Council at its first meeting, and the owner was called upon to comply with the notice, but at the close of the year, the occupiers of these houses were still consuming rain-water, which is stored in underground tanks, is possessed of distinct odour and taste, always thick, and very thick when disturbed by a shower of rain, and, moreover, in which are animalculæ, visible to the naked eye.

VI.—SEWERAGE AND SEWAGE DISPOSAL.

The questions of improving the sewerage of the parishes of Beddington, Wallington, Mitcham, Merton, and Morden, and of remedying the defects at the Sewage Works have been burning questions throughout the year 1894, and have been at almost every meeting under consideration in some form or other.

Early in the year, Mr. Chatterton, who had been requested to advise the Sanitary Authority, presented his report, and, briefly stated, he recommended that alterations should be made at the works, so that chemical precipitation might be employed as a preliminary treatment of the sewage, before final treatment on the land or on artificial filters. He further recommended

that it would not be justifiable to interfere largely with the sewers, which admittedly allowed the entry of large volumes of subsoil water, but advised that those most defective in this respect should be dealt with from time to time.

Shortly after this report was received, changes occurred in the staff of the Authority, and the new surveyor, Mr. Forder, was instructed to report and draw up a scheme for the improvement of the Sewage Works. Mr. Forder also recommended chemical precipitation, and ultimately complete plans of the proposed settling tanks, plant, and so forth, were prepared. Very careful consideration was given to these plans, and at length, as the term of office of the Authority had almost expired, it was decided to take no decisive action until the District Council had had an opportunity of considering the subject; and at the close of the year the matter remained there.

One of the difficulties at the works consists in the large amount of detached "sewage-fungus" which finds its way into the river with the effluent. Mr. Forder recommended, as a temporary expedient, the adoption of a system of wire-screens, which has now been completed. These screens require the attention of three men, employed in shifts, and although the screens do not exclude all the fungus, yet they undoubtedly do prevent a very large quantity of fungus from daily entering and polluting the river.

In considering the best way out of the difficulties connected with the sewage scheme of this District, it is necessary to bear in mind that, when first designed, it was intended that the sewage should be purified by means of intermittent downward filtration, owing to the restricted area of the land available. For this process the preliminary settlement, as complete as possible, of the solid matters suspended in sewage is an essential, and for this purpose a "settling-tank," with coke screens was provided. In consequence, however, of the volume of sewage being under-estimated, owing to the admission of large volumes of subsoil water into some of the sewers, the so-called "settling-

tank" by no means answers its purpose. The volume of sewage is so large, that it passes through this tank far too rapidly to permit more than a comparatively trifling deposit of solid matter in it, and, instead, the solids pass on to the land, and are there deposited, where they interfere completely with the action of the soil as a rapid filtering medium.

This constitutes the main difficulty, but there is no reason to suppose that it would not be removed, if settling or precipitation tanks were provided large enough to ensure very slow or intermittent passage of sewage through them, whereby, especially if assisted by chemical precipitants, the vast bulk of the solids would be left behind, and the soil would be enabled to rapidly purify the thus clarified sewage.

Improvements at the works are essential to prevent river pollution and nuisance in their neighbourhood, arising from the stagnant pools of sewage, and from the decomposition of the foul solid matters deposited upon the surface of the soil. But it is necessary to point out that it is of more immediate concern, that sewage should be, at all times, effectually removed from the sewers in the District, and it is to be hoped that the Council will adopt no improved scheme, which will in any way permit of the "heading back" of sewage in the sewers. Closely connected with this "heading back" of sewage, for it is dependent upon it, is the overflow, which exists in Mitcham, from one of the main sewers into the river Wandle; an overflow which at the present time permits the escape of volumes of sewage into the river, after slight rainfall, and which occurs, moreover, at a spot near which there is a considerable population.

These matters are, no doubt, bound up intimately with the contemplated improvement at the works, but their existence within the District itself, affecting, as they have been shown to do, the health of the population, is an additional and most pressing reason for urging, without delay, the completion of the improvements.

