

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

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Public Health Committee
Metropolitan Borough of Woolwich.

Annual Report

OF THE

Medical Officer of Health

FOR

WOOLWICH.

1901.



Metropolitan Borough of Woolwich

Annual Report

OF THE

Medical Officer



WOOLWICH

1961

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District Sanitary Inspectors—

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- JOHN W. RANCE (Cert. San. Inst.), Dockyard and St. Mary's
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- WILLIAM LITTLE (Cert. San. Inst.), Herbert and St. Margaret's
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- WILLIAM WOOD (Cert. San. Inst.), Parish of Eltham
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- WILLIAM BARNES (Cert. San. Inst.), Burrage Ward
- Food Inspector, and Inspector of Cowsheds and Slaughter-
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William Baker (Gen. San. Insp.),
Food Inspector, and Inspector of Canteens and Restaurants,
houses (Woolwich and Plumstead), and Plumstead
houses, Woolwich
William Turner (Gen. San. Insp.), St. Nicholas Ward

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FIRST ANNUAL REPORT

ON THE HEALTH OF THE
METROPOLITAN BOROUGH OF WOOLWICH,

For the year ending 31st Dec., 1901,

BY THE MEDICAL OFFICER OF HEALTH.

*Including the 10th Annual Report of Dr. DAVIES on the
Health of Plumstead.*

*To the Mayor, Aldermen and Councillors of the Borough
of Woolwich.*

MR. MAYOR AND GENTLEMEN,

I herewith present you with my Annual Report on the
Health of the Borough of Woolwich.

PART I.

POPULATION.

1. Appendix A gives the population as found at the recent census, with particulars as to area, number of houses, males and females for each of the three civil parishes, and for each ward.

It is seen that the population has increased in the ten years, 1891 to 1901, nearly 20,000, the increase being almost confined to Plumstead and Eltham.

2. There is an excess of 5000 males over females in the Borough; the excess is mainly in Woolwich parish, and doubtless represents roughly the number of unmarried soldiers in the garrison. Eltham has an excess of nearly 900 females, which doubtless represents largely domestic servants.

3. The largest ward is St. Nicholas with over 19000 persons, the other wards averaging roughly 9000 (River ward 14,000).

4. The number of persons per house is 6.47 in the Borough, 7.65 in Woolwich parish, 6.05 in Plumstead and 5.34 in Eltham. The number of persons per house in Plumstead was slightly higher in 1896, viz, 6.14, and in 1891, 6.07.

5. From a table in the Registrar General's report on the census it appears that the excess of males in the population is almost confined to the age period between 15 and 45 years. This being a period of life which has naturally a low mortality, the excess is favourable to a low death rate. This is only the case in regard to Woolwich parish, for which, the M.O.H. of the London County Council, in order to get a corrected death rate, was in the habit of multiplying the ordinary nett death rate by 1.12713, as compared with London 1.06626, and England and Wales 1.00000. Taking the Borough as a whole, however, compared with London the excess of young males is more than balanced by the fewness of domestic servants.

The population of Plumstead is, as regards age distribution, a normal one, and requires practically no correction.

Further particulars as to the recent census are given in appendices, see report to Housing of the Working Class Committee on Overcrowding, and Summary of Census returns.

The population estimated to the middle of 1901, is

Woolwich Parish	...	...	...	...	41621
Plumstead Parish	...	...	...	...	68829
Eltham Parish	...	...	...	...	7902



On these totals, the rates subsequently given are calculated. Woolwich and Plumstead Parishes are estimated to have increased in the same ratio as in the preceding 5 years. But the increase in the population of Eltham and each ward is estimated on the number of houses assessed in the months April to June.

BIRTHS.

6. Table I. gives the births in the Borough during 1901 and each of the past ten years, with the birth rates, and Table II. gives the births during 1901 in each ward. The birth rate, 30·0, was higher than it had been for three years, but was below the average for the ten years. The rate for the County of London was 29·0.

7. The following table shows the birth rate of the three parishes and eleven wards of Woolwich, and how these compare with the neighbouring Boroughs, and the County.

					Birth rate.
Woolwich Parish	...	...	...	...	28·5
Wards.					
Dockyard	...	...	...	...	32·3
St. Mary's	...	...	...	...	19·9
River	...	...	...	...	28·7
St. George's	...	...	...	...	36·0
Plumstead Parish	...	...	...	...	31·5
Wards.					
Burrage	...	...	...	...	25·7
Herbert	...	...	...	...	26·1
St. Margaret's	...	...	...	...	31·6
Central	...	...	...	...	29·3
Glyndon	...	...	...	...	32·4
St. Nicholas	...	...	...	...	36·4

Eltham	...	...	...	...	22·3
Greenwich Borough	...	...	...	...	29·0
Lewisham Borough	...	...	...	...	25·8
West Ham	...	...	...	...	35·0
East Ham	...	...	...	...	36·4
Erith	...	...	...	...	30·9
London	...	...	...	...	29·0

8. The birth rate in the Woolwich parish in the two years 1900 and 1901, is considerably lower than in any preceding years since 1890. This is probably connected with the absence of many married reservists in South Africa.

9. The birth rate in Plumstead parish is higher than in the three preceding years, but lower than any years between 1885 and 1897.

The Eltham birth rate is higher than it has been since 1891, with three exceptions.

DEATHS.

10. Table I. gives the gross and nett deaths and death rates in 1901 and each of the past ten years, together with the deaths in public institutions in the district, the number of these who were non-resident in the Borough, and the number of deaths in public institutions outside the Borough which have to be credited to Woolwich.

11. The death rate, 14·6, is the lowest that has occurred in the past ten years (nett death rates are referred to here and elsewhere unless the contrary is stated).

12. Table VII. shows how Woolwich compares with the County and the other Metropolitan Boroughs. Five only had a lower death rate, viz., Lewisham, Stoke Newington, Hamp-

stead, Paddington and Wandsworth. The death rate of East Ham was 13·3, West Ham 18·1, Erith 13·7.

13. The following table gives the death rates in each Parish and each Ward of the Borough:—

Woolwich Parish	...	16·8	Plumstead Parish	...	13·2
Dockyard	...	15·7	Burrage	...	13·5
St. Mary's	...	11·6	Herbert	...	11·3
River	...	20·1	St. Margaret's...	...	11·7
St. George's	...	18·5	Central	...	13·9
			Glyndon	...	14·2
Eltham	...	13·6	St. Nicholas	...	13·0

The date rate of Woolwich Parish is the lowest recorded since a Medical Officer was appointed.

14. The lowness of the birth rate and death rate in St. Mary's Ward is probably due chiefly to the number of young single males constituting the military population inhabiting the barracks in this ward. St. George's Ward also contains a large military population, but this consists largely of the families of married soldiers.

15. The high death rate in the River Ward is no doubt closely connected with the bad sanitary condition of many of the houses in this Ward, and the large number of common lodging houses containing a class whose poverty and habits of life make them prone to disease.

In close connection with both these conditions, both causing them and produced by them must be considered the prevalence of intemperance, associated with a superabundance of public houses, a large number of deaths from violence, and an excess of tuberculosis. The presence of a not inconsiderable population of well-to-do tradespeople and their employeès, and some military barracks no doubt prevents the death rate reaching a much higher figure.

16. The Dockyard ward contains no barracks and its population may be taken as a normal one.

17. In Plumstead, Herbert ward has the lowest death rate and Glyndon the highest.

The Plumstead death rate is the lowest but one since 1885.

18. *Infant Mortality*.—The infant mortality as measured by the deaths under one year per 1000 births was 128. This is the lowest rate with one exception since 1891 (see Table I). The following table gives the rate in each parish and ward.—

Woolwich Parish ...	137	Plumstead Parish ...	122
Dockyard Ward	141	Burrage Ward ...	94
St Mary's ,, ...	123	Herbert ,, ...	91
River ,, ..	158	Glyndon ,, ...	94
St. George's,, ...	118	St. Margaret's ...	130
		Central ...	120
		St. Nicholas ...	143
		Eltham ...	141

19. Woolwich Parish had the lowest rate recorded.

Plumstead has had a lower infantile death rate three times since 1890. The rate for Eltham was above the average for the ten preceding years, viz., 120.

Table VII. shows how Woolwich compares with other Metropolitan Boroughs as respects the infantile death rate.

Four Metropolitan Boroughs only had a lower infantile mortality:

Hampstead ...	104	St. Marylebone ...	107
Stoke Newington	115	Holborn ...	124

The infant mortality in West Ham was 172, in East Ham 156, and Erith 141.

It is seen that Herbert, Burrage and Glyndon wards had the lowest rates, and River ward the highest. St. Mary's and St. George's would doubtless have much higher rates, if the population in the garrison married quarters were excluded.

20. *The Zymotic death-rate, i.e.*, the deaths from Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever and Diarrhœa per 1000 population, was 1·51. The rate in London was 2·22 and only five Metropolitan Boroughs had a lower rate.

Hampstead	...	...	1·02
City of London	...	...	1·06
Stoke Newington	...	...	1·28
Chelsea	...	...	1·31
City of Westminster	...	...	1·34

The Zymotic death rate in 1900 was 3·8 in Woolwich parish, 2·1 in Plumstead and 0·33 in Eltham.

21. *Deaths in Public Institutions.*—Tables 1 and 1a give the number of deaths occurring in public institutions inside and outside the Borough, and the institutions in which they occurred.

There were altogether 433 deaths in public Institutions in the Borough, the great majority being in the Poor Law Infirmary; 42 of these were persons non-resident in the Borough. 164 deaths of residents occurred in Hospitals and Institutions outside the Borough, especially in the various County Asylums, and the Fever Hospitals of the Asylums Board.

INQUESTS.

22. There were 154 inquests compared with 145 in 1900. The following table gives particulars as to the causes of death :

1. Natural Causes	...	...	...	86
2. Accidental Causes—				
Burns	...	...		4
Drowning	...	...		12
Falls	...	...		12
Fractures	...	...		2
Misadventure	...	...		4
Run Over	..	...		5
Suffocation by being overlain in bed	...	...		2
			—	41
3. Homicidal Causes—				
Suicide	...	...		20
Murder, Manslaughter	...			2
			—	22
4. Found Drowned	...			4
Exposure	...	...		1
			—	
				<u>154</u>

Of the above 20 were certified by the Coroner to be accelerated by alcoholism.

UNCERTIFIED DEATHS.

23. There were 20 uncertified deaths, 10 being in Woolwich Parish and 10 in Plumstead. The rate per 1000 deaths was 1.1 in the Borough, 1.2 in Woolwich Parish, and 1.0 in Plumstead. This is the lowest rate I have yet recorded in Plumstead, the rates in the five preceding years having been 2.9, 1.3, 4.1, 3.4 and 2.7.

Eight uncertified deaths were of children under 1 year of age, 6 being attributed to convulsions, and 1 to want of vitality, neither term being a satisfactory explanation of the cause of death. In two the death followed parturition; the women, presumably, were not attended by a qualified medical man, but by a midwife who had neglected to call in medical aid at the proper time. I am of opinion that no person should be buried until the death has been certified either by a medical man or by a coroner after a medical investigation or after an inquest. For the action taken in this matter by the late Plumstead Vestry I must refer to my last Annual Report.

SMALL-POX AND VACCINATION.

24. Only one death from Small-pox was attributed to Woolwich, and that was the new born baby removed to hospital with Small-pox. This child was born on the 22nd September, the mother sickened with Small-pox on the 23rd, the child was vaccinated on the 25th, taken ill the 2nd October and died the 13th.

25. The prevalence of Small-pox in London (which had been practically free from this disease since 1896) commenced in June, affecting at the onset mainly St. Marylebone and St. Pancras Boroughs. In September and October it became more generalized and reached Woolwich; 21 cases were notified up to December 31st, viz., 1 in September, 1 in October, 8 in November and 11 in December; 4 cases occurred in the River ward, 5 in St. Nicholas and a smaller number in each of the other five Plumstead wards (see table 3). There were 4 cases in Woolwich, 17 in Plumstead and none in Eltham.

26. As shown above the one death was a child who had not been vaccinated previous to infection. Of the 21 cases that recovered 17 were stated to have been vaccinated. One had

four marks, two had each two marks, one had no marks, and in the others there was no evidence as to the existence and number of marks. In two cases no information was obtained as to vaccination and two were stated not to have been vaccinated.

All the patients were over 10 years of age except the unvaccinated infant and one boy of seven years. One unvaccinated case was 10. One was 13 years old, two 19, and the remainder over 20. None had been revaccinated, thus not a single one of the cases had been vaccinated within 7 years previously to infection and only one within ten years.

27. With three exceptions the infection did not spread to other persons in the same house; the exceptions were:—

(1) The boy of seven who had not been re-vaccinated owing to the Local Government Board regulations for public vaccinators; (2) A woman who refused re-vaccination; (3) A baby who was vaccinated six days after infection and had a very slight attack.

All the cases were removed to the Asylums Board Hospitals within a few hours of the notification being received.

28. The following were the sources of infection of the 21 cases of Small-pox as far as known; in four the infection probably was contracted in East Ham; in two in Erith; one from Grays, Essex; one in Whitechapel; one in a railway train; and one from disinfecting infected rooms (a man who had neglected, after warning, to get revaccinated); and three from previous cases in the district.

29. The remainder of the history of the present epidemic will come into my report for the current year, but I may add here that the principal lesson that the epidemic has taught is

that isolation and disinfection, however carefully carried out, will not stop the spread of Small-pox by themselves, whereas vaccination will; the reason of this is principally that the infection is spread by mild cases which are either never detected or not discovered till they have been going about for several days spreading infection.

30. The following table, kindly furnished by Mr. Jolly, Vaccination Officer, gives particulars as to the vaccination of the children born in 1900.

Districts.	Births.	Successful.	Insusceptible.	Had Small-pox.	Conscientious Objection.	Deaths.	Postponed.	Sent to other Vac. Officers.	Gone, no Address.	Summoned.
E. Plumstead	1581	1296	8	..	51	147	18	4	52	4 fined 10/- 1 ,, 20/-
W. do.	423	349	0	..	14	37	5	0	18	..
Woolwich Arsenal	1043	867	12	..	14	99	3	1	46	1 Adjourned
Woolwich Dock Yard	141	109	0	..	3	21	0	0	8	..
Totals ..	3188	2621	20	..	82	304	26	5	124	6

Altogether in the Woolwich Union there were 3226 successful vaccinations in 1900, and 3936 in 1901.

31. On the application of the Council, the London School Board granted leave for the children in the Board Schools to be examined with a view to detecting and vaccinating unvaccinated children. The parents were first invited to object to such examination; 525 children were found without satisfactory marks of vaccination, the majority of whom have since been vaccinated.

There are about 19,000 children in the Board Schools, so that 2 per cent. were found unvaccinated. The principal voluntary schools were also examined, and unvaccinated children vaccinated.

Notices were posted all over the Borough, and also inserted in the local papers recommending revaccination. Later on a bill was distributed at every house giving a summary of the evidence as to the protection afforded by vaccination.

MEASLES.

32. There were 21 deaths from Measles, giving a death rate of 0·18; 5 each were in St. George's and St. Nicholas' Wards, and smaller numbers in 6 other wards. 11 Deaths occurred in Woolwich parish, 9 in Plumstead, and 1 in Eltham.

33. 323 Cases were notified by school teachers during the year, viz., 54 from the Slade School, 47 from High Street, 35 from St. Michael's, 31 from Bloomfield Road, 26 from Wood Street, 22 from Vicarage Road, 17 from St. Thomas's, and smaller numbers from other schools.

34. The following classes or classrooms of the infant departments of elementary schools were closed during a period of three weeks for the prevention of Measles:—Bloomfield Road, Room A; St. Thomas's, Infant Department; St. Michael's, Classes 1, 2 and 3; Wood Street, Classroom B; Slade, Room A; High Street, Hall and Rooms C, E, F, G and H; Eglinton Road, Room A. The classrooms closed were chiefly those containing the younger children, most of them under six years of age, so that the interference with education was not of a serious nature. At one school the closure was in March, two in May, two in June, one in July, one in November, and one in December.

The following table gives the death rate per 1,000 population from Measles, in each of Woolwich and Plumstead parishes, during the last twelve years.

Years.	Woolwich.		Plumstead.	
	No.	Rate.	No.	Rate.
1890	50	1.22	33	0.63
1891	26	0.63	33	0.62
1892	16	0.39	19	0.35
1893	14	0.34	47	0.84
1894	39	0.95	20	0.35
1895	6	0.14	24	0.41
1896	72	1.75	68	1.14
1897	1	0.02	3	0.05
1898	53	1.27	59	0.94
1899	13	0.32	3	0.04
1900	29	0.69	46	0.68
1901	11	0.26	11	0.13

SCARLET FEVER.

35. The number of cases of Scarlet Fever notified during the year, viz., 311, is the smallest during the last ten years. There were 106 cases in Woolwich Parish, 180 in Plumstead, and 25 in Eltham. The rates per 1,000 population were 2.64 in the Borough, 2.55 in Woolwich Parish, 2.63 in Plumstead, and 3.42 in Eltham. The occurrence rate of Scarlet Fever in Plumstead suddenly rose from 1.1 in 1891 to 10.8 in 1892; it continued above 5.5 till 1899, when it was 10.9; it came down to 4.4 in 1900 and to 2.63 in 1901. Table III. gives the age distribution and the number occurring in each Ward. It is seen that the cases were pretty evenly distributed in the different Wards.

36. There were only 5 deaths, 3 in Woolwich and 2 in Plumstead. The case Mortality—*i.e.* deaths per 100 cases—

was 1·6 in the Borough, 2·8 in Woolwich Parish, 1·1 in Plumstead, and 0·0 in Eltham. The case mortality in Plumstead has only once been lower since 1893, viz, in 1899. It has almost continuously diminished since 1893, when it was 8·0. The case mortality was 1·5 for hospital-treated cases, and 2·1 for cases treated at home.

37. 265 of the 311 cases were removed to the hospitals of the Asylums Board, usually within a few hours of the notification being received. In a few cases I certified that the patient was properly isolated at home, so enabling Arsenal employees in the house to continue work. No harm resulted from this practice, commenced a year ago.

Five-sixths of the cases were between the ages of 5 and 15 years. Schools: Mulgrave Place, Vicarage Road and Bloomfield Road were the most affected, being attended by 16, 18 and 28 of the children respectively. (See Table VI.)

38. *Return Cases.*—There were seven cases in which another member of the family had returned from Hospital within three weeks of the commencement of the illness. One of the returned children had a discharging sore on the neck, and one had a sore mouth and running at the nose.

39. *Concealment of a case of Scarlet Fever.*—A boy who had been away for a few days was found soon after his return to school to be peeling. On visiting the house, I found that the boy was desquamating from Scarlet Fever, and the boy's grandmother and a lodger had told the mother when the rash was out that it was like Scarlet Fever. There was good reason to think that the mother wished to conceal this case, but it was thought that it would be difficult to obtain evidence which would convince a magistrate that the mother 'was aware' that her son had an infectious disease.

DIPHTHERIA (Including Membranous Croup).

40. There were 216 cases of Diphtheria compared with 365 in 1900; 65 were in Woolwich Parish, 134 in Plumstead, and 17 in Eltham. The case rate (*i.e.* the number of cases per 1000 population) was 1·8, which is the lowest since 1894. The Plumstead case rate, 1·9, is the lowest since 1891, with one exception, *viz.*, in 1898. In 1900, the case rate in Plumstead was higher than it had been recorded before.

41. There were only 19 deaths, giving a death rate per 1,000 population of 0·16, which is the lowest rate since 1891. The case mortality (deaths per 100 cases) was 8·7 in the Borough, 3·0 in Woolwich, 12·6 in Plumstead, and 0·0 in Eltham.

158 of the 216 cases, or about three-fourths, were moved to one of the Fever Hospitals.

The case mortality was 9·5 for Hospital treated cases, and 3·6 for cases treated at home.

42. *School Attendance.*—Elizabeth Street, Conway Road and Vicarage Road were the schools most affected, being attended by 9, 9 and 14 respectively (see Table VI.).

43. *Bacteriological Diagnosis.*—Secretion from 26 cases of suspected Diphtheria were examined bacteriologically by the Jenner Institute. The existence of the Diphtheria bacillus was proved in six cases, and in one case the pseudo-diphtheria bacillus was found. In the two preceding years 15 and 19 cases were examined bacteriologically in Plumstead alone.

Nineteen cases or 12 per cent. were reported not to be Diphtheria after removal to hospital. In none of these had a bacteriological examination been made on behalf of the Borough Council.

One case had returned from hospital only three days previously after Scarlet Fever.

ENTERIC FEVER.

44. There were 68 cases of Enteric Fever notified, giving a rate of 0·58 per 1000 population compared with 0·52 and 0·59 in the two preceding years. Twenty-one cases occurred in Woolwich parish, 32 in Plumstead, and 15 in Eltham. The cases in Woolwich were slightly below the average of recent years, in Plumstead above, and in Eltham, more than had been recorded in the ten preceding years. Excluding Eltham, the River and St. Nicholas Wards had the highest number of cases proportional to population.

45. Of the 68 cases, 45 were removed to the Fever Hospital. Thirteen cases died (or 20 per cent. of the total), of which 7 belonged to Woolwich Parish, 4 to Plumstead, and 2 to Eltham. The death rate was 0·11 per 1000 population, which is the same as the Enteric death rate of the County.

46. *Source of Infection.* Eight of the 68 cases were found not to be Enteric after removal to the Fever Hospital. Of the remainder, 4 were secondary cases, *i.e.* immediately traceable to a previous case in the Borough; 13 had partaken of shell fish within four weeks of the commencement of the illness, 4 of celery or watercress, and 3 of ice creams; 1 was attributed to working on a blocked drainage manhole. In one case a wife contracted the disease several months after her husband had had it.

It has been discovered that the Typhoid bacillus may exist in the urine for several months after recovery of the patient, and this fact may explain the case just mentioned as well as many other cases otherwise unaccountable.

47. *Cases at Eltham.*—The occurrence of 15 cases at Eltham (1·9 per 1000 population) demands special comment. Enteric appears to have been specially prevalent in Eltham for some years past, the average for the 7 preceding years being 6·6, or about 1·0 per 1000 population, which is nearly twice as

high as the rate in Plumstead. Four cases occurred in 1900, and 6 in 1899. Dr. Moore, the late Medical Officer of Health of Eltham, reported specially on the occurrence of Enteric in 1898 and 1899, when six cases had occurred in West Chislehurst Park. He attributed the outbreak to the fact that the sewer, which runs down the centre of the road, was unventilated, whilst at the same time, some of the houses were connected to the sewer by drains from the cellars, which did not open over gullies outside the houses." "All the houses in which the disease occurred were drained in this fashion."

48. In the first 6 months of the year there were 4 cases, one in July, four in August, four in September and two in October; thus 11 of the cases occurred in the three months from the middle of October. Of these 11 cases, one was clearly imported from Offham Green and one was secondary, leaving a series of nine cases to be accounted for. The first of the series was a milk carrier who worked for A, but none of the later cases had milk from A, who mainly supplies Woolwich and Plumstead parishes. Of the remaining eight cases six had their milk from a dairy B, which supplied 210 houses in Eltham, and 27 out of 50 houses in the road in which five of the cases lived. But all the cases which had their milk from B, and one which did not, lived in the road mentioned or within 200 yards of it, whereas the milk in question was widely distributed through the parish. All the cases supplied by milk were in one round, but the man who served this round had had no suspicious illness nor any connection with a known case of Enteric or Diarrhœa. The man, however, who served another round lived near and was a friend of the first case of the series (the milk carrier for A). This man was stated to be of unclean habits, and it is possible he may have had some dealings with milk cans belonging to the affected round, but the fact remains that no cases occurred on his own round. He was, however, dismissed for his unclean habits and there was a cessation of cases shortly after his dismissal. The farm cows and farm servants from which the milk was

derived were carefully inspected with a negative result. All the affected houses were supplied with water from the Kent Water Company, and I was assured that there had been no interference with the mains supplying them. The water, however, drawn first thing in the morning from one affected house was examined bacteriologically, with a negative result. The houses were on several different sewers, even neighbouring houses in the one road which had most cases, draining into two sewers running in opposite directions. I found that these sewers were not properly ventilated, but ventilating shafts have since been supplied. The house drainage was in all cases examined and tested with the smoke machine; the drains were found satisfactory in nine cases and defective in five; where found defective they were relaid and tested with the water test. Complaints were received of smells from road gullies, and one which was found imperfectly trapped was remedied; all the others were found effectively trapped. Shellfish, fried fish, butter and other foods and drinks were excluded as possible sources of infection.

49. The following table gives the age, sex, date of commencement of illness, and Milk supply (A, B, &c.) of the Eltham cases:—

Age.	Sex.	Date of commencement.	Milk Supply.	Address.
10	F	22/1/01	F	15 Pelham Terrace
18	M	23/1/01	F	3 Alfred Villas
36	M	29/3/01	F	37 Reventlow Road
9	M	10/6/01	F	Park View Cottages
25	M	21/7/01	A	4 Elizabeth Terrace
18	M	5/8/01	B	Park Lodge, Court Road
16	F	12/8/01	B	Leaholme Villas
36	F	18/8/01	B	Crown Inn, Courtyard
43	F	18/8/01	B	The Elms, Court Road
41	F	1/9/01	D	15 The Parade
5	M	2/9/01	P	Mottisfont, Court Road
38	F	8/9/01	B	21 Court Road
10	F	23/9/01	B	do.
27	M	7/10/01	B & A	58 High Street
14	F	10/10/01	none	Huts, Horn Park Farm

50. Notices have been stuck up in the most frequented parts of the Borough warning the public as to the danger of eating insufficiently cooked shell fish from sewage polluted sources.

51. *Bacteriological Diagnosis.*—Blood serum from 27 cases of suspected Enteric was submitted to the Jenner Institute for the application of the Widal reaction; this was obtained in 15 cases, and not obtained in 12. The early diagnosis thus secured enabled speedy measures to be taken for isolation.

DIARRHOEAL DISEASES.

52. The deaths from diarrhœa, dysentery and epidemic, or Zymotic Enteritis numbered 96, giving a rate per 1000 population of 0·82, the rate for the County being 0·85.

There were in addition 25 deaths from Enteritis and Gastro-enteritis, most of which are undoubtedly the same disease under a different name. Fewer deaths were returned under these heads than in previous years, no doubt as a result of a notice having been sent out asking medical men to discontinue the use of these terms and the term diarrhœa, and to use the term Epidemic or Zymotic Enteritis where the disease appeared to be a primary zymotic affection.

53. Taking all these terms to represent the same disease, there were 121 deaths from it in the Borough distributed as follows:—

Woolwich Parish.		Plumstead Parish.		Eltham.
River Ward	26	St. Nicholas Ward	32	7
Dockyard	9	Central	8	
St. Mary's	4	Glyndon	11	
St. George's	6	St. Margaret's	7	
		Herbert	5	
		Burrage	6	
	<hr/>		<hr/>	<hr/>
	45		69	7

This being a disease seldom fatal except in children under 1 year of age, its relative incidence in the wards may best be gauged by giving it per 1000 births in each ward. The result is as follows :—

Diarrhœal Diseases per 1000 births.

Woolwich Parish	37	Plumstead Parish	31	Eltham	39
River Ward	62	St. Nicholas	43		
Dockyard	32	Central	20		
St. Mary's	19	Glyndon	34		
St. George's	20	Herbert	21		
		Burrage	23		

54. The Diarrhœal diseases were fewer last year than in 1900, viz.—

Woolwich Parish	45	compared with	79	in 1900.
Plumstead	69	„	61	„
Eltham	7	„	11	„

55. An enquiry was made during the period of the summer when diarrhœa was most prevalent into the manner of feeding of 49 infants who died from this disease, with the following results :—

4	only were fed on the breast alone.
7	„ „ breast and other milk.
19	„ „ Nestlé's Milk.
1	„ „ Other condensed milk.
1	„ „ Allenbury's Food.
15	„ „ Fresh Cow's Milk.
<hr/>	
47	

Instructions as to the feeding of infants have been circulated to every house in the Borough, but they need to be enforced by house to house visitation of female sanitary inspectors or health visitors.

ERYSIPELAS.

56. There were 72 cases of Erysipelas, and one death.

PUERPERAL FEVER.

57. There were 8 cases of Puerperal Fever, and 3 deaths. In one case I learnt that the medical attendant was attending a case of Erysipelas, and used to visit the confinement case immediately after the Erysipelas. He had, however, taken precautions as to disinfection of his hands. In another case, the daughter of the patient was suffering from Erysipelas at the time of the confinement, and lying in the same room and often in the same bed as the mother. This patient was attended by a midwife; it hardly seems possible that it would have happened if a medical man had been in attendance. Three cases were in Woolwich parish, four in Plumstead, and one in Eltham. Four cases were attended by midwives, and four by medical men.

INFLUENZA, BRONCHITIS AND PNEUMONIA.

58. The deaths from Influenza numbered 22, compared with 62 in 1900. The deaths from Bronchitis and Pneumonia numbered 245 compared with 407 in 1900; the difference no doubt being mainly due to the lesser prevalence of Influenza. The mortality from these diseases was higher in Woolwich parish than in Plumstead.

TUBERCULOSIS.

59. There were 255 deaths from tuberculous diseases, exceeding the number of deaths from any other disease or group of diseases.

The rate per 1,000 population was 2.18 in the Borough, and 2.34 in the County; 215 of these deaths were from Phthisis, giving a death rate of 1.79 compared with 1.80 in 1900.

The rates for Tuberculosis in the various parishes were—Woolwich, 2·85; Plumstead, 1·88; Eltham, 0·96; and from Phthisis in Woolwich, 2·52; Plumstead, 1·51; Eltham, 0·82.

There were twice as many deaths among males as females. Every age period had its victims, there being 14 deaths under 1 year and 13 over 65.

60. The following were the death rates per 1,000 population in the different wards:—

Ward.	Phthisis		Other Tuberculous Diseases.	
	No.	Rate. Average.	No.	Rate.
Woolwich:—				
River	46	3·19	9	0·62
Dockyard	17	1·95	4	0·45
St. Mary's	23	2·20	5	0·47
St. George's	19	2·35	8	0·99
Plumstead:—				
St. Nicholas	33	1·68	11	0·56
Central	15	1·48	5	0·49
Glyndon	18	1·83	0	...
St. Margaret's	14	1·42	5	0·50
Herbert	12	1·32	4	0·44
Burrage	12	1·22	2	0·20
Eltham	6	0·82	1	0·13

It appears from the above table that Eltham had the lowest Phthisis death rate, River ward the highest, and that all the Plumstead wards had a lower rate than each of the Woolwich wards.

Eighteen deaths were of residents in Ropeyard Rails and High Street, Woolwich, where most of the common lodging

houses are situated. Spray Street, Gildersome Street, and Henry Street each had four cases, and there were four cases in the Artillery Barracks; three cases occurred in each of the following:—Frances Street (W.), Prospect Row, Ritter Street, Gunning Street, and Bassant Road, and two each in Manor Street, Rush Grove, Union Street and Orchard Street. Two deaths occurred in inhabitants of 35, Spray Street and 23, Orchard Street.

61. Of the 255 deaths from tuberculosis 171 were males. Of these 37 were labourers, 27 mechanics of various kinds 18 were soldiers, reservists or army pensioners, 8 clerks, 5 carpenters, 4 drivers, 4 waiters and potmen, and 1 drayman, 4 shop assistants, 3 bootmakers, and 2 batmakers. Of the 84 females who died from tuberculosis, 4 were servants, 4 seamstresses, 2 hawkers, 1 hotel manageress, and 1 "unfortunate."

62. Of 145 houses to which the above deaths were referred 6 were common lodging houses, 1 a registered lodging house; 50 were found dirty and 11 damp; 6 were found overcrowded (*i.e.* had more than two persons to a room).

63. *Notification.*—Towards the end of the year the Health Committee, having learnt that the Local Government Board auditors would not object to the expenditure, decided to pay for voluntary notification of Phthisis the same fees as are paid under the Public Health (London) Act for the diseases therein specified. Thirty-five cases were notified in the five weeks after this decision to the end of the year; 84 voluntary unpaid notifications had been received previously, making 119 altogether; these were distributed as follows:—

NOTIFICATION OF PHTHISIS.

River, 30; Dockyard, 14; St. Mary's, 14; St. George's, 7; Herbert, 6; St. Margaret's, 5; Glyndon, 12; Central, 7; Burrage, 8; St. Nicholas, 15; Eltham, 1.

The Committee also at the same time authorised me to arrange with the Jenner Institute for the bacteriological examination of sputa from patients suspected to have Phthisis. Four cases were submitted for examination before the year ended, and three found to contain tubercle.

64. The following table gives the death rate from Phthisis in the Parish of Woolwich and Plumstead in recent years:—

	1895	1896	1897	1898	1899	1900	1901
Woolwich	...	2.1	1.9	2.0	2.4	2.4	2.52
Plumstead	1.64	1.3	1.5	1.27	1.45	1.50	1.51

There thus appears to have been a slight increase in both parishes since 1898, but more marked in Woolwich. The same increase has occurred in the county.

DEATH RATE FROM PHTHISIS.