Since whatever is done will entail considerable cost, over and above the already large amount of money spent upon the sanitary improvement of this part of the District, it will be useful to enquire whether these improvements have resulted in any substantial benefit to the health of the community.

The original scheme of sewerage was instituted about the year 1881, the parishes included being Beddington, Wallington, Mitcham, Merton, and Morden, and it so happens that these parishes, together with Woodmansterne, constitute the Mitcham Registration sub-district, the returns of which, from the year 1871, have, with the consent of the Registrar-General, been placed at my disposal. The inclusion of Woodmansterne is not sufficient to vitiate any facts to be learned from these returns, which have been analysed as follows, on the well-recognised plan adopted in similar enquiries in other parts of the country.

For purposes of comparison, two periods have been taken; the first being the 10 years 1871-1880, which immediately pre ceded the institution of the sewage scheme, and other sanitary improvements accompanying it; the second period being the succeeding 10 years 1881-1890.

The death-rate for the first period was 15·5 per 1000, while that for the second was 13·7, a difference of 1·8 per thousand.

Expressed in another way, this means that, had the death-rate remained during the decade 1881 to 1890 at its mean level in the preceding decade, the total deaths from 1881 to 1890, inclusively, would have been 2,980, whereas, they were actually 2,630; thus 350 persons, who would have died under the old conditions, were, as a matter of fact, still living at the close of 1890.* Add to these saved lives the avoidance of at least four times as many attacks of non-fatal illness, and we have the total profits as yet received from past expenditure for sanitary improvements.

*Dr. Farr has estimated that £150 is the mean net value of each member of the male population estimated by the standard of the agricultural labourer.

The death-rate from typhoid fever is usually regarded as one of the most sensitive tests of the sanitary condition of a District, and the facts revealed by the above returns in connection with this disease are still more remarkable. In the ten years preceding the sewage scheme, the death-rate from this disease was 295 per *million* living, while during the succeeding 10 years it was only 104 per million, a reduction of no less than 65 per cent. It needs no further comment to show that the money, spent in the past, upon the sewage scheme, and upon improving the water supply and healthiness of houses, has already resulted in some profit.

In other parts of the District, except at Purley in Coulsdon, and at Badger's Hole in Addington, where there are sewers in connection with those of the Borough of Croydon, cesspools are the means generally adopted for disposing of sewage. The position of Kenley in this respect is well worth the earliest consideration of the Council as a part of the District which requires better means of sewage disposal than by cesspools. It is also to be hoped that bye-laws relating to the construction, position, ventilation, and cleansing of cesspools, will soon be in force throughout the District. At the same time, the character of Kenley is such that systematic collection of house-refuse should be carried out, as is done at Purley and all the parishes (except Morden) which are included in the sewage scheme. It is desirable, too, that such collection, wherever made, should be made weekly, instead of fortnightly, as at present.

VII.—NEW STREETS AND BUILDINGS.

The Surveyor, Mr. W. Forder, has furnished the following return of new streets and buildings constructed during 1894 :—

NEW BUILDINGS.

Plans of New Buildings submitted to the Authority	125
Of which were approved	79
Of which were disapproved	46
Amended, re-submitted, and approved...	20
Plans for Additions to New Houses submitted	20
Of which were approved	9
Of which were disapproved	11

Plans of Iron Buildings submitted	5
Of which were approved or licensed	4
Plans for Drainage only, submitted	17
Of which were approved	11

NEW STREETS.

Plans for New Streets and Sewers submitted and approved	10
Streets made up, metalled, and kerbed under Sections 150, 151, and 152, of the Public Health Act	8
Of which have been declared Highways	8

The Bye-laws, dealing with streets and buildings, and all other matters, are still undergoing revision, and it is to be hoped that early in the year there will exist a complete set of modern Bye-laws, applicable to the whole of the District, instead of part only as at present.