Woolwich Borough	...	...	1.79
London County	...	...	1.71

65. *Preventive Measures.*—Wherever a death has occurred from Phthisis, disinfection of articles and fumigation of rooms is performed if leave is given. Rooms were disinfected at 86 houses last year compared with 18 in 1900. If the premises are dirty, stripping and cleansing is required. A notice is left at every house where a case is notified, giving directions as to the avoidance of infection. The same notice has been distributed to every house in the Borough. It is much to be regretted that no steps have been taken in London for providing sanatoria where the poor may be isolated and receive open-air treatment at all stages of the disease. There can be little doubt that in the homes of the poor tuberculosis is continually transmitted from one member of a family to another, and, without removal to an institution, there is little hope of the means recommended for dealing with the infectious sputum and partial isolation being carried out.

CANCER.

66. There were 82 deaths from Cancer compared with 84 in 1900. Twenty-three of the deaths were in Woolwich parish, 50 in Plumstead, and 9 in Eltham. River, Glyndon and Eltham wards had the highest number of deaths proportionately to population. All the deaths were over 25 years of age, and 25 of them over 65 years. The rate per 1000 living was 0·70 in the Borough, and 0·93 in the County.

LEAD POISONING.

67. A death occurred from Lead Poisoning in a man who was a store dispenser for some large contractor, and was in the habit of giving out red lead. I found that the case had not been notified to the Home Office, and consequently I sent a circular letter to all medical practitioners in the Borough reminding them that it was their duty to notify all cases of Lead Poisoning to the Chief Inspector of Factories.

ALCOHOLISM.

68. Alcoholism, or the effects of intemperance was certified as causing 19 deaths, 17 being between 25 and 65 years of age, and 2 over 65. Besides these, 33 deaths were attributed to Cirrhosis of the Liver, which in this country is almost always caused by Alcoholism. These 52 deaths may be attributed to Alcoholism directly and wholly, or more than those due to Scarlet Fever, Diphtheria, Enteric Fever, Erysipelas, and Small-pox altogether. But it must always be remembered that the deaths certified as due to Alcoholism, even including those from Cirrhosis of the Liver, are only a small proportion of those which are really caused by intemperance either directly or indirectly. These other fatal results of intemperance appear under the heads of Suicide, Accidents, Kidney disease,

Pneumonia, Phthisis, Heart disease, &c. Even Cancer has recently been found to be more prevalent among drinkers. (See *British Medical Journal* April 5th, 1892—23 per cent. of cancer patients in Holland found to suffer from alcoholism). The large amount of mortality for which alcohol is responsible may be inferred from the fact that out of 154 deaths on which inquests were held, 20, or thirteen per cent. were certified as accelerated by alcohol.

69. Of the 52 deaths from Alcoholism and Hepatic cirrhosis, 31 or 0·75 per 1000 population, belonged to Woolwich parish, 19 or 0·27 per 1000 to Plumstead, and 2 or 0·25 per 1000 to Eltham. Thus it appears that there is more than twice as much intemperance in Woolwich as in Plumstead. Every ward in Woolwich has a higher proportional alcoholic mortality than any ward in Plumstead (see table 4). The River ward has far the highest mortality from this cause of any ward, viz., 1·10. It is impossible not to associate the following unenviable characteristics in which Woolwich greatly exceeds its sister parish; (1) High death rate; (2) Overcrowding and insanitary condition of houses; (3) Intemperance; (4) Large number of public houses. No doubt 2 and 3 act and re-act on each other, but there can hardly be a doubt that (3) is partially a result of (4) and that (1) is to a very great extent the result of (2) & (3).

70. It appears from the official list presented to the Blackheath Licensing Sessions in August, 1901, that there were then 110 public houses and beerhouses (excluding grocers and wine merchants) in Woolwich parish, 62 in Plumstead, and 13 in Eltham; 61 of those in Woolwich were in the River ward. Per 1000 population there were 4·2 public houses in River ward, 2·6 in Woolwich parish, 0·9 in Plumstead and 1·6 in Eltham, which figures, it will be noticed, are very nearly proportional to the mortality from Alcohol.

71. The number of deaths from Alcoholism (cirrhosis of liver not included) per 1000 population was 0.16 in the Borough and 0.15 in the County, and the mortality from cirrhosis of liver in the Borough (0.28) actually exceeded that from all liver diseases in the County (0.26).

METEOROLOGY.

72. The mean temperature at Greenwich in the Winter quarter was $2^{\circ}0$ F. below the average and in the three ensuing quarters $1^{\circ}0$, $1^{\circ}9$ and $0^{\circ}2$ respectively above the average.

The rainfall was 3.67 inches in the winter quarter, 5.09 in the Spring, 5.10 in the Summer and 6.3 in the Autumn, being below the average in the Spring, Summer and Autumn, and as much as 2.07 inches below in the Summer.

The temperature in the Summer though above the average, was not so high as in the two or three preceding Summer quarters.

PART II.

ADMINISTRATION.

WATER SUPPLY.

1. With the exception of the small district known as North Woolwich, the whole Borough is supplied by the Kent Water Company, whose water is the purest supplied by any Metropolitan Company. The supply is constant everywhere but on the top of Shooter's Hill.

North Woolwich is supplied by the East London Company, and the supply is constant.

No complaints were received as to the quality of the water during the year. Complaints were, however, made on one occasion as to water having been turned off for several hours without notice being given to the consumers. A representation was made to the Company, who replied that this had been an oversight, and that care should be taken that it did not occur again.

1118 New houses were inspected and certificates given that a proper and sufficient water supply was provided.

FOOD AND DRUGS ACT.

2. 503 Samples were taken and submitted to the Public Analyst, and 28, or 5.5 per cent. were found adulterated. Proceedings were taken in 28 cases, 3 of which were for selling

what was partly margarine as butter, 6 for selling milk with added water, and 19 for milk with fat abstracted. A conviction was obtained in 22 cases and fines inflicted varying from £1 to £5 with costs. In each of the remaining six cases the summons was either withdrawn or dismissed in consequence of the defendant proving that the milk was sold under a written warranty from the wholesale dealer, although the result of the analysis proving adulteration was not disputed. In one of these cases there was 30 per cent. of added water, and in another, 20 per cent. abstracted fat. A large number of samples have been taken at the station from churns consigned by the wholesale dealers, all of which have been found unadulterated. There appears to be great difficulty in preventing adulteration of milk if sold under a warranty, but steps are being considered to overcome the difficulty. Six samples were returned as poor; in some of these the vendor practically confessed that they were adulterated.

FOOD INSPECTION.

3. Inspector Barnes besides being responsible for the Burrage Ward, is specially charged with food inspection in Woolwich Market and the shops in the River Ward, which are visited regularly on Friday evening and Saturday afternoon and evening, besides at other times.

Eight seizures of unsound food were made, all of which were condemned by a magistrate. In three cases proceedings were taken, and a conviction obtained and fine imposed in each. Messrs. ———, wholesale grocers and food dealers, were fined £50 for having on their premises, presumably for sale, 30 rabbits, 10 fowls, 8 pieces of beef, and 7 pieces of pork, in an unsound condition. The other two convictions were for decayed fruit.

In addition to the above seizures, a large number of pieces of meat, fruit, &c., have been removed from the show board and destroyed at the request of the Inspector, the food being on the border line of decay, but not bad enough to justify seizure.

In the other Wards, each Inspector is responsible for the sale of unsound food in his own Ward.

MILK AND TUBERCULOSIS.

4. The County Council has made and is continuing to make special inspection of all cows in London cowsheds for the detection of tuberculosis of the udder. The result has been very satisfactory, only 2 per 1,000 cows having been found with symptoms of this affection. Unfortunately, there is no such guarantee in the case of country cows, and most of the milk sold in the Borough comes from outside London.

In consequence of my report on this subject, your Health Committee directed me to arrange with the Jenner Institute for the bacteriological examination of samples of imported milk. Eight samples were taken during the year, and two were found to contain Tubercle bacilli. I wrote to the firms from whom the milk was purchased, asking them to arrange to have the cows affected examined by an experienced veterinary surgeon. Both nominally complied with the request; but one, on further enquiry, stated that no cows had been found with Tuberculosis. The other firm, which supplies many thousand persons, employed their own well qualified veterinary, who found two cows with tuberculosis of the udder. These were removed.

The power now being sought by the London County Council under their new General Powers Bill, will, it is hoped, enable them and the London Borough Councils to deal with such cases more effectually.

DAIRIES, COWSHEDS AND MILKSHOPS ORDER, 1885.

5. The inspection of dairies, cowsheds and milkshops, was previously to the formation of the Borough in the hands of the County Council, but the Health Department of Woolwich is now responsible.

155 dairymen have been registered under the Order and the dairies have all been once inspected. Their condition was on the whole satisfactory and no proceedings were instituted.

6. *Cowsheds*.—There are 18 licensed cowhouses in the Borough, all of which have been inspected every three months and at other times by Inspector Barnes in Woolwich and Plumstead, and Inspector Wood in Eltham. A special inspection was made by Chief Inspector Duck and myself, previous to the licensing sessions of the County Council, with the result of obtaining the remedying of various defects. The license was formally objected to in four cases for the following reasons, respectively:—

- (a) Grain pit foul and offensive.
- (b) Defective ventilation.
- (c) Cowshed dirty, badly drained and paved, and unsuitable for cows.
- (d) Defective paving adjoining dung and grain pits.

The objection was withdrawn in three cases on the work required being done, and in the fourth case the license was refused for the particular cowshed in question. The cows in nearly all cases are turned out to grass in the summer.

SLAUGHTERHOUSES.

7. There are 13 licensed slaughterhouses in the Borough which have been inspected at the same times and in the same manner as the cowhouses, *i.e.*, at least four times a year. Objection was made to the renewal of one license on account

of the dirty state and defective paving of the premises. The work required was done and the license renewed after six weeks' adjournment.

NUISANCES.

8. *Complaints.*—623 complaints of sanitary defects were received and attended to (see Table 8, which gives particulars of the work of the Department).

Sewers.—It was found that some houses in Harden's Manorway frequently had their drains stopped, and that the sewage could not get away because of the defective state of the sewer into which they were drained. The drain of one house had been stopped for twelve months. Forty houses in all were affected, some of which were on a branch of the main sewer concerned. The ground in the neighbourhood is very low lying, and at times the sewer is liable to heading back from the main outfall sewer when the latter is surcharged with rain.

The difficulty of effectually draining the area appeared so great that the desirability of condemning all the houses in it was represented to me. The Chief Inspector, however, found that the actual cause of stoppage in the sewer was an irregularity of level. It was finally decided that the sewer and its branch should be relaid for a length of 1,050 feet. In consequence of alteration of levels, it was necessary to relay all the house drains connected to it, so that 40 houses were redrained. An automatic flushing tank was constructed at the head of the sewer. There has been no further complaint of the drains being blocked.

9. *Drains.*—The drains in Woolwich parish have been found generally in a very defective state, and have required a large amount of attention. 52 defective combined drains affecting 358 houses have been investigated and reported on, the majority being in Woolwich parish. Most of these have now been relaid.

786 Private Drains were found choked or defective, 148 being in Eltham, 202 in the River Ward, and 205 in St. Mary's and Dockyard Wards. These were all remedied by removing the obstruction and securing relaying of the drain when it was found defective.

1034 Waterclosets were repaired.

10. *House Inspection.*—4797 houses were inspected house to house, and 7123 specially inspected on account of infectious disease, complaints, &c. At the present rate all those houses requiring it will be inspected house to house within three years. At 3082 houses, dirty interiors were cleansed or repaired, or roofs repaired after service of notice. In 608 houses damp walls were found and remedied, and in 250 through ventilation was provided; the great majority of these being in Woolwich and Eltham parishes.

11. *Overcrowding.* 145 cases of overcrowding were found, Eltham having the highest proportion, and River, St. Margaret's, Herbert, and Burrage Wards coming next. These were all remedied either by arrangement or notice. Two special reports on overcrowding were presented to the Housing Committee (see Appendices B & C). Compared with other working class districts of London, this Borough has not a high percentage of overcrowding, although the great majority of the houses are overcrowded if the hygienic standard of 1000 cubic ft. per head for sleeping rooms be taken. I have estimated that in the homes of the working classes in the Borough there is an average of 460 cubic feet per head in sleeping rooms. But although overcrowding is not excessive, the want of sufficient houses for the working classes at reasonable rents is very marked, and very seriously interferes with sanitary progress.

Four persons living in houses registered under the Bye-laws were prosecuted for allowing overcrowding as defined by the Bye-laws, and convicted in each case. Fines from 5s. to 40s. were inflicted.

12. *Smoke Nuisance.*—Much work has been done in the prevention of smoke nuisance. 148 observations were made of smoking chimneys and proceedings were taken in 21 cases. 17 convictions were obtained and fines inflicted from 5 guineas downwards; the remaining 4 cases were withdrawn at the Magistrate's suggestion.

A large number of the observations were made on the Royal Arsenal chimneys, some of which were found to smoke for the best part of an hour without intermission. A copy of the observations with a letter calling attention to the nuisance caused was sent to the Chief Superintendent, the War Office, and Local Government Board. There has been some improvement, but it is still true to say that H.M. Government is responsible for more smoke nuisance in this Borough than all the private works put together.

13. *Cooper's Pond, Eltham*, which had been a nuisance for many years, was finally disposed of by filling up and draining surface water into an adjoining field.

Offensive state of the Thames.—Repeated complaints of the nuisance caused by the foul state of the river were received from July to October, and I reported that in my opinion this could only be due to untreated sewage being allowed to enter the river at the main outfalls. Representations were made to the County Council and after lasting several weeks the nuisance was abated. I believe the state of the river has not been so bad for many years.

Nuisance was complained of from *acid fumes* arising from some chemical works. This was investigated and proved to be well founded. A remedy was secured by constructing a new flue and shaft.

DUST REMOVAL.

14. House refuse is collected in the Woolwich parish by the Council, and disposed of at the dust destructor near St. Mary's Church. The collection was found satisfactory and few complaints were received as to the non-removal or other deficiencies, nor have there been any complaints as to the destructor.

In Plumstead and Eltham the dust is collected by two independent contractors. In the former parish it was disposed of on the levels at a sufficient distance from houses, and in Eltham on a brickfield also at a considerable distance from any house, except two occupied by the contractor and his assistant. The collection is weekly and in some cases semi-weekly. In many houses the one pail is insufficient to last a week; I think a general semi-weekly collection is desirable. The Plumstead contract made on 7th February, 1900, was for £2,660 to which is added quarterly a pro rata amount for new houses, the total amount paid for the year being £2851 8s. 7d.

The Eltham Contract made on 27th March, 1901, was for £365, and the amount paid for the nine months of the year £293 9s. 7d.

160 complaints for non-removal of dust were received, 43 being from Woolwich parish, 101 from Plumstead, and 16 from Eltham.

No complaints were received as to nuisance from the shoots. The Plumstead shoot was well attended to, paper and other organic matter being burnt, and nuisance kept at a minimum. The completion of the Plumstead destructor will, however, be a great gain.

The collection of the Dust continues to be slovenly ; the carts are not adapted for this work and are not efficiently covered ; spilling of contents is of frequent occurrence, and I reported certain definite instances of this, constituting a breach of the Bye-laws under section 16 (2.) The offenders were cautioned. It is much to be desired that suitable dust carts should be purchased, which will prevent spilling and also prevent dust being blown about by the wind. On my request the dustmen were directed to scrape the bottoms of the pails after emptying them.

REMOVAL OF TRADE REFUSE.

15. Chief Inspector Duck reports as follows :—“Trade Refuse was formerly collected in the Parish of Woolwich free of cost. The Borough Council resolved that a charge should be made for collection as follows :—1s. 6d. per load, or 2d. per bushel for the removal and disposal of inoffensive trade refuse ; 3d. per receptacle for the removal and disposal of offensive refuse.

Subsequently, it was arranged to charge 6d. for the use by tradesmen of the destructor as a shoot for a load of inoffensive refuse, such amount to be prepaid.

The Contractors for Plumstead and Eltham remove inoffensive trade refuse at 1/6 per load.

16. During the period from 27th April to 28th December, 1901, there have been

	Amount paid.		
	£	s.	d.
5187 Receptacles of offensive trade refuse removed	64	16	9
633 Loads of inoffensive trade refuse ...	47	9	6
283 Bushels of do. do. ...	2	7	2
	<hr/>		
	£114	13	5
	<hr/>		

In connection with these removals there are 126 tradesmen's names on the books.

17. The collection of offensive refuse is in regular operation at 57 tradesmen's premises. The 663 inoffensive accumulations came from 63 different premises, and this collection is intermittent, and a separate application is made for each accumulation required to be removed.

The 283 bushels of inoffensive refuse came from six separate tradesmen.

The Collector hands a form filled in to the tradesmen with details of the accumulation removed, and obtains his signature to the counterfoil.

The Accounts are rendered quarterly.

The system was some little time getting into order, but can now be regarded as working very satisfactorily. In connection with the removal of offensive refuse, galvanized iron air-tight receptacles are supplied by the Council for the use of tradesmen, an empty receptacle being left when the full one is removed."

18. *Greengrocer's Refuse.*—Bills were printed and distributed to all the greengrocers in the Borough, warning them against scattering refuse in the streets. Ten greengrocers were prosecuted and convicted of a breach of the Bye-laws under Section 16 (2) by casting and laying rubbish in the street. The fines imposed varied from 10s. to £2.

HOUSING OF THE WORKING CLASSES.

19. Three separate reports were presented to the Housing Committee, one on Sanitary requisites of new houses, and two on overcrowding and Housing of Working Classes. In the former I advocated (1) The provision of one good sized living

room in place of two very small ones, and if necessary at the sacrifice of the through passage ; (2) The lighting and ventilation of passages and staircases ; (3) A well ventilated larder ; (4) That streets should run north and south, and thus allow houses to face east and west ; (5) Separate water-closets to each family.

For the reports on overcrowding and housing a large number of houses were specially inspected to obtain statistics.

20. *Houses unfit for habitation.*—The following houses were represented as unfit for habitation under the Housing of the Working Classes Act, part 2, Sec. 32 :—

- 1—8, Sun Yard, Eltham
- 1 & 2, Kate's Place, North Woolwich
- 9—14, Salutation Alley
- 1—6, Elizabeth Place
- 2 Hulk Cottages
- 1—10, Lyon's Yard, Artillery Place .
- 139, High Street, Woolwich

making altogether 34 houses.

The death rate in these houses (excluding those situated in Eltham, for which the necessary returns were not found) for the two years 1900 and 1901, was 36·08 or more than twice the death rate of the Borough. The death rate for Phthisis for the same period was 10·3, or five times that of the Borough.

21. Of the above 34 houses certified as unfit for human habitation one was closed by arrangement with the owner ; 6 have been recently closed and demolished after having been bought by the Council for municipal purposes ; 2 were closed by a magistrate after contested proceedings. The remaining 25 have not been closed, but were dealt with under the Public

Health Act, and certain improvements carried out. In 23 houses the principal defects were want of proper light and ventilation (13 being back to back houses) and in the remainder, dilapidations were most marked.

22. I also represented the area comprising Salutation Alley and 1 to 5, Beresford Street, containing 16 houses, as a proper area to be dealt with under Section 39 of the Housing of the Working Classes Act, on account of the bad arrangement and condition of the buildings, and the want of light and ventilation. The death rate of this area was 42·2 per 1000, and the Phthisis death rate 10·0, both rates being vastly in excess of the rate for the Borough.

23. *Building Schemes.*—Plans have been prepared for building 25 houses at North Woolwich, and building operations will be shortly commenced. The houses will be all self-contained, comprising living room, two or three bedrooms and scullery, the latter being available for cooking during the summer months, and containing a bath, copper, cooking stove and larder.

A large scheme for building 1,000 houses at Eltham is at present in abeyance. The provision of new and sanitary houses at reasonable rents is the greatest desideratum of the day from a sanitary point of view.

HOUSES REGISTERED UNDER THE BYE-LAWS FOR HOUSES LET IN LODGINGS.

24. *Registration.*—At the beginning of the year there were 88 houses registered under the Bye-laws, 65 being in Woolwich Parish, and 23 in Plumstead. During the year I recommended the registration of 49 houses. After the various processes of

consideration by the Health Committee, notice to the owners and tenants, objections by owners and tenants, and re-consideration by the Health Committee, 17 were finally placed on the register. Two houses were removed from the register, being occupied by one family only, leaving 103 registered at the end of the year (79 in Woolwich, and 24 in Plumstead). Of the newly registered houses 13 were in Woolwich Parish and 4 in Plumstead.

25. *Inspection.*—These houses were regularly inspected every three or six months, according to the conditions found to exist in each case, Inspector Barnes being specially charged with the inspection of those in Woolwich. Every tenant was supplied with a card giving an abstract of the Bye-laws, the dimensions of the rooms occupied, and the number of persons allowed to occupy them. The result of being under definite regulations as to cleansing and overcrowding together with frequent inspection, has undoubtedly led to these houses being kept clean, and free from overcrowding, to a far greater extent than was possible without the bye-laws.

Proceedings were taken under the Bye-laws with respect to four houses, one for failure to return a form with information, one (affecting two tenants) for want of cleanliness and overcrowding, one for uncleanness, and one for overcrowding. Convictions were obtained in each case and fines from 5s. to 40s. inflicted.

26. *The Bye-laws in force.*—At present different Bye-laws are in force in each of the three Parishes of the Borough, those in Woolwich and Plumstead, however, being very similar. I reported on making the Bye-laws uniform, and recommended the Eltham Bye-laws as a model.

The question of new Bye-laws is still under consideration.

COMMON LODGING HOUSES.

27. There are 34 Common Lodging Houses in the Borough, all being in Woolwich parish. These are under regulations made and enforced by the County Council. They are frequently inspected by the County Inspectors, and their cleanliness leaves nothing to be desired. They are, however, to a great extent, old, cramped, badly ventilated and lighted, and quite unsuitable for healthy occupation; and it is not to be wondered at that from them come a large proportion of cases of Phthisis. It appears that having once been licensed, there is no power to take away the license, failing breach of the regulations, and hence the County Council is powerless to secure a radical improvement of the conditions.

The County Council should have the power to grant or refuse the license annually.

I represented certain insanitary conditions to the Medical Officer of Health of the County, several of which were remedied.

UNDERGROUND ROOMS.

28. Three cases of underground rooms separately occupied, not in accordance with the Public Health Act, were met with. In one such case the landlord went to considerable expense to increase the height of the rooms by lowering the ground level, made an area in front, and in all respects carried out the work required to make the rooms conform with the statute. One was closed, and the conditions improved in the third.

Many cases of underground rooms not separately occupied, but used along with rooms not underground, either for living or sleeping, were discovered, and sixteen not satisfactory as regards light, ventilation, dryness, &c., were dealt with as nuisances.

FACTORIES AND WORKSHOPS.

29. Owing to there being no special Workshop Inspector, and to the ordinary inspector's time being fully occupied, it was not found possible to inspect factories and workshops as much as is desirable. A considerable amount of work was, however, done under this head. Five of the large private factories were inspected as to the provision of sanitary conveniences; in one case, complete reconstruction was secured, and in another, improvements in cleanliness, &c., were brought about.

I personally inspected 15 of the larger workshops (dress-makers, milliners, shirt makers and tailors); several were admirably conducted, but in three there was overcrowding or defective ventilation; in eight, improper or insufficient w.c. accommodation, and 6 were found dirty.

The Sanitary Inspectors visited 27 workshops; in four there was defective ventilation, and in eighteen, overcrowding. The defects found were remedied on the service of notices, and it was not found necessary to take any proceedings under Section 2 or Section 38 of the Public Health (London) Act.

Restaurants—13 Restaurants and private hotels were inspected in reference to the conditions of the kitchens, sanitary conveniences, &c.; 13 were found dirty, and steps taken for their improvement.

OUTWORKERS.

30. The names and addresses of 99 outworkers were obtained and their homes visited; nuisances were found to exist at 24 houses, which were abated after notice.

BAKEHOUSES.

31. There are 73 Bakehouses in the Borough, 35 being underground. These were all inspected twice, in the Spring and Autumn; 13 were found unsatisfactory as regards clean-

liness, &c., and several defective as to ventilation and light. Certain remedies were obtained, but in view of the possible closing of some of the underground bakehouses at an early date, it did not seem justifiable to insist on improvements involving much expense. Cleansing was enforced in all cases.

DISINFECTION.

32. Infected articles were disinfected by a Washington Lyon's steam (high pressure) apparatus. The old Plumstead apparatus was not used, all articles being taken to the newer one near St. Mary's Church, which is provided with doors at each end opening in separate apartments. The articles were exposed to a steam pressure of 25 lbs. to the square inch, with a temperature of 267 degrees for twenty minutes. It having been found that some articles were slightly injured by this process, enquiries were made as to the necessity of this high pressure, and after consulting an expert, it has been found that satisfactory results may be obtained by a lower pressure. The articles are now only subjected to a pressure of 5 lbs. with a temperature of 227°F.

Articles from 687 premises were disinfected. Infected rooms were fumigated for the most part with Formalin, 25 tablets being used per 1000 cubic feet. The room is closed for six hours. School rooms were disinfected with sulphur.

One van is used for bringing away infected articles, and another for returning the disinfected articles, the former being zinc lined, and the vans numbered '1' and '2.'

Solution of corrosive sublimate (1 in 1000) and solution of permanganate of potash (a drachm in 14 ozs.) are supplied free on application, for disinfection of underclothing, utensils, &c.

HEALTH SHELTER.

33. The Health Shelter was used on four occasions only, during disinfection of their rooms, by four families, comprising 11 persons. They remained one night only in the Shelter.

The Plumstead Shelter has been let, and the Woolwich Shelter only was used, being fully equal to the requirements of the Borough in this way.

THE MORTUARY.

34. The Woolwich Mortuary in Sun Street was used for the whole Borough, the old mortuaries in Plumstead Churchyard and in High Street, Woolwich, have been closed for any but exceptional use.

156 bodies were received into the mortuary, 13 being for custody and 143 for inquests. The infectious disease mortuary was used on two occasions only.

Some nuisance was experienced by those frequenting the Mortuary from drowned bodies awaiting inquest. Several disinfectants were tried, and it was found that a solution of formalin sprinkled on the body was most effectual in preventing any offensive odour.

The Mortuary buildings were maintained in a perfectly satisfactory manner, and no complaints received as to any nuisance experienced in the neighbourhood.

A small mortuary chamber is to be shortly erected in Eltham for temporary custody of bodies; if an inquest is to be held, the body will be moved to the Sun Street Mortuary.

CEMETERIES.

35. There are two public Cemeteries in the Borough, both being in the Parish of Plumstead, and nearly contiguous. I inspected both and found them satisfactorily maintained. There is also the old Plumstead Churchyard which is still used under certain restrictions; this is maintained as before.

There were 144 bodies buried in the churchyard compared with 146 and 164 in the two preceding years. The bodies buried in the Woolwich Cemetery were 691, and in Plumstead 788.

THE COUNCIL'S BUILDINGS.

36. I inspected the following buildings belonging to the Council as to their sanitary condition:—The Town Hall and Offices, the Offices in Maxey Road, the Public Baths, the Public Library, the Mortuary and Shelter, the Public Lavatories in Nile Street, Beresford Square, and High Street, Plumstead. A report was made on the defective ventilation and unsatisfactory sanitary conveniences at the Town Hall and the Town Hall Offices; certain improvements were made, but much is left to be desired. The Public Baths were found on the whole in a satisfactory condition, as likewise the new Library. The Public Lavatories are kept scrupulously clean; I found that common roller towels were used here, and pointed out a danger to health from this; a separate clean towel is now supplied to each person. The Mortuary and Shelter are very well kept.

37. At the same time that a report was made on the insanitary condition of the Council's Offices, I pointed out the injury to health likely to ensue from the continued overtime being worked, more especially to the younger clerks.

BYE-LAWS FOR TENTS, VANS, & SHEDS.

38. Frequent inspections were made of vans and sheds situated in the Borough, and the Bye-laws as to water supply, w.c. accommodation and cleanliness enforced. In one case overcrowding was abated, and in another earth closets were provided.

GAS LIGHTING.

39. During the year the South Metropolitan Gas Company have diminished the illuminating powers of their gas under an Act of Parliament which required the Company at the same time to offer to supply and fix an improved burner to all consumers free of expense. The inferior gas burnt with an improved burner gives a better light at less cost than the former superior gas did with the common fish tail burners, and I believe the Company have carried out the duties imposed on them as to offering to supply the improved burners. But whether the offer has not been understood, or neglected, or from whatever cause, there is no doubt that the vast majority of the population of the Borough are now consuming the inferior gas without having been supplied with the improved burners, with the result no doubt that more gas is burnt, more air consumed, and more poisonous carbon compounds produced to be breathed into the lungs; thus ensues increased expense for lighting, and deteriorated health. Obviously Parliament ought to have required the Gas Company to make a personal house to house offer to fix the improved burners. Only a few of the educated classes will attend to the offer sent by post, but for the mass of the working classes it might as well not be made. Applications for new burners must be made before July 1st, 1903, after which the Company is under no obligation to supply them free.

VENTILATION OF THE POLYTECHNIC HALL.

40. The ventilation of public halls is usually much neglected. My attention was called to the bad ventilation of the Polytechnic large hall. I made certain recommendations some of which were carried out with a consequent improvement.

CONGRESSES.

41. In company with delegates of the Health and Housing Committee I attended the following Congresses :—

Congress of Society of Public Health, Eastbourne.

Tuberculosis Congress, London.

Housing Congress, Glasgow.

Congress on Smoke abatement, London.

As far as I was concerned all of these Congresses involved hard but profitable work, in acquiring and helping to communicate new knowledge tending to sanitary progress, and I believe all were found very instructive to those who attended.

New discoveries and information are communicated much more easily by personal intercourse at such Congresses than by merely reading articles, though this of course is necessary too. I reported at the time on my experiences of the above meetings.

SANITARY STAFF ADDITIONS.

42. The following additions were made to the Sanitary Staff during the year. Mr. Tedham and Mr. Barnes were appointed Sanitary Inspectors, Mr. Barnes filling a vacancy caused by Mr. Wood going to Eltham, where there had been no qualified Inspector before; and Mr. Tedham (appointed first for six months, and then permanently) being an additional Inspector. Mr. Barnes was appointed to Burrage Ward (formerly held by

Mr. Potter) and also as Inspector of Registered Lodging Houses and Food Inspector in Woolwich parish, and Inspector of Cowsheds and Slaughterhouses in Woolwich and Plumstead.

Mr. Britter and Mr. Deans were appointed assistant clerks.

43. In conclusion I have to acknowledge the cordial co-operation of the Chief Sanitary Inspector and all the staff, and to acknowledge their patient and persevering work. I have also to thank you, Mr. Mayor, and the Council, more especially the Chairman and members of the Health Committee, for the kind consideration you have given to all my recommendations.

I am, Gentlemen,

Your obedient Servant,

SIDNEY DAVIES.

May 7th, 1902.

TABLE I.
Vital Statistics of Whole District during 1901 and Previous Years.

Year.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.			
		Number	Rate*	Under 1 Year.		At all Ages.					Number	Rate*	Number	Rate.*
				Number.	Rate per 1000 Births registered.	Number.	Rate*							
1	2	3	4	5	6	7	8	9	10	11	12	13		
1891	99284	3345	33·6	476	142	..	..	..	..	..	1870	18·8
1892	101144	3294	32·5	425	129	..	..	..	..	..	1730	16·9
1893	103092	3361	32·6	478	142	..	..	..	..	..	1899	18·4
1894	104077	3304	31·7	362	109	..	..	..	..	..	1566	15·4
1895	106881	3321	31·0	476	143	..	..	..	..	..	1757	16·4
1896	106864	3363	31·4	508	151	..	..	..	..	..	1878	17·5
1897	108611	3406	31·3	455	133	..	..	..	..	..	1642	15·2
1898	110273	3269	29·6	472	144	..	..	..	..	..	1935	17·5
1899	113148	3367	29·7	534	158	..	..	..	..	..	1889	16·6
1900	115498	3303	28·6	469	142	..	..	..	..	..	2057	17·8
Averages for years 1891-1900.	106887	3333	31·2	466	139	..	..	..	..	..	1823	17·0
1901.	117619	3535	30·3	455	128	1600	13·6	433	42	164	1722	14·6		

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year a having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purpose of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums.

Area of District in acres (exclusive of area covered by water), 8239·7	Total Population at all ages 117,178	} At Census of 1901.
	Number of Inhabited Houses 18,086	
	Average number of Persons per house 6·47	

TABLE IA.

Vital Statistics of each Parish during 1901 and previous years.