VIII.—RIVER POLLUTION.

The condition of that portion of the river Wandle which traverses the District, and that of its various tributaries, has received careful attention during the year, and they have been under close observation from time to time.

Complaint was made early in the year that sewage was, by some means, finding its way into the river at Beddington, from the adjoining Corporation Sewage Farm. Examination revealed that when a certain plot was being irrigated, an increased volume of water found its way into a neighbouring surface-water drain, which finally discharged into the river. An analysis of this water showed that it consisted, largely, of very imperfectly purified sewage.

Since the pollution was discovered, care has, I believe, been taken not to irrigate the land near the drain in question, and it is understood that permanent alterations are about to be made, to prevent any danger of pollution in future.

The pollution from the chemical factory, at Lonesome, in Mitcham, referred to on page 35 of the last annual report, has been under observation several times, and the proprietors, after great delay, have constructed filtering apparatus to prevent the

pollution of the watercourse by the chemical effluents. However, there is every reason to fear that it has not answered expectations, and that additional precautions will be necessary.

An uncommon pollution in connection with another chemical factory came to light during the year. A pond near this factory was noticed to be distinctly tinged with a yellow colour, and water pumped from an adjoining gravel-pit was also bright yellow. Inspection of the factory showed that, although a connection with a sewer was in existence, the "washings of nitro-naphthalene" had been allowed to discharge into an unused ditch, and that the colouring matter had finally reached the sub-soil water. There was no evidence to show that this pollution was injurious to cattle or poultry, and, although stopped at once at its source, the colouring matter is still occasionally pumped out with the subsoil water.

The pollution of the "Pyl Brook," a tributary of the Beverley Brook, at Raynes Park, was also under consideration during the year. Until recently, when sewage works were constructed, the whole of the Sutton sewage was discharged into this brook; and even now an appreciable portion of it still discharges into it. A special report was laid before the Sanitary Authority, detailing this source of pollution as well as other less important ones. The pollution from Sutton still remains, but after a conference between the members of the Sutton Local Board, the Sanitary Authority, and Dr. Seaton, it was arranged that, if the pollution had not disappeared by April, steps would be taken to divert the contents of the brook at the Sutton Sewage Works, and purify them there.

Complaints have occasionally been received of pollution of the river between Beddington Corner and Mitcham, by manufacturing effluents, and even, as alleged, by sewage matter from the Croydon Farm, at Beddington.

This portion of the river is under frequent observation, and it may safely be said that its condition is not very bad, nor so bad

as it was; the existence, however, of a Fishing Association here renders any slight pollution an important consideration.

In connection with this subject, the occurrence of "flooding" from overflow of streams last November may be recorded here. The most serious flooding occurred at Beddington Corner, and at Merton Abbey. Flooding was almost universal at that time of the year, but much might be done in this District, by strengthening the banks of streams in various places, and enlarging communicating culverts, to prevent future occurrences of this sort.

IX.—ROUTINE SANITARY WORK, HOUSE INSPECTION, &c.

A great deal of work has been done during the year to improve the sanitary condition of premises by the Inspectors of Nuisances, under the supervision of, and in conjunction with, the Medical Officer of Health.

This work employs the whole time of two Inspectors, one giving his attention to the parishes of Mitcham, Merton, and Morden, with a population of nearly 16,000, and the other to the parishes of Addington, Sanderstead, Coulsdon, Woodmansterne, Wallington, and Beddington, with a population of over 12,000, scattered over a very wide area. Early in the year, the Inspector of the latter portion of the District resigned his appointment, and Mr. W. Powell, who came from Southampton with excellent credentials, was appointed in his stead. He has, up to the present time, given satisfaction, and has done valuable work, already, in bringing to light many conditions inimical to the health of the District, and both he and Mr. White, the Inspector of the other portion of the District, and an officer of long standing, have assiduously performed all the various duties which have devolved upon them. In the course of the year, the Sanitary Authority resolved that they should be provided with uniforms.