Year.	Population estimated to middle of year.	BIRTHS.					DEATHS under One Year of Age.					DEATHS at all Ages—Nett.				
		Woolwich.	Plumstead.	Eltham.	TOTAL.	Rate per 1000 population.	Woolwich.	Plumstead.	Eltham.	TOTAL.	Rate per 1000 Births.	Woolwich.	Plumstead.	Eltham.	TOTAL.	Rate per 1000 population.
1890	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1891	99,284	1336	1867	142	3345	33·6	222	245	·9	476	142	885	917	68	1870	18·8
1892	101,144	1236	1932	126	3294	32·5	198	211	·16	425	129	806	847	77	1730	16·9
1893	103,092	1312	1914	135	3361	32·6	210	268	..	478	142	828	990	81	1899	18·4
1894	104,077	1365	1910	129	3304	31·7	178	180	·14	362	109	755	736	75	1566	15·4
1895	106,881	1323	1866	132	3321	31·0	209	250	·17	476	143	748	930	79	1757	16·4
1896	106,864	1283	1950	130	3363	31·4	224	261	23	508	151	860	931	87	1878	17·5
1897	108,611	1306	1975	125	3406	31·3	210	230	15	455	133	720	835	87	1651	15·2
1898	110,273	1253	1896	120	3269	29·6	220	234	18	472	144	835	1016	84	1935	17·5
1899	113,148	1260	1971	136	3367	29·7	211	296	27	534	158	871	916	102	1889	16·6
1900	115,498	1175	1994	134	3303	28·6	203	245	21	469	142	907	1058	92	2057	17·8
Averages for years 1891-1900.	106,887	1274	1927	130	3333	31·2	209	242	16	466	139	822	919	84	1823	17·0
1901	117,619	1189	2169	177	3535	30·3	164	266	25	455	128	702	912	108	1722	14·6

TABLE IB.

Institutions within the District receiving Sick and Infirm Persons from outside the District.	Institutions outside the District receiving Sick and Infirm Persons from the District.	Other Institutions, the deaths in which have been distributed among the several localities in the District.
Poor Law Infirmery Infirmery, Royal Arsenal Auxiliary Hospital Woolwich and Plumstead Cottage Hospital Eltham Cottage Hospital Convalescent Home, Shooters' Hill	Lewisham Infirmery Brook Hospital L.C. Asylum, Dartford Guy's Hospital King's College Hospital Banstead Asylum Manor Asylum, Epsom Ilford Asylum Charing Cross Hospital Herbert Hospital Brompton Hospital London Hospital Invalid Home, Highbury Bartholomew's Hospital St. Peter's Hospital Seamen's Hospital Caterham Asylum Grosvenor Hospital National Hospital St. Thomas's Hospital Children's Hospital Middlesex Hospital London Chest Hospital Park Fever Hospital Miller Hospital Westminster Hospital Evelina Hospital North London Consumption Hospital Hospital Ships Cane Hill Asylum	

TABLE II.

Vital Statistics of Separate Localities in 1901.

Increase of Population since the 1901 Census, estimated by number of new houses occupied

	Dockyard Ward.	St. Mary's Ward.	River Ward.	St. George's Ward.	Burrage Ward.	Herbert Ward.	St. Margaret's Ward.	Central Ward.	Glyndon Ward.	St. Nicholas Ward.	Eltham Ward.
Population estimated to middle of each year	8712	10439	14504	8078	9837	9195	10193	10220	9829	20239	7787
Births registered ..	282	203	416	298	253	240	325	299	319	737	177
Deaths at all ages ..	137	122	292	151	133	104	120	142	140	265	108
Deaths under 1 year ..	40	25	66	35	24	22	42	36	30	106	26

TABLE III.

Cases of Infectious Disease notified during the Year 1901.

Notifiable Disease.	Cases notified in whole District.								Total cases notified in each locality.										No. of cases removed to Hospital from each locality.										
	At all Ages.	At Ages—Years.							Woolwich.					Plumstead.					Woolwich.		Plumstead.								
		Under 1	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards	River.	Dockyard.	St. Mary's	St. George's	Burage	St. Margaret's	Herbert	Glyndon	Central	St. Nicholas'	Eltham	River	Dockyard	St. Mary's	St. George's	Burage	St. Margaret's	Herbert	Glyndon	Central	St. Nicholas'	Eltham
Small-pox	21	..	..	3	9	9	..	4	..	..	..	2	3	1	3	3	5	..	4	..	..	..	2	3	1	3	3	5	..
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	216	4	66	97	30	19	..	29	18	8	10	14	26	11	25	33	25	17	25	..	7	9	10	22	..	21	30	24	10
Membranous Croup .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	72	2	3	10	6	44	7	10	4	4	8	6	10	5	6	4	7	8	..	..	..	..	1	..	..	..	1	..	..
Scarlet Fever	311	4	98	159	44	6	..	32	19	26	29	32	31	19	25	32	41	25	26	18	23	27	28	26	11	23	26	40	17
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	68	..	3	17	22	26	..	12	6	..	3	4	5	2	3	4	14	15	10	5	..	2	3	5	1	..	..	8	11
Relapsing Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Puerperal Fever	8	..	..	..	2	6	..	1	..	1	1	1	1	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Plague .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	697	10	170	287	113	110	7	88	47	39	51	59	76	39	63	76	93	66	65	23	30	39	44	56	13	47	60	78	38

TABLE IV.

Causes of, and Ages at Death during year 1901 (52 weeks ending 28th December).

Disease.	Deaths in or belonging to whole District, at subjoined Ages.							Deaths in or belonging to Localities, at all Ages.									Total Deaths in Public Institutions in the District.					
	All Ages.	Under 1.	1-5.	5-15.	15-25.	25-65.	65 and Upwards.	River.	Dockyard.	St. Mary's.	St. George's.	St. Nicholas.	Central.	Glyndon.	St. Margaret's.	Herbert.		Burrage.	ELTHAM.			
1 Small-pox	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Measles	21	3	16	2	..	..	..	1	3	2	5	5	..	..	1	..	3	1	..	..	..	..
3 Scarlet Fever	5	1	1	2	1	..	..	1	1	1	..	1	1	..	..	..	..	..	..	..	..	..
4 Typhus Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 Epidemic Influenza	22	1	1	3	3	8	6	4	3	3	..	1	3	4	1	1	2	..	..	..	..	3
6 Whooping Cough	21	10	11	..	..	..	..	2	2	1	7	1	2	1	3	..	..	..	..	..	..	2
7 Diphtheria and Membranous Croup	19	..	7	11	1	..	..	1	..	..	1	2	6	4	4	..	1	..	..	..	..	..
8 Croup	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9 Enteric Fever	13	..	..	1	4	8	..	3	..	1	3	1	..	..	1	2	..	..	..	..	2	1
10 Asiatic Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11 Diarrhoea—Dysentery	67	56	4	..	..	3	4	15	6	3	3	16	4	7	2	2	4	5	6	..	..	6
12 Epidemic or Zymotic Enteritis	29	27	2	..	..	..	..	4	1	..	..	12	1	4	5	..	1	1	..	..	..	..
13 Enteritis	25	22	2	..	1	..	..	7	2	1	3	4	3	..	..	3	1	1	..	..	..	1
14 Other Continued Fevers .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15 Erysipelas	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
16 Puerperal Fever	3	..	..	..	..	3	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	1
17 Other Septic Diseases	8	2	..	..	..	5	1	2	1	2	1	..	..	1	..	..	..	..	..	..	..	1
18 Rheumatism	9	..	1	1	1	5	1	2	..	..	3	..	1	1	2	..	..	..	..	..	..	2
19 Intermittent Fever and Malarial Cachexia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 Tuberculosis of Meninges	17	4	7	4	..	2	..	3	1	3	3	1	2	..	2	1	1	..	..	..	..	..
21 Do. of Lungs	215	1	4	7	38	153	12	46	17	23	19	33	15	18	4	12	12	6	66	..	..	66
22 Do. other forms	37	12	3	6	1	14	1	6	3	2	5	10	3	..	3	3	1	1	4	..	..	4
23 Alcoholism	19	..	..	..	..	17	2	5	2	2	2	1	..	1	1	1	2	2	5	..	..	5
24 Cancer	82	..	..	..	..	57	25	13	2	4	4	5	9	13	8	7	8	9	7	..	..	7
25 Premature Birth	60	60	..	..	..	..	..	12	4	3	5	12	3	1	7	4	3	6	..	..	..	..
26 Developmental Diseases	125	117	8	..	..	..	..	13	16	2	8	37	12	9	9	5	9	5	..	..	..	..
27 Old age	90	..	..	..	..	3	87	9	4	5	4	17	5	8	4	9	16	9	45	..	..	45
28 Meningitis	26	12	9	2	3	..	..	2	2	..	3	4	3	2	3	2	3	2	..	..	..	2
29 Inflammation and Softening of Brain	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30 Organic Diseases of the Heart	112	..	1	7	6	69	29	16	12	10	8	9	10	10	9	7	15	6	4	..	..	4
31 Acute Bronchitis	94	43	9	..	..	15	27	14	9	9	10	12	10	6	9	7	4	4	5	..	..	5
32 Chronic Bronchitis	42	..	..	..	..	16	26	7	3	5	4	6	3	6	1	5	2	..	29	..	..	29
33 Lobar (Croupous) Pneumonia	47	1	1	3	5	31	6	10	7	4	4	6	3	5	1	1	4	2	1	..	..	1
34 Lobular (Broncho)	62	26	19	..	2	10	5	12	5	5	7	6	7	6	5	3	4	2	7	..	..	7
35 Diseases of the Stomach	16	7	..	..	1	6	2	5	..	2	1	3	1	1	..	1	1	1	..	..	..	..
36 Obstruction of Intestines.. .. .	7	3	..	..	..	3	1	..	..	2	..	1	1	..	1	..	..	2	..	..	..	4
37 Cirrhosis of Liver	33	..	..	..	..	28	5	11	2	3	4	9	1	1	1	1	..	..	4	..	..	4
38 Nephritis and Bright's Disease	33	..	..	..	1	22	10	7	4	4	4	3	1	2	1	..	2	5	3	..	..	3
39 Tumours and other affections of Female Genital Organs	2	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
40 Accidents and Diseases of Parturition	7	..	..	..	1	6	..	..	1	..	1	1	2	..	1	1	..	..	..	..	..	..
41 Deaths by Accident or Negligence	42	2	3	4	7	17	9	9	3	5	5	4	2	3	1	1	6	3	6	..	..	6
42 Deaths by Suicide	15	..	..	..	4	10	1	2	1	3	2	2	1	..	..	2	2	..	..	..	..	..
43 Deaths from Ill-defined Causes	22	11	1	..	1	6	3	3	4	2	4	3	2	1	1	2	..	..	..	..	..	..
44 All other causes	264	43	16	6	13	125	61	43	16	10	17	27	25	24	19	20	24	29	66	..	..	66
Totals	1714	465	126	60	94	644	325	292	137	122	151	265	142	140	120	104	133	108	269	..	..	269

TABLE V.

Rates per 1,000 Persons on the Population, estimated to the Middle of the Year.

Year.	Small Pox.		Cholera.		Erysipelas.		Diphtheria and Membranous Croup.		Scarlet Fever.		Typhus Fever.		Enteric and Continued Fevers.		Relapsing Fever.		Puerperal Fever.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1891	0.01	..	..	..	0.58	0.05	0.51	0.08	1.52	0.04	0.01	..	0.37	0.06	..	..	0.15	0.03
1892	0.04	..	..	..	1.00	0.07	1.3	0.41	9.4	0.33	..	..	0.41	0.13	..	..	0.09	0.02
1893	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1894	0.35	0.03	..	..	0.96	0.04	1.7	0.56	7.8	0.42	..	..	0.47	0.11	..	..	0.04	0.03
1895	0.19	0.01	..	..	0.93	0.02	2.0	0.47	5.5	0.20	..	..	2.5	0.38	..	..	0.08	0.03
1896	0.03	..	..	..	1.03	0.04	2.8	0.87	5.0	0.24	..	..	0.62	0.07	..	..	0.03	0.01
1897	0.01	..	0.03	..	0.83	0.04	2.6	0.58	6.0	0.12	..	..	0.45	0.05	..	..	0.04	0.02
1898	..	..	0.02	..	0.86	0.02	2.2	0.31	5.7	0.16	..	..	0.52	0.11	..	..	0.09	0.08
1899	..	..	..	..	0.83	0.06	3.0	0.36	7.8	0.09	..	..	0.52	0.09	..	..	0.09	0.07
1900	0.01	..	..	..	0.91	0.05	3.1	0.27	3.9	0.09	..	..	0.59	0.10	..	..	0.06	0.01
1901	0.18	..	..	..	0.61	..	1.8	0.16	2.6	0.04	..	..	0.58	0.11	..	..	0.06	0.02

NOTE.—Data for 1893 could not be obtained.

TABLE VI.
 SCARLET FEVER AND DIPHTHERIA.
 Number of Patients attending each School.

	Ancona Road.	Earl Street.	Vicarage Road.	Plumstead Road.	Purrett Road.	Bloomfield Road.	The Slade.	Burrage Grove.	Eglinton Road.	High Street.	Conway Road.	Knee Hill, Abbey Wood.	Plum Lane.	Union Street.	Mulgrave Place.	Wood Street.	Maryon Park.	Elizabeth Street.	Pope Street.	Roper Street.	Other Schools.	Total.
On Roll ..	1221	1045	1036	937	1380	1805	1182	1005	1290	1269	1428	185	396	557	796	1152	758	763	595	..	..	..
SCARLET FEVER ..	10	3	18	6	9	28	6	10	8	5	8	..	..	6	16	3	2	3	4	3	38	186
DIPHTHERIA AND MEMBRANOUS CROUP ..	9	2	9	3	1	6	7	3	3	4	14	..	1	1	3	1	..	9	4	1	21	102

TABLE VII.

Analysis of Sickness and Mortality Statistics in London during the Year 1901.

CITIES AND BOROUGHES.	Estimated population in the middle of 1901.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.			
		Small-pox.	Scarlet Fever.	Diphtheria.*	Typhus Fever.	Enteric Fever.	Other continued Fevers.	Puerperal Fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.*	Whooping Cough.	Typhus Fever.	Enteric Fever.	Other continued Fevers.	Diarrhoeal diseases.				Total.	Annual rate per 1000 persons living.	
London	4,543,757	1702	18,390	12,154	20	3195	48	251	4606	3	40,369	8.9	229	1952	584	1330	1604	4	497	7	3900	10,107	2.22	77,663	17.1	148	
<i>West Districts.</i>																											
Paddington	144,154	21	506	340	..	92	..	13	141	..	1113	7.7	—	9	11	46	52	..	15	..	116	249	1.72	2060	14.3	136	
Kensington	176,787	15	476	251	2	99	3	10	171	..	1032	5.9	1	76	15	38	62	1	11	..	117	321	1.83	2675	15.2	163	
Hammersmith	112,619	45	346	226	..	77	2	3	116	..	815	7.3	15	47	14	36	80	..	16	..	115	323	2.86	1914	17.0	168	
Fulham	138,426	16	600	644	..	133	1	7	132	1	1534	11.1	3	38	20	48	77	..	20	2	181	389	2.81	2181	15.8	152	
Chelsea	73,879	5	190	107	..	41	..	4	47	..	394	5.3	1	9	5	9	29	..	6	..	38	97	1.31	1223	16.6	138	
City of Westminster	182,502	100	478	255	..	105	2	6	117	..	1063	5.8	16	59	11	21	48	..	20	..	70	245	1.34	2906	16.0	135	
<i>North Districts.</i>																											
St. Marylebone	133,060	79	397	259	..	82	..	4	183	..	1004	7.6	7	9	18	33	40	..	8	..	104	219	1.65	2207	16.6	107	
Hampstead	82,287	7	219	153	..	50	1	5	48	..	483	5.9	2	1	4	20	24	..	7	..	26	84	1.02	874	10.7	104	
St. Pancras	235,297	256	991	942	..	186	2	13	253	..	2643	11.3	41	68	33	109	87	..	30	..	195	563	2.39	4291	18.3	154	
Islington	335,325	62	1291	913	2	281	4	33	286	..	2872	8.6	8	157	30	132	90	..	47	..	198	662	1.97	5364	16.0	140	
Stoke Newington	51,328	19	172	144	..	26	..	4	41	..	406	7.9	3	8	4	14	6	..	5	..	25	65	1.28	674	13.2	115	
Hackney	219,780	41	933	978	1	192	1	16	327	1	2490	11.4	5	94	26	97	50	..	20	..	179	471	2.15	3455	15.8	135	
<i>Central Districts.</i>																											
Holborn	59,205	216	258	167	1	39	..	2	89	..	772	13.1	30	23	3	15	10	..	12	..	42	135	2.28	1186	20.1	124	
Finsbury	101,263	93	502	297	..	68	1	5	135	..	1101	10.9	7	48	18	36	38	..	11	..	121	279	2.78	2166	21.4	142	
City of London	26,627	8	110	67	..	21	..	1	13	..	220	8.3	2	1	4	8	2	..	3	..	8	28	1.06	534	20.1	175	
<i>East Districts.</i>																											
Shoreditch	118,554	18	557	326	..	97	10	6	142	..	1156	9.8	5	75	20	29	60	..	10	..	155	354	2.99	2591	21.9	197	
Bethnal Green	129,700	32	841	463	1	108	2	8	211	..	1666	12.9	2	88	44	63	38	..	19	1	117	372	2.88	2628	20.3	153	
Stepney	298,884	161	1177	845	2	267	..	16	372	..	2840	9.5	22	180	42	76	98	1	44	..	298	761	2.54	6218	20.9	163	
Poplar	168,887	71	561	619	..	173	..	6	187	..	1617	9.6	10	89	14	83	79	..	26	..	213	514	3.04	3864	20.0	165	
<i>South Districts.</i>																											
Southwark	206,219	89	1301	558	..	135	..	5	242	..	2330	11.3	14	161	54	53	98	..	18	..	222	620	3.02	4416	21.5	168	
Bermondsey	130,348	107	932	330	1	150	..	5	155	..	1680	12.9	14	81	44	37	57	..	22	..	122	377	2.90	2718	20.9	169	
Lambeth	302,460	51	1039	527	..	144	6	14	239	1	2021	6.7	4	122	38	51	115	..	23	3	293	649	2.15	5204	17.3	139	
Battersea	169,364	53	602	267	..	91	..	8	126	..	1147	6.8	2	132	10	20	81	..	18	..	202	465	2.76	2773	16.4	163	
Wandsworth	233,943	32	689	478	..	99	1	14	225	..	1538	6.6	3	65	17	41	62	..	16	1	157	362	1.55	3118	13.4	132	
Camberwell	259,897	54	1474	867	..	155	1	19	228	..	2798	10.8	7	152	47	112	84	..	25	..	204	631	2.44	4268	16.5	142	
Deptford	110,732	4	549	427	9	63	2	2	111	..	1167	10.6	1	53	17	37	50	2	10	..	104	274	2.48	1818	16.5	146	
Greenwich	96,188	11	419	188	..	68	..	6	110	..	802	8.4	3	55	5	22	39	..	10	..	75	209	2.17	1463	15.3	130	
Lewisham	128,423	12	465	299	1	61	1	8	86	..	933	7.3	..	31	11	24	28	..	13	..	104	211	1.65	1665	13.0	129	
Woolwich	117,619	23	310	217	..	69	1	8	70	..	698	6.0	1	21	5	20	20	..	12	..	99	178	1.51	1709	14.6	129	
Port of London .. ..	..	1	5	..	..	23	2	..	3	..	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* Including Membranous Croup.

TABLE VIII.

Summary of Nuisances abated, Notices served, and General Work of the Public Health Department for the 12 months ended 31st December, 1901.

	SANITARY INSPECTORS' DISTRICTS.								Total.	
	St. Mary's and Dockyard.	River.	St. George's.	Central and Glyndon.	St. Margaret's and Herbert.	St. Nicholas.	Burrage.	Eltham.		
PREMISES INSPECTED.										
No. of Houses inspected, house to house	496	465	656	1023	694	562	421	480	4797	
„ Re-inspections after service of notice	1507	1465	1406	1365	1476	1295	1010	1936	11460	
„ Houses and Premises specially inspected, including infectious diseases and complaints	727	978	725	936	1304	769	852	832	7123	
„ Houses where drains have been tested by smoke test ..	50	34	12	38	31	23	17	37	242	
„ Houses where drains have been tested by water ..	110	57	6	12	45	15	29	59	233	
„ Observations made with regard to smoke nuisances ..	18	109	..	..	6	10	5	..	148
„ New Houses inspected for Certificates .. .. .	..	55	12	52	304	240	..	455	1118
NUISANCES ABATED—DRAINS.										
Waste pipes from baths, lavatories and wash-house sinks, repaired or disconnected	83	21	13	13	29	2	20	6	187	
Choked and defective drains	205	202	33	38	143	32	37	148	838	
Defective traps	56	40	20	19	17	..	8	42	202	
Defective and unventilated soil pipes	41	18	4	13	10	1	2	38	127	
W.C.'s.										
W.C.'s repaired, new traps or pans provided, fittings repaired	259	232	107	94	101	7	73	161	1034	
Water supply apparatus repaired	124	138	128	102	103	91	70	69	830	
Foul pans cleansed	20	34	..	..	..	..	..	..	54

TABLE VIII.—*continued.*

SANITARY INSPECTORS' DISTRICTS.									
	St. Mary's and Dockyard.	River.	St. George's.	Central and Glyndon.	St. Margaret's and Herbert.	St. Nicholas.	Burrage.	Eltham.	Total.
PREMISES.									
Interiors cleansed, repaired, and defective roofs repaired	365	403	515	603	268	314	269	345	3082
Damp walls remedied	104	60	119	62	81	25	55	102	603
Paving in yards and wash-houses repaired	166	143	145	152	72	16	78	98	870
Through ventilation provided.. .. .	62	37	71	22	14	..	2	42	250
Wash-houses without sinks and outlets for waste water..	26	..	..	..	..	..	7	10	43
Defective guttering and rain-water pipes	93	60	125	115	80	39	70	46	633
Dustbins supplied	27	46	11	12	70	34	43	26	269
Dung pits provided	3	1	2	2	..	..	1	6	15
Cases of overcrowding remedied	7	22	8	12	35	19	15	27	145
ANIMALS.									
Animals kept in such a state as to be a nuisance	2	3	..	5	3	5	..	2	20
Accumulations of manure removed	7	21	4	8	11	..	17	14	82
WATER.									
Defective and foul cisterns used for dietary purposes ..	2	17	..	3	8	7	6	65	108
Defective and foul rain water tanks remedied	21	2	3	..	1	..	..	7	34
Defective water pipes, rendering premises damp	19	15	44	31	10	15	..	6	140
Insufficient supply and water cut off by Water Company	10	7	8	12	16	6	10	4	73

TABLE VIII.—*continued.*

SUMMARY OF WORK OF CHIEF INSPECTOR.

Premises Inspected	..	..	..	..	..	1425
New Buildings Inspected	..	..	..	..	..	176
Ditches Cleansed	..	..	..	..	..	14
Defective Combined Drains Investigated and Reported upon					..	52
Number of Houses referred to in such combined drains	..				..	358
Cowhouses and Slaughterhouse inspections	..				..	35
Complaints investigated	..	..	..	..	..	123
Attendances at Police Court	..	..	..	..	..	35

MISCELLANEOUS, INCLUDING WORK OF CHIEF INSPECTOR,
DISTRICT INSPECTORS, AND CLERKS.

Number of cases of inattention to notices reported to Town Clerk for proceedings	..	..	..	..	..	146
Summonses at Police Court	..	..	..	..	..	124
Bakehouses inspected and cleansed twice during the year	..				..	73
Number of houses disinfected after infectious disease	..				..	687
Letters received	..	..	..	..	..	3063
,, written	..	..	..	..	..	3795
Notifications received	..	..	..	..	..	705
Certificates issued after disinfection	..	..	..	..	..	2075
,, of infectious disease forwarded to schools	..				..	1815
Complaints of sanitary defects	..	..	..	..	..	623
,, non-removal of dust	..	..	..	..	..	160
Written intimation notices	..	..	..	..	..	3795
Statutory notices	..	..	..	..	..	981

TABLE IX.

Prosecutions under Public Health Department.

DATE OF HEARING.	OFFENCE.	SITUATION.	RESULT.
1901.			
Jan. 5	Neglect to return form with information under Bye-laws relating to houses let in lodgings	10, Hanover Road ..	Fined £4 and 23/- costs
Mar. 13	Nuisance	14, Milward Street..	Adjourned 4 weeks; Fined 5/- and 21/- costs
April 12	Nuisance	132, Lakedale Road	Order made to abate nuisance in 14 days, and 3/- costs
May 8	Defective repair of drain	301, High Street, Plumstead	Fined £5 and 23/- costs
do.	do.	do.	Fined 40/- and 2/- costs
do.	Failing to keep room clean in Registered Lodging House	91, Hudson Road ..	Fined 5/- and 2/- costs
do.	Overcrowding	do. ..	do.
do.	do.	do. ..	do.
do.	Failing to keep room clean in Registered Lodging House	do. ..	Withdrawn at suggestion of Magistrate
do.	Smoke Nuisance.. ..	Cairn Mills ..	Fined £5 and £1 1s. costs
do.	do.	do. ..	do.
do.	do.	do. ..	do.
do.	do.	do. ..	Withdrawn at suggestion of Magistrate
do.	do.	do. ..	do.
do.	do.	do. ..	do.
May 31	do.	94, Wellington Street	Abatement Order made, and 4/- costs
do.	do.	do. ..	Abatement Order made, and 2/- costs
do.	do.	Dist. Chemical Works	Abatement Order made, and 4/- costs
do.	do.	16, Chesnut Road ..	Fined £4 and 6/- costs
do.	Permitting occupation of house without water certificate	Thornhill's Brickfield Swingate Lane	Fined 20/- and 2/- costs
do.	do.	do. ..	Ordered to pay 2/- costs
do.	Nuisance	22, Manor Street, Woolwich	Adjourned 7 days; nuisance abated; Ordered to pay 21/- costs
do.	do.	24, Manor Street ..	See 22, Manor Street
do.	do.	26, Manor Street ..	See above

TABLE IX,—*continued.*

DATE OF HEARING.	OFFENCE.	SITUATION.	RESULT.
June 13	Premises unfit for human habitation	1, Kate's Place, North Woolwich	Adjudged to 21st June for Magistrate to view. Upon the adjourned hearing on the 21st June, the Magistrate made a closing order in each case, with £5 5s. costs, and authorised the Council to pay each tenant £1 compensation for being evicted
do.	do.	2, Kate's Place ..	
do.	do.	1, Kate's Place ..	
do.	do.	2, Kate's Place ..	
June 28	Keeping swine in such a way as to be a nuisance	Land adjoining Woolwich Fields, Eltham	Order made to abate nuisance forthwith, and pay 21/- costs
do.	Smoke Nuisance.. ..	Western Electric Co., North Woolwich	Fined £5 and 2/- costs
do.	do.	Free Ferry Mills ..	Fined 40/- and 2/- costs
July 16	Unsound Food	30, Hare Street ..	Adjudged to 20th July; Fined £50 and £5 5/- costs
do.	Smoke Nuisance.. ..	Green Lane, North Woolwich	Fined £3 and 23/- costs
do.	do.	94, Wellington Street	Fined £1 and 2/- costs
do.	do.	do.	do.
do.	do.	do.	do.
do.	do.	do.	do.
do.	do.	do.	do.
do.	do.	Dist. Chemical Works North Woolwich	Fined 20/- and 23/- costs
do.	do.	do. ..	do.
do.	do.	do. ..	Withdrawn at Magistrate's suggestion
Aug. 14	Unsound Food	Stall in Market ..	20/- fine, 2/- costs
Sept. 3	Nuisance	19, Coupland Terrace	Work done, 23/- costs
do.	Defective Flushing Apparatus	55, Westdale Road..	Work done, 20/- costs
do.	Nuisance.. ..	21, Samuel Street ..	10/- fine, 23/- costs
Oct. 4	do.	1, Theobald's cottages	Adjudged till 11th Oct. by request of defendant, £3 3/- costs allowed. 11th Oct., Order made for the abatement of nuisances, an additional £2 2/- costs
do.	do.	Southwood Road ..	
do.	do.	do. ..	
do.	do.	do. ..	
do.	do.	do. ..	
do.	do.	do. ..	
do.	do.	do. ..	
Oct. 11	do.	1, Elizabeth Place ..	Adjudged for three weeks till 1st Nov.; Further adjourned for two weeks till 15th November. 22nd Nov., Work done, £5 5/- costs
do.	Defective Paving	do. ..	
do.	Uncovered Tank	1 & 2, do. ..	
do.	Nuisance	2, do. ..	
do.	Defective Paving	2, do. ..	
do.	Nuisance	3, do. ..	
do.	do.	4, do. ..	
do.	Insufficient water supply	4, do. ..	
do.	Defective Paving	4, do. ..	
do.	Uncovered Tank.. ..	3 & 4, do. ..	
do.	Nuisance	5, do. ..	
do.	Insufficient water supply	5, do. ..	
do.	Defective Paving	5, do. ..	
do.	Nuisance	6, do. ..	

TABLE IX.—*continued.*

DATE OF HEARING.	OFFENCE.	SITUATION.	RESULT.
Nov. 7	Water-closet not provided with suitable and efficient arrangements	11a, Purrett Road ..	Adjourned 7 days; Nov. 14, fined 40/- and 23/- costs
do.	No cover to cistern ..	14a, Purrett Road ..	Fined 10/- and 2/- costs
do.	Casting or laying rubbish in the street	90, High Street, Plumstead	Adjourned 7 days; Nov. 14, fined 10/- and 2/- costs
do.	do.	do. ..	do. do.
do.	do.	23, Green's End ..	Fined 40/- and 2/- costs
do.	do.	301, High Street, Plumstead	Fined 20/- and 2/- costs
do.	do.	15, Hare Street ..	Adjourned 7 days, Nov. 14; Fined 10/- and 2/- costs
Nov. 28	Nuisance	2, Brookdene Road	} Adjourned 1 month; 26th Dec., further adjourned to 3rd Jan., 1902; Fined 30/- and 10/- in each case, £16 or 14 days. Order to abate in 14 days
do.	do.	4, do. ..	
do.	do.	6, do. ..	
do.	do.	8, do. ..	
do.	do.	10, do. ..	
do.	do.	12, do. ..	
do.	do.	14, do. ..	
do.	do.	16, do. ..	
do.	Rubbish deposited in the street	105, Wellington St.	Adjourned 1 day; Nov. 29, fined 20/- and 2/- costs
do.	do.	28, Sand Street ..	Adjourned 2 wks.; Dec. 12, fined 10/- and 2/- costs
do.	do.	37, New Road ..	Adjourned 2 wks.; Dec. 12, fined 10/- and 2/- costs
do.	do.	36, do. ..	Adjourned 2 wks.; Dec. 12, further adjourned till 13th Dec., fined 20/- & 2/- costs
do.	Breach of Bye-laws, Houses let in Lodgings	6, Ann Street, Rush Grove	Adjourned 2 wks.; Dec. 12, further adjourned till 13th Dec.; further adjourned for 21 days, 3rd January, 1902; further adjourned for 1 month
Dec. 13	Casting or laying rubbish in the street	69a, Bloomfield Road	Fined 20/- and 2/- costs
do.	Overcrowding	2, Mary Ann Cottages, Francis Street	Fined 10/- and 2/- costs
do.	do.	do. ..	Fined 40/- and 2/- costs
do.	Failing to supply ashpit	7 & 8, Salutation Alley	23/- costs (Dust-bins supplied)
do.	do.	6a, 7 & 8, Ann Street, Rush Grove	Fined 20/- and 23/- costs
do.	Unsound Food	23, Church Street ..	Fined £4 and 2/- costs

TABLE X.

Proceedings under Sale of Food and Drugs Act, 1st January to 31st December, 1901.

Article.	Result of Analysis.	Name and Address of Vendor.	Date of Hearing.	Result of Summonses.
			1901	
Butter	$\frac{3}{8}$ butter, $\frac{1}{8}$ margarine ..	W. Kentish, 10, Vicarage Road, Plumstead..	Jan. 3	Fined £3 and 20/- costs, and 2/- cost of summons
Milk	11 per cent. added water ..	W. Francis, 9, Elizabeth Street, N. Woolwich	„ 3	Fined £2 15/- and 20/- costs, and 2/- cost of summons
Milk	10 „ fat abstracted	W. F. Corp, Wellington Street, Woolwich ..	Feb. 5	Proved warranty, and summons was withdrawn on the Magistrate's suggestion upon payment of 2/- costs
Milk	30 „ added water ..	A. Handsley, 356, Kenning Road, Kennington	March 6	Proved warranty, and that the milk was pure when it left his yard. Summons withdrawn on suggestion of Magistrate on payment of 2/- costs
Milk	30 „ added water ..	O. George, 83, Samuel Street, Woolwich ..	„ 6	Fined 20/- and 33/6 costs
Butter	$\frac{3}{4}$ margarine	Y. E. Aubrey, 22, Green's End	„ 13	Fined £5 and 24/- costs
Milk	10 per cent. fat abstracted	B. Harwood, 2, Cross Street, Woolwich ..	April 17	2nd conviction, £3 and 33/6 costs
Milk	Do. do.	R. Pace, Keightly House, New Eltham ..	„ 17	Fined £2 and 12/6 costs
Milk	Do. do.	E. Everett, Temperance Hotel, New Road ..	May 8	Fined 20/- and 2/- costs
Butter	$\frac{4}{5}$ margarine	E. Chester, 41, Chapel Street	„ 8	Fined 40/- and 2/- costs
Butter	Do.	C. Sheehan, 27, Wilmount Street, Woolwich	„ 30	Fined 40/- and 2/- costs
Milk	12 per cent. added water ..	C. Baldwin, 27, Kidd Street, Woolwich ..	„ 30	Fined 20/- and 2/- costs
Milk	13 „ fat abstracted	J. Grace, Pippin Hall Farm, Eltham ..	„ 30	Fined 40/- and 2/- costs

TABLE X.—continued.