The supervision of the Inspectors' work, by the Medical Officer of Health, referred to in the last annual report, has been continued, including the regular examination of books and registers.

The following is a summary of the work which has been done under the Health Department during the year :—

	Mr. White's District	Mr. Powell's District	Total
Number of complaints received and attended to ...	76	88	164
Number of Premises inspected	1217	832	2049
Total number of Visits paid	2093	2295	4388
Nuisances discovered	312	289	601
,, abated without report	247	203	450
,, ,, after report	45	42	87
"Preliminary" notices served	312	181	493
Legal notices served	81	35	116
Notices followed by legal proceedings	1	1	2
CHARACTER OF WORK DONE—			
Houses cleansed and repaired generally	70	27	97
Houses ventilated	1	2	3
Overcrowding abated	5	8	13
Defective roofs repaired	28	15	43
Houses under-pinned (damp-proof course inserted) ...	0	3	3
Eaves-gutters renewed or repaired	19	14	33
Water-closets renewed or repaired	83	33	116
Indoor soil-pipes abolished, and new ones provided outside and ventilated...	3	3	6
"D" traps abolished	11	16	27
Water closets provided with water for flushing, and disconnected from domestic supply...	40	27	67
Privies or earth-closets converted into water-closets	0	7	7
Privies reconstructed with small movable receptacles, or converted into earth-closets	0	8	8
New receptacles provided for earth-closets or privies	0	6	6
Bath, lavatory, and sink waste-pipes disconnected from drain, and caused to discharge over gully-traps	20	5	25
Houses supplied with water from a water-main ...	21	4	25
Water-tanks or cisterns cleansed or covered	28	13	41
Yards of houses paved with impervious material ...	30	9	39
Paving of yards repaired	10	9	19
Ashpits or dustbins provided	36	17	53
,, ,, cleansed and covered	17	15	32
Cesspools abolished and filled up	1	2	3

	Mr. White's District.	Mr. Powell's District.	Total
New cesspools provided	2	—	2
Drains tested with smoke test	28	8	36
,, ,, ,, and found defective ...	25	7	32
Drains tested with water-test	4	13	17
,, ,, ,, and found defective ...	4	10	14
Houses at which drains were reconstructed or new provided	33	13	46
Houses at which drains were cleansed, ventilated, trapped, or repaired	105	77	182
Drains cut off from discharging into water-courses ...	2	—	2
Stables provided with drainage	1	3	4
Premises from which animals improperly kept were removed	5	4	9
Seizures of unwholesome food	2	1	3
Convictions for selling	1	—	1
Urinals cleansed or repaired	2	1	3
,, supplied with water for flushing	4	—	4
,, reconstructed	7	—	7
Smoke nuisances abated	1	1	2
Offensive accumulations removed	15	11	26
Paving of piggeries repaired	3	1	4
Drainage ,, ,, ...	2	1	3
Infected houses fumigated and cleansed	96	15	111

Besides the above, and resulting from house-to-house inspections made by the Medical Officer of Health with the Inspectors of Nuisances, ten houses were certified to be unfit for human habitation under the Housing of the Working Classes Act, 1890.

A cottage in Woodmansterne was, in consequence, thoroughly repaired, four dwellings in Sanderstead are being replaced by new buildings, and as soon as the latter are completed, the former will be demolished; two dwellings in Beddington were closed voluntarily by the owner; and as to three dwellings in Addington, the necessary notices in regard to them had not expired when the year closed.

There were also three houses at Purley dealt with under the Public Health Act, which were closed by the owner, and have since been demolished.

Application was made for "closing orders" in regard to the three houses in Mitcham (Piccadilly), referred to in the last

annual report, and were granted on the evidence of the County Medical Officer and myself. Subsequently, in consequence of the air-space near these houses being considerably increased, the Sanitary Authority did not oppose the determination of the closing orders in regard to two of the houses.