Article.	Result of Analysis.	Name and Address of Vendor.	Date of Hearing.	Result of Summonses.
Milk	10 per cent. added water ..	J. Weston, 33, Octavious Street, Deptford ..	May 30	Adjourned to 7th June for Magistrate's decision. Defence of warranty established and summons withdrawn
Milk	10 " added water ..	J. Phillips, 29, Amelia Terrace, Deptford ..	" 30	Do. do.
Milk	13 " fat abstracted	A. Handsley, 2, Stannery Street, Kennington Green	July 12	{ Summons withdrawn on proof of warranty
Milk	Do. do.	W. Thurston (Handley's man) ..	" 12	
Milk	20 per cent. fat abstracted	H. Perrett, 2, The Parade. New Eltham ..	" 19	Fined 40/- and 12/6 costs
Milk	23 " fat abstracted	M. Bayley, Eltham Park Farm ..	Sept. 20	Fined 20/- and £2 2s. costs
Milk	13 " added water ..	D. J. Large, 6, Herbert Road..	Aug. 23	Fined 20/- and 12/6 costs
Milk	20 " fat abstracted	F. W. Webb, 58, Brewery Road ..	" 7	Produced warranty, 12/6 costs
Milk	23 " fat abstracted	Royal Arsenal Co-operative Society ..	" 7	} Case dismissed. Warranty produced, £2 2s. costs against Council
Milk	do.	A. E. Burton (Co-operative man) ..	" 7	
Milk	13 " do.	G. Payne, High Street, Woolwich ..	" 7	Fined £3 and 12/6 costs
Milk	17 " do.	E. Carr, King Street, Woolwich ..	" 23	Fined 20/- and 12/6 costs
Milk	10 " do.	J. Grace, Wellington Street, Eltham ..	" 23	Fined 20/- and 12/6 costs
Milk	15 " do.	A. Wright, 138, High Street, Plumstead ..	Oct. 18	Fined 20/- and 12/6 costs
Milk	17 " do.	H. Furber, Eltham ..	Aug. 23	Fined 40/- and 12/6 costs
Milk	10 " do.	M. Bayley, Eltham ..	Nov. 7	Fined £5 and 2/- costs
Milk	16 " do.	G. Overall, 22, George Street, Woolwich ..	" 28	Adjourned 2 weeks; 12th Dec., fined 40/- and 12/6 costs
Milk	10 " added water	A. Kane, 76, Robert Street, Plumstead ..	Dec. 23	Fined £3 and 12/6 costs
Milk	10 " Do.	A. W. Tedder, 79, Robert Street, Plumstead (Boy who served the milk).	" 23	Dismissed

TABLE XI.

Food destroyed on application of Owners, and seizures
condemned by a Justice of the Peace.

Articles.	Quantity and Weight.	Remarks.
Herrings	.. 1 barrel 1 cwt. ..	
Whelks	.. 2 bags ..	
Rabbits	.. Seven ..	
Do.	.. Three ..	
Do.	.. Four ..	
Mutton	.. 24 lbs. ..	Part of sheep killed through being injured
Strawberries	.. 10 lbs. ..	
Do.	.. 14 lbs. ..	
Do.	.. 7 baskets ..	
Liver	.. 8 lbs. ..	
Sprats	.. 1 box ..	
Liver	.. Two boxes ..	Part of a box of frozen livers
Mutton	.. 2 shoulders ..	Part of a large number
Mixed Fish	.. 20 lbs. ..	Part of a box
Bananas	.. 5 lbs. ..	Part of 2 bunches
Raspberries	.. 4 lbs. ..	Part of about 20 lbs.
Bananas	.. 4 doz. ..	Part of a bunch

TABLE XII.

List of Bake-houses.

No.	NAME.	ADDRESS.
1	S. Betchley	33, Eglinton Road
2	Merritt & Co.	50, Herbert Road
3	Mrs. S. Fuller	48, Princes Road
4	Chadwell Bros.	60, Plumstead Common Road
5	Charles Pullen	105, Plumstead Common Road
6	R. Gilder	14, Westdale Road
7	J. R. Allway	126, High Street
8	J. E. Porter	1 Riverdale Road
9	H. Percival	223, High Street
10	F. Hallam	307, High Street
11	C. H. Goddard & Co.	14, Gunning Street
12	Arthur Jewiss	68, Glyndon Road
13	John Werner	1, Park Road
14	Louisa Medcraf	58, Pattison Road
15	Frederick Phillips	53, Ann Street
16	Francis Grant	102, Ann Street
17	Alfred Chapman	2 High Street
18	Jonathan Fletcher	92, Plumstead Road
19	Frederick Page	109, Plumstead Road
20	James Tait	136, Plumstead Road
21	Joseph Clark	152, Plumstead Road
22	Plummer	46, Raglan Road
23	George Mackintosh	64, Villas Road
24	Degen	14, Conway Road
25	Richard Noakes	54, Parkdale Road
26	E. J. Tucker	82, Brookhill Road
27	J. A. Martin	16, Woolwich Common
28	J. Farrier	30, Burrage Road
29	W. Rose	57, Burrage Road
30	W. Jeffery	123, Burrage Road
31	W. T. Akers	16, Armstrong Place
32	Dalton & Son	13, Eton Road
33	H. W. Blacknell	12, Spray Street
34	W. Arnold	57, Plumstead Road
35	R. C. Davis	2 Crescent Road
36	W. H. Hughesdon	24, St. James' Place
37	Mrs. Colver	165, Sandy Hill Road
38	Royal Arsenal Co-operative Society	153, Powis Street
39	S. Hobbs	16, Powis Street
40	P. H. Mack	111, High Street
41	H. Sheerman	140, High Street
42	B. Flood	31, Beresford Street
43	E. Goodsell	53, Wellington Street
44	T. Newman	94, Wellington Street

List of Bake-houses—*continued.*

No.	NAME.	ADDRESS.
45	J. Fletcher	15, New Road
46	J. Fletcher	57, New Road
47	A. Bradshaw	3, Green's End
48	G. Porter	29, Charles Street
49	F. W. Jackson	184, Elizabeth Street, North Woolwich
50	Haas	90, Brookhill Road
51	E. Ewell	38, Artillery Place
52	Miss B. Smith	37, Francis Street
53	H. Myers	33, Samuel Street
54	L. Wilkening	72, Henry Street
55	H. Moore	24, Chapel Street
56	F. Ginger	8, Hill Street
57	S. Harrison	1, Lower Pellipar Road
58	W. C. Clothier	51, Albion Road
59	G. Brown	36, Chapel Street
60	J. Franklin	21, Albion Road
61	A. F. Simms	23, George Street
62	A. Hills	32, Church Street
63	G. Brown	48, Church Street
64	Attenborough	18, Prospect Place
65	Mrs. C. Attenborough	60, Sand Street
66	T. Holcombe	45, Warwick Street
67	G. West	10, King Street
68	William Stone	94, High Street, Eltham
69	Richard Humphrey	77, High Street, Eltham
70	Ellen Scriven	114, High Street, Eltham
71	Frederick Cook	142, High Street, Eltham
72	Charles Worboys	5, The Parade, New Eltham
73	J. Duncan	13, The Parade, New Eltham

TABLE XIII.

List of Slaughter-houses.

No.	Name and Address of Owner.	Situation.
1	Edward Ferris Biggs ..	168, High Street, Eltham
2	Jos. Leech ..	78, Frederick Place, Plumstead
3	Royal Arsenal Co-operative Society	Bostall Farm, Plumstead
4	H. T. J. Reed & Jas. W. Funnell	25, Parry Place, Plumstead
5	T. Mead ..	6, High Street, Plumstead
6	Hedley Vicars ..	41, Church Street, Woolwich
7	Charles Bartlett ..	14, Church Street, Woolwich
8	Frederick Bucknell ..	Love Lane (rear of Wellington Street)
9	James & George Mitchell ..	25, Hare Street, Woolwich
10	Webb & Ellen, Ltd., (H. Sinclair, Sec.,) 1, Paul Street, Finsbury, E.C.	20, Hare Street, Woolwich
11	H. E. Rumsey ..	93, New Road, Woolwich
12	Walter Dodson ..	38, Plumstead Common Road, Plumstead
13	Henry Fretter ..	33, Herbert Road, Plumstead

TABLE XIV.

List of Cowhouses.

No.	Name and Address of Owner.	Situation.
1	Richard Pace	Keightley House Farm, Southwood Road, E.
2	Richard Higgs	Coldharbour Farm, Chislehurst
3	John & Alfred Low, Avery Hill Farm, Eltham	Park Farm, Eltham
4	W. F. Corp	Lyme Farm, Eltham
5	E. Fisher & Sons, Crescent Farm, Sidcup	Belmont Park Farm, Eltham
6	John Grace	Pippin Hall Farm, Eltham
7	William Ridewood ..	Chapel Farm, Eltham
8	George Keen	Clay Farm, New Eltham
9	Maurice Bayley	Middle Park Farm, Eltham
10	Harry Furber	Victoria Road Farm, Southend, Eltham
11	William Killick	52, St. James' Place, Plumstead
12	F. W. Corp, Lyme Farm, Eltham	13, Princes Road, Plumstead
13	Henry Woolsey	50, Francis Street, Plumstead
14	Reuben Mehew	16, Lakedale Road, Plumstead
15	W. Ridewood, Chapel Farm, Eltham	3, Ripon Road, Plumstead
16	F. G. Cock	13, Raglan Road, Plumstead
17	Chas. Lambeth	1, Griffin Road, Plumstead
18	Henry J. Chard, Heath Lodge, Little Heath, Charlton	Rear of 14, 15, 16, Pellipar Road, Woolwich

TABLE XV.

Registered Dealers in Margarine and Margarine Cheese.

Reg. No. of Application.	Name and Address of Owner.	Situation of Premises Registered.
1	Philip Job Topley	1 to 3, Ripon Road, Plumstead
2	Lipton, Ltd. (H. Bemewith, Manager)	68, High Street ..
3	Henry Pamment	101 & 103, Ann Street ..
4	Maypole Dairy Co. (R. Ashley), 41, Bishopsgate Street, E.C.	86, High Street ..
5	Edgar Ives, 86, Pattison Road	86, Pattison Road ..
6	Edmund Avery Young ..	22, Green's End, Woolwich
7	George Herringshaw ..	5, Albert Road ..
8	Maypole Dairy Co., Ltd. ..	27, Hare Street ..
9	Lipton, Ltd.	1, 3 & 5, Hare Street ..
10	Richard Samuel Smith ..	125 & 126, High Street, ..
11	David Greig	91 & 93, Powis Street ..

TABLE XVI.—List of Common Lodging Houses.

Reg. No.	Name and Residence of Keeper.				Situation of the Common Lodging House.		Authorized No. of Lodgers.	Sex of lodgers M = Men. W = Women. MC = Married Couples.	Date of Approval of premises.
	Date when registered.	Name.	Address.	Parish.	Address.	Sanitary District.			
2	30th Jan., 1889 ..	Robert Flett	19, Wellington Road, Old Charlton	Kent ..	50, High Street ..	Woolwich..	24	M	24th Jan., 1889
81	12th Mar., 1884 ..	John Kelcher	5, Nile Street ..	Woolwich ..	6, Nile Street ..	" ..	10	MC & M	8th Feb., 1884
83	19th Nov., 1887 ..	George Channing ..	75, High Street ..	Woolwich ..	77, High Street ..	" ..	17	MC & W	10th Sept., 1887
911	30th Jan., 1889 ..	Robert Flett	19, Wellington Road, Old Charlton	Kent ..	49, High Street ..	" ..	26	M	25th Jan., 1889
1027	12th Mar., 1884 ..	John Kelcher	5, Nile Street ..	Woolwich ..	7, Nile Street ..	" ..	13	M	8th Feb., 1884
1382	19th Nov., 1887 ..	George Channing ..	75, High Street ..	Woolwich ..	76, High Street ..	" ..	18½	MC	10th Sept., 1887
1573	13th Aug., 1897 ..	Jeremiah James Mahony	5, Rope Yard Rails	Woolwich..	52, High Street ..	" ..	27	M	21st June, 1890
2183	29th Aug., 1894 ..	Alfred Rapson	10, Market Hill (c.H.)	Woolwich ..	10, Market-hill (c.H.)	" ..	10	M	4th July, 1894
2302	29th Sept., 1884 ..	Eliza White	Gifford House, Lakedale Road	Plumstead	9, Rope Yard Rails..	" ..	36	M	11th, Sept., 1884
2430	28th Aug., 1889 ..	John Smith	33, Rope Yard Rails	Woolwich ..	32, Rope Yard Rails	" ..	20	M	2nd Aug., 1889
2443	15th Dec., 1896 ..	John Huxford	61, High Street ..	Woolwich ..	64, High Street ..	" ..	20	M	29th Aug., 1863
2613	14th Mar., 1890 ..	Maria White	Fairview, Purrett Rd.	Plumstead	1, Rope Yard Rails..	" ..	16	M	28th Feb., 1890
3876	14th Mar., 1890 ..	Maria White	do.	Plumstead	2, Rope Yard Rails..	" ..	21	M	28th Feb., 1890
4032	18th April, 1890 ..	Robert Flett	19, Wellington Road, Old Charlton	Kent ..	51, High Street ..	" ..	22	MC & W	29th March, 1890
4091	28th Dec., 1898 ..	William James Dunbar	3, Rope Yard Rails	Woolwich ..	4, Rope Yard Rails..	" ..	18	M	17th Sept., 1894
4836	15th Dec., 1896 ..	John Huxford	61, High Street ..	Woolwich ..	63, High Street ..	" ..	16	MC	27th Jan., 1876
4967	20th Nov., 1895 ..	John Self	83, High Street ..	Woolwich ..	81, High Street ..	" ..	7	W	14th Sept., 1887
4968	20th Nov., 1895 ..	John Self	83, High Street ..	Woolwich ..	82, High Street ..	" ..	17	M & W	14th Sept., 1887
5087	30th June, 1891 ..	Robert Flett	19, Wellington Road, Old Charlton	Kent ..	21, Rope Yard Rails	" ..	20	MC & M	6th May, 1891
5218	13th Aug., 1897 ..	Jeremiah James Mahony	5, Rope Yard Rails	Woolwich ..	11, Rope Yard Rails	" ..	30	W, M & MC	17th June, 1890
5261	30th Dec., 1898 ..	Sophia Hayden	67, Beresford Street	Woolwich ..	10, Rope Yard Rails (house in rear)	" ..	60	MC & M	3rd Jan., 1891
5506	28th Aug., 1889 ..	Mary A. White	64, High Street ..	Woolwich ..	60, Beresford Street	" ..	61	MC & M	2nd Aug., 1889
5638	13th Aug., 1897 ..	Jeremiah James Mahony	5, Rope Yard Rails	Woolwich ..	10A, Rope Yard Rails	" ..	32	M & MC	21st June, 1890
5665	30th June, 1891 ..	Robert Flett	19, Wellington Road, Old Charlton	Kent ..	21A, Rope Yard Rails	" ..	25	MC & W	6th April, 1886
5747	14th June, 1899 ..	Jeremiah James Mahony	5, Rope Yard Rails	Woolwich ..	102, High Street ..	" ..	31	M	7th May, 1891
5748	31st Oct., 1885 ..	George Webb	7, East Street ..	Plumstead	5, High Street ..	" ..	44	M	28th Oct., 1885
5845	25th Aug., 1894 ..	Maria White	Fairview, Purrett Rd.	Plumstead	56A, High Street ..	" ..	18	M	23rd June, 1894
5847	25th Aug., 1894 ..	Maria White	do.	Plumstead	56, High Street ..	" ..	15	MC	23rd June, 1894
5943	5th Dec., 1890 ..	Mary Ann White ..	64, High Street ..	Woolwich ..	93, High Street ..	" ..	30	M	6th Nov., 1890
6013	27th May, 1897 ..	Wm. J. Cragg	Dix's Farm, Debden Green	Saffron Waldren, Essex	12, Warren Lane ..	" ..	39	M	8th Sept., 1894
6069	5th Dec., 1890 ..	George Webb	7, East Street ..	Plumstead	3, High Street ..	" ..	22	M	6th Nov., 1890
6133	27th May, 1897 ..	Wm J. Cragg	Dix's Farm, Debden Green	Saffron Waldren, Essex	13, Warren Lane ..	" ..	11	M	10th Sept., 1892
6135	20th Dec., 1899 ..	Sophia Hayden	67, Beresford Street	Woolwich ..	7, Rope Yard Rails..	" ..	18	M	3rd June, 1893
6213	29th Dec., 1898 ..	William Edwards ..	1, Warren Lane ..	Woolwich ..	4, Warren Lane ..	" ..	31	M	21st Dec., 1897

APPENDIX A.