The long-standing nuisance caused by encampments of gipsies at Beddington Corner, Wallington, close to a considerable population, was, it is hoped, finally abated during the year. Notices were served on a great many individual gipsies, and followed in a number of instances by magisterial proceedings. Convictions were always obtained, accompanied by strong remarks from the Bench, and finally, with the assistance of the police, the ground was forcibly cleared; for a time it was necessary to make special arrangements for watching the ground, but no attempt has been made for several months by the gipsies to regain possession of this land.

Other gipsy encampments have also required to be dealt with elsewhere, mainly in Merton and Mitcham.

X.—REGULATED TRADES AND BUSINESSES.

(*a*) Dairies, Cowsheds, &c.

There are 57 premises registered under the Dairies, Cowsheds, and Milk-shops Order of 1885, five having been newly registered during 1894.

They are distributed as follows :—

Addington	2	Morden	2
Beddington	3	Sanderstead	4
Coulsdon	15	Wallington	8
Merton	10	Woodmansterne	1
Mitcham	12	Total	57

The following are the particulars of inspections of these premises during the year :—

Total number of visits paid to cowsheds, &c.	317
Premises at which improvements in lighting, ventilation, drainage, paving, means of cleansing, or water-supply were effected	13
Premises found unclean	20
Cases where notices for cleansing were necessary	4

Every cowshed in the District has also been accurately measured, to enable overcrowding to be checked. Eight hundred cubic feet is the space allowed for each cow by the regulations in force.

(*b*) Slaughter-houses.

There are 20 premises, in which the slaughtering of animals for the food of man is carried on, of which 16 are regulated by the Bye-laws of the Council. Seven are registered, and 9 are licensed, two new licenses, each for one year, having been granted in the year 1894.

The following are the particulars of the inspections of these premises made during the year :—

Number of visits paid	186
,, meat inspections	51
Premises at which improvements in lighting, ventilation, drainage, paving, water-supply, or means of cleansing have been effected ...	9
Premises found unclean	10
Verbal notices for cleansing complied with	10

The amended Bye-laws for slaughter-houses, and the proposal to extend them to all slaughter-houses, are still under consideration. A public slaughter-house for Mitcham and Merton is greatly needed, and would be of great benefit.

(*c*) Bakehouses.

There are 24 bakehouses, to which 68 visits have been paid. Four of these premises are underground. In two cases, improvements in lighting and ventilation have been effected during the year, four premises were found unclean, two notices for cleansing being necessary.

(*d*) Offensive Trades.

There is one slaughter-house used for the slaughtering of horses, and other animals not intended for the food of man ; and in conjunction with this business, the offensive trade of "boiling" is carried on. These premises were first licensed many years ago,

and at the close of 1893 the proprietors had given an undertaking not to carry on any "boiling" process until the permission of the Authority had been given. Apparatus was constructed with a view to minimising the nuisance arising from this process, and, after consideration, the necessary permission was given. The apparatus resembles other apparatus of a similar nature, in that it is not altogether successful, and occasionally nuisance has been caused. The District Council is now empowered to grant or refuse the license for the future use of these premises upon the expiration of the present license.

At the commencement of the year there were two "gut-factories," but, happily, one has disappeared, mainly in consequence of the successful prosecution instituted in the previous year. The remaining one is situated in the midst of a considerable population, and is occasionally productive of very serious nuisance. It has received frequent attention, and has been the subject of more than one report.

Besides these premises, there is a large number of "piggeries," which, especially when "boiling" of refuse food is carried on as well, are the source of considerable offence. In the case of a large newly-established piggery in Morden, great complaint was made, but the nuisance has almost disappeared with the adoption of apparatus for destroying by fire the offensive fumes given off from the boiling tanks.

These piggeries ought to receive more constant supervision than they now can, and it would also be very useful if a series of Bye-laws for their regulation could be devised.

(*e*) Factories and Workshops.

All the known factories and workshops have been inspected by Mr. Butterworth, who was engaged to take the place of the Inspectors during their absence on annual leave, and remained for some weeks for this work, and to assist in house inspection. It appears that there are over 50 premises of this nature, for the supervision of which, in regard to certain sanitary matters, the Council is responsible.

This work has not been done in the past, and it will be obvious that it cannot properly be done in the future, unless there is an addition to the staff of Inspectors.

The hands of the present Inspectors are full with the work at present thrown upon them, and if this additional duty also devolves upon them, their usefulness in other respects must necessarily be greatly diminished.

The Legislature, however, has cast these duties upon the Council, and if they are to be properly performed, an additional Inspector should be appointed. Such an additional officer would, besides the work in connection with the Factory Acts, be able to exercise more constant supervision over the offensive businesses already alluded to, as well as slaughter-houses and other regulated trades; could assist the Medical Officer of Health with the house-to-house inspection of the District, and, probably, also relieve the present Inspectors of their disinfecting work, which frequently and most inconveniently interferes with their routine duties.

I am,

Your obedient servant,

L. W. DARRA MAIR,
M.D. (Lond.), D.P.H. (Lond.),
&c., &c.

LOCAL GOVERNMENT BOARD TABLES.

A. *TABLE OF DEATHS during the Year 1894, in the Croydon Rural District, classified according to* DISEASES, AGES, *and* LOCALITIES.

Names of Localities adopted for the purpose 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.																						
												Fevers.																			
	At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards.		Smallpox.	Scarlatina.	Diphtheria	Membranous Croup.	Typhus.	Enteric or Typhoid	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy	Heart Disease.	Injuries.	All other Diseases.	Total.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
ADDINGTON	5	1	—	3	—	—	1	Under 5																					1	1
								5 upwds.		1															1				2	4
BEDDINGTON	15	2	2	—	1	5	5	Under 5																					3	4
								5 upwds.																	1	1			9	11
COULSDON	29	4	2	2	1	12	8	Under 5														1							3	6
								5 upwds.						1											1	6	2	5	8	23
MERTON	37	9	3	4	—	13	8	Under 5																					8	12
								5 upwds.			3			1							1	2			1				10	23
MITCHAM	130	46	16	11	7	29	21	Under 5		1	5								1		1	5			1	13		2	33	62
								5 upwds.			5	1					1					1	1		13	5	13	2	26	68
MORDEN	5	2	1	1	—	1	—	Under 5																					1	3
								5 upwds.																	1	1	1		1	2
SANDERSTEAD	5	3	—	—	—	1	1	Under 5																					3	3
								5 upwds.																		1			1	2
WALLINGTON	31	2	2	2	1	8	16	Under 5																					3	4
								5 upwds.									1			1					4	1	6		12	27
WOODMANSTERNE	5	1	1	—	—	—	3	Under 5																					1	2
								5 upwds.																		1			2	3
RUSSELL HILL SCHOOL, BEDDINGTON	2	—	—	2	—	—	—	Under 5																						
								5 upwds.																			2			2
BEDDINGTON ORPHANAGE	—	—	—	—	—	—	—	Under 5																						
								5 upwds.																						
REEDHAM ORPHANAGE, COULSDON	2	—	—	2	—	—	—	Under 5																						
								5 upwds.															1						1	2
CANE HILL ASYLUM, COULSDON	185	—	—	1	11	132	41	Under 5																						
								5 upwds.											1			1			35	26	12		112	185
HOLBORN WORKHOUSE, MITCHAM	69	—	—	—	—	26	43	Under 5																						
								5 upwds.																	9	24	13	1	22	69
HOLBORN SCHOOLS, MITCHAM	5	—	4	1	—	—	—	Under 5													3								1	4
								5 upwds.																					1	1
GROSS TOTALS	525	70	31	29	21	227	147	Under 5		1	1								1		5	8			1	19	1	3	57	101
								5 upwds.		1	8	1		2			2		1	1		2	4		68	70	59	11	194	424

The subjoined numbers have also to be taken into account in judging of the above records of mortality.

Deaths occurring outside the District among persons belonging thereto, and which must be added to above	33	1	4	7	3	10	8	Under 5		1	3																		1	5
								5 upwds.		2	4														5	3	3	2	9	28
Deaths occurring within the District among persons not belonging thereto, and which must be deducted from above	259	—	4	2	11	158	84	Under 5													3								1	4
								5 upwds.											1			1			44	50	35	1	123	255
CORRECTED TOTALS	299	71	31	34	13	79	71	Under 5		2	8								1		2	8			1	19	1	3	57	102
								5 upwds.		3	12	1		2			2			1		1	4		29	23	27	12	80	197

B. *TABLE OF POPULATION, BIRTHS, and OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1894, in the Croydon Rural District, classified according to* DISEASES, AGES, *and* LOCALITIES.

NAMES OF LOCALITIES, adopted for the purpose of these statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	NEW CASES OF SICKNESS IN EACH LOCALITY COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.															NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITALS.			
									FEVERS.													
	Census 1891.	Estimated to middle of 1894.			Smallpox. 1.	Scarlatina. 2.	Diphtheria. 3.	Membranous Croup. 4.	Typhus. 5.	Enteric or Typhoid 6.	Continued. 7.	Relapsing. 8.	Puerperal 9.	Cholera. 10.	Erysipelas. 11.	Measles. 12.	Diarrhœa. 13.	Small-pox. 1.	Scarlatina. 2.	Diphtheria. 3.	
ADDINGTON	670	670	20	Under 5		1															
				5 upwds.																	
BEDDINGTON	2607	2807	53	Under 5		2										3					
				5 upwds.		6									1	11			2		
COULSDON	3335	3568	87	Under 5			2									8					
				5 upwds.	1	2	4			4						11					
MERTON	3360	3517	82	Under 5		3										1					
				5 upwds.		7	6			2					5	3			6		
MITCHAM	10758	11521	365	Under 5		7	17								1	19	1		2	3	
				5 upwds.		34	32	1		2			3		5	8	4		16	6	
MORDEN	763	852	19	Under 5		4													1		
				5 upwds.									2			2					
SANDERSTEAD	509	547	14	Under 5		5															
				5 upwds.																	
WALLINGTON	3823	4280	75	Under 5		3										109					
				5 upwds.		6	2			4			1		1	227					
WOODMANSTERNE	408	438	17	Under 5																	
				5 upwds.																	
RUSSELL HILL SCHOOL, BEDDINGTON	—	—	—	Under 5											1						
				5 upwds.																	
BEDDINGTON ORPHANAGE	—	—	—	Under 5											1						
				5 upwds.																	
REEDHAM ORPHANAGE, COULSDON	—	—	—	Under 5											1						
				5 upwds.																	
CANE HILL ASYLUM, COULSDON	1115	2016	—	Under 5											2						
				5 upwds.																	
HOLBORN WORKHOUSE, MITCHAM	892	872	—	Under 5	1													1			
				5 upwds.																	
HOLBORN SCHOOLS, MITCHAM	477	447	—	Under 5		2										26			2		
				5 upwds.		10										30			10		
GARFIELD HOME, MERTON	—	—	—	Under 5																	
				5 upwds.		7													6		
TOTALS	28717	31535	732	Under 5	2	21	19	1		12			6		1	166	1	1	5	3	
				5 upwds.		78	44								17	292	4		40	6	
(*Excluding Institutions*)	26233	28200																			

Notification of Infectious Disease has been compulsory in the District since 1890. The Workhouse Infirmary at Croydon, is used for the isolation of pauper patients only. Every Institution, except the last, possesses isolation accommodation of its own. Diarrhœa was a notifiable disease during September.