The Population of the Metropolitan Borough of Woolwich has increased from 98,994 in 1891, to 117,178 in 1901, giving an increment of 18,184, which is greater than that of Greenwich and Deptford, but less than that of Lewisham. This increase has been least in Woolwich, where it is less than 1000; most in Plumstead, where it exceeds 15,000.

	Area. (Acres).	Houses.			Population.		
		Inhabited.	Uninhabited	Building.	Male.	Female.	Total.
Eltham ..	3760·1	1353	114	172	3155	4071	7226
Plumstead ..	3386·5	11292	158	326	34710	33617	68327
Woolwich ..	1130·0	5441	138	19	23408	18217	41625
Total for Borough..	8276·6	18086	410	517	61273	55905	117178
WARDS—							
Dockyard ..	..	1325	12	1	4504	4208	8712
St. Mary's..	..	1126	20	..	6789	3650	10439
River ..	..	2112	96	18	7855	6541	14396
St. George's	..	878	10	..	4260	3818	8078
Burrage ..	..	1735	19	..	5025	4812	9837
Glyndon ..	..	1697	7	6	5090	4720	9810
Herbert ..	..	1612	35	28	4247	4833	9080
St. Margaret's	..	1638	9	85	4925	4917	9842
Central ..	..	1805	36	17	5174	4944	10118
St. Nicholas	..	2805	52	190	10249	9391	19640
Eltham ..	..	1353	114	172	3155	4071	7226

The total population was 117,178, and the males exceeded the females by over 5,000. In Eltham alone, of the constituent districts, did the number of females exceed that of the males.

The average number of persons to each inhabited house was 6·47, greater than the corresponding number in Lewisham, but less than that of Greenwich and Deptford.

The density of the population (number of persons per acre) was in Eltham, 1·9; Plumstead, 21·7; Woolwich, 36·8.

The density for the whole district was 14·1, less than the neighbouring boroughs of Lewisham, Greenwich and Deptford; the density of Deptford being 5 times as great as that of the whole district, a result to be attributed to the fact that the Plumstead levels (on which no houses may be built) and the rural parish of Eltham are included in the Borough.

TENEMENTS.

The total number of tenements is 24,585 of which 14,017 contain less than 5 rooms. Of these—

333 one roomed tenements contain more than 2 persons—
one of such, 7 persons.

386 two roomed tenements contain more than 4 persons—
5 of such, 9 persons.

282 three roomed tenements contain more than 6 persons—
3 of such, 11 persons.

242 four roomed tenements contain more than 8 persons—
9 of such, 12 persons.

At the time of the enumeration, the registration district of Woolwich contained 15 persons between the ages of 90 and 95, 4 between 95 and 100—none over 100.

OCCUPATIONS.

(Summarised from Census Table 35.)

1.	Soldiers	...	...	...	5039
2.	Navy and other Government Services	...			2290
3.	Professions—Clerical, Legal, Medical	...			284
	Teaching	...	...	...	739
4.	Art, Music, Drama, Literary, Scientific	...			400
5.	Nurses, Midwives, &c.	...	...	...	253
6.	Commercial—Clerks, Agents, &c.	...			1356
7.	Building Trades, Painting, Plumbing, &c.				3951
8.	Mechanics	..	...	...	9881
9.	Workers in Chemicals and explosives	...			1770
10.	Domestic Service, including Hotel, Laundry, Charing	...	...	...	5038
11.	Conveyance, <i>e.g.</i> , Railways, Porters, Cabmen, Dockhands	...	...	...	2906
12.	General Labourers—approximately	...			4221
13.	Drapers and workers and dealers in textile fabrics	...	...	...	703
14.	Tailors, Dressmakers, Seamstresses	...			2511
15.	Purveyors of Food, Grocers, &c.	...			1897
16.	Drink Traffic	...	...	...	932
17.	Pensioners without occupation	...			453
18.	Retired from business (excluding Army, Navy, Church, Medical)	...	...	...	992
19.	Living on own means	...	...	...	962

There were 3532 domestic indoor servants of which 3472 were females.

FOREIGNERS.

Total 441, of which 279 were males, 162 females, distributed as follows:—

German	...	...	122
Russian Poles	...	...	103
Italians	...	...	49
Russian	...	...	45
French	...	...	37
American	..	...	29
Sweden	...	...	11
Anstria	...	...	10

INFIRM.

Of these 66 were returned as blind, 6 blind from childhood.
 33 deaf and dumb, 18 so from childhood.
 53 deaf.
 4 lunatics.
 62 imbeciles.

AGE AND SEX DISTRIBUTION.

	Males.		Females.		Total.
Under 1	1464	...	1465	...	2929
1—5	5535	...	5359	...	10894
5—10	6283	...	6281	...	12564
10—15	5777	...	5872	...	11649
15—20	7485	...	4992	...	12477
20—25	7028	...	5136	...	12164
25—30	5553	...	5071	...	10624
30—35	4740	...	4633	...	9373
35—40	4065	...	3937	...	8002
40—45	3494	...	3171	...	6665
45—50	2817	...	2597	...	5414
50—55	2190	...	2155	...	4345
55—60	1628	...	1536	...	3164
60—65	1362	...	1373	...	2735
65—70	864	...	965	...	1829
70—75	523	...	700	...	1223
75—80	285	...	394	...	679
80—85	137	...	205	...	342
85—90	34	...	51	...	85
90—95	8	...	8	...	16
95--100	1	...	4	..	5
100 & upwards	0	...	0	...	0

APPENDIX B.

METROPOLITAN BOROUGH OF WOOLWICH.

HEALTH RULES.

"Prevention is better than Cure."

1. General Rules of Health.
2. Precautions against Measles.
3. The Prevention of Consumption.
4. How to Feed Baby.

The following leaflets, in a collected form, are sent to you by order of the Health Committee of the Borough, with the request that, after having read them, you will either hang them up, or carefully preserve them in a convenient place for future reference.

The three chief requisites of health are cleanliness, fresh air, and pure water. It is your duty to see that there is no lack of the two former in your house.

SIDNEY DAVIES, M.D.,

Medical Officer of Health.

HEALTH OFFICES,

MAXEY ROAD, PLUMSTEAD,

January, 1902.

GENERAL RULES OF HEALTH.

1. Use absolute cleanliness on your person.
2. Keep your house perfectly clean.
3. Do not allow any rubbish to remain in the yard, but keep the back premises as neat and clean as the front.
4. If there is any defect in the roof, walls, floors, windows, or doors of your house which you cannot repair yourself, complain to the landlord; if he does not attend to it, complain at the Borough Health Office, Maxey Road.
5. Light is of great importance to health. A dark room should not be used for living or sleeping. The light entering the windows should not be obstructed in any way by curtains or blinds; if, however, this is necessary for privacy, a very light muslin blind should be used in the lower part of the window only.
6. Fresh air is equally important. The window of a room should always be kept open, when anyone is in the room, day and night. In summer it should be wide open, and in cold weather it can always be opened a few inches at the top, or a "Hinckes-Bird" ventilator can be provided by any joiner at a cost of a few pence.
7. Waterclosets should be flushed each time they are used. In addition to this, every morning, about 10 o'clock, after all the slops have been emptied, you should flush the closets with two or three pails of water.

8. If the drain is stopped, or the house refuse is not regularly collected, immediate complaint should be made at the Health Office.

9. Places where food is kept should be dry, well ventilated, and kept scrupulously clean.

10. The following articles of food should either be altogether avoided or used with caution, especially for children :—

Shell Fish, which is often grown on sewage,
Pork Sausages, Pork Pies,
Tinned Meats and Fish,
Alcohol in all its forms,

Tinned Meats should not be kept long after being opened.

11. The continual use of Alcohol between meals, even in small quantities, injures the internal organs and greatly shortens life, making those who indulge in it an easy prey to many diseases, and especially to consumption.

Medical Officer of Health.

PRECAUTIONS AGAINST MEASLES.

1. Measles is a dangerous disease in young children. 75 died from this disease in the Borough last year, *i.e.*, seven times as many as died from Scarlet Fever, and more than twice as many as died of Diphtheria.

It is of great importance that young children should be protected from the infection of Measles, for the older they are when attacked, the greater the prospect of recovery.

2. The reason why so many die of Measles, is that it is a very infectious disease, and precautions are not taken to avoid the infection as with Scarlet Fever and Diphtheria.

3. The early signs of Measles are those of a feverish cold, the eyes being specially affected ; it is at this stage, before the rash comes out, that the disease is specially infectious.

4. When Measles is "about," any child attending school who is feverish and has a cough, or running at the nose, or red and watery eyes, should be at once suspected of Measles, and separated from any other children who have not had the Measles before, and such a child, if seen at school, should be at once sent home.

5. It is most important that medical advice should be obtained for any young child suspected to have Measles.

6. The patient should be kept in bed in a separate room upstairs. The window should be kept wide open day and night in summer, and partially open day and night in winter. If it is too cold to keep the window wide open, a fire should be kept burning. If there is any draught, the child can be sheltered by arranging a screen.

7. It is important to keep the child's skin and eyes clean, and the night dress should be frequently changed and aired at the fire.

8. The child should be carefully protected from cold, but fresh air and cleanliness are more important than warmth.

9. Light is an important disinfectant, and the blinds should be kept up unless the eyes are affected.

10. Other children in the house must be kept from school and all places of meeting for a month after the rash has appeared in the child last attacked.

11. No other children must, on any account, be allowed to enter the room, infants especially being excluded.

12. Where a case of Measles has occurred in a house, a careful outlook should be kept on the other children for two weeks, so that, on the first appearance of illness, they may be kept at home and properly treated.

13. On recovery, the child should have a hot bath, which should be repeated more than once. All clothes worn during the illness should be carefully washed: bedding, curtains, &c., should be washed and hung out in the open air for some days. All furniture, floors, and other woodwork of the room should be washed. The ceiling should be whitewashed, and the walls distempered, or, if papered, the paper should be cleansed down with dough, the dough being afterwards burnt. The window curtains should be removed, and the window left wide open for several days.

Medical Officer of Health.

PRECAUTIONS AGAINST CONSUMPTION.

1. Consumption is an infectious, curable disease.

2. The infection, however, never attacks people unless their system is seriously weakened.

3. Most of those who get Consumption have inherited a special weakness of the lungs from their parents, but in other cases the system is weakened by intemperance, want of nourishment, disease, and insanitary conditions, especially confinement to close unventilated rooms, in damp houses.

4. The infection is conveyed in two ways:—

(1) By breathing or swallowing infectious particles from the sputa of consumptive persons. If the sputa becomes dry, the infection may be inhaled as dust with the air breathed.

(2) By swallowing the milk or meat of tuberculous animals.

5. Consumptive persons should never spit on the floor or into handkerchiefs, but into a cup containing some disinfectant, or, failing that, some water. The cup should be frequently emptied down the w.c., and washed out with boiling water. Disinfectants may be obtained free at the Borough Health Offices, Maxey Road.

6. If no kind of vessel containing liquid is at hand, small pieces of rag or paper may be used. These should be burnt as quickly as possible, or the pieces of paper may be thrown down a water-closet.

7. For those who have to leave home, pocket spittoons may be bought through any chemist—price, about 3s. 6d.

8. Consumptives should carefully avoid swallowing their own expectoration, or they may reinfect themselves.

9. Consumptives should avoid kissing altogether.

10. All danger of infection from milk and meat of tuberculous animals may be avoided by boiling the milk and thoroughly cooking the meat, preferably by boiling. Members of consumptive families should specially attend to this rule.

11. Close and crowded rooms, concert halls, theatres, and public-houses, should be avoided.

12. The rooms occupied by a Consumptive person should contain no unnecessary furniture; and, especially curtains, bed hangings, clothes hanging about, should be avoided as far as possible. The rooms should be frequently cleaned out when the Consumptive is not in them.

On the Consumptive ceasing to occupy any room, it should be thoroughly disinfected. This will be done on application, by a Borough Official, free of charge.

13. Consumptives should pass as much time out of doors as possible, and when indoors the room should be well ventilated.

When sufficient clothing is worn the windows may safely be kept open day and night, unless the weather is very severe; but draughts must be avoided. As much sunlight as possible should be admitted.

14. No one else should occupy the same bed with a Consumptive person, and where possible a separate bedroom should be used.

15. When the above precautions are taken there is no danger of a Consumptive person infecting anybody else.

Medical Officer of Health.

HOW TO FEED BABY.

*Issued in consequence of the large number of Deaths under
One Year of Age.*

1. With few exceptions, mother's milk is baby's best food till he is nine months old, but infants must always be weaned before they are a year old.

2. They should have the breast at first about every two hours by day and every four hours at night, the interval being gradually increased by three or four hours by day and six to eight hours at night.

3. If mother's milk does not appear to satisfy, do not on any account give biscuits or other food without medical advice. It may be that the breast is being given too often and baby overfed.

If the mother is unable to nurse her child entirely, cow's milk prepared as described below should be given alternately with the breast.

4. The mother should have four good meals a day of plain food, and perhaps one or two glasses of milk between; but intoxicating drinks, as spirits and beer, should be avoided. It is a mistake to think that nursing mothers require stimulants.

5. The baby's mouth and the mother's nipples should be carefully cleansed after each suckling.

6. When for any reason a baby cannot be nursed at the breast, it must be fed on milk, and usually fresh cow's milk is the best. This should be prepared as follows:—Three table-spoonfuls of boiled milk should be mixed with six table-spoonfuls of barley water and a quarter of a tea-spoonful of white sugar; the mixture when warmed will make a meal for a child a month old.

At two months of age milk and barley water should be given in equal quantities, and the proportion of barley water then gradually decreased till the child is eight or nine months old, when pure milk should be given.

7. The milk should be boiled or scalded directly it comes, and then stood in a clean jug in a cool place with a piece of muslin over it.

8. To make barley water, put two good tea-spoonfuls of washed pearl barley in a pint of cold water, boil down to two thirds of a pint and strain. This must be kept in a clean jug and covered with muslin like the milk.

9. A bottle without a tube should always be used, and the bottle and teat cleaned with scalding water after each meal.

10. At the age of nine to twelve months, baby may have farinaceous food with the milk, oatmeal porridge, bread and milk and plain biscuits; and after twelve months, bread and butter, bread and potatoes and gravy and eggs, but milk must be the principal food till the age of two years.

11. Before the age of three children should have no meat, and all rich and indigestible foods such as pork, shell fish, lobsters, baked pastry, new bread and hot cakes, are liable to cause convulsions and must be carefully avoided.

12. The cheap brands of condensed milk are not really milk, and should never be used for children or invalids.

13. The continued use of condensed milk is not recommended, but when as a matter of convenience it is used for a time the best brands should be carefully chosen. For children under two months, one large tea-spoonful should be given with four table-spoonfuls of warm water and half a teaspoonful of cream. The strength of the milk and the amount of cream should be gradually increased as age advances. At six months there should be one table-spoonful of milk in seven of water.

14. In order that the food may be well digested, abundance of fresh air is necessary. Not only should children be out of doors as long as possible, but indoors the windows of sitting and bedrooms should always be kept open, wide open in summer, and a few inches at the top, according to the coldness of the weather, in winter.

Medical Officer of Health.

SMALL-POX :

Protection afforded by Vaccination.

The Small-pox epidemic in London and suburbs shows no signs of abating; and the risk of infection is now widespread. It seems far from improbable that the epidemic may reach much greater proportions. It therefore is desirable that the great protection afforded by recent vaccination should be widely known.

There are a large number of intelligent persons who would be willingly re-vaccinated if they knew the truth about vaccination. For their sake the following facts are published.

In Allbutt's System of Medicine the facts as to all the epidemics of small-pox occurring between 1888 and 1896 are collected, making 14,000 cases of small-pox. Of the vaccinated children under 10 years of age who were attacked, only 1.4 per cent. died, whereas of the unvaccinated children, 35.6 per cent. died.

Dr. Barry reported to the Local Government Board, that in the epidemic at Sheffield—

Among the vaccinated population under 10—5	per 1,000	were attacked
While in the unvaccinated	101	“
In the vaccinated	0.09	died
In the unvaccinated	44	“
Of those Twice vaccinated over 10	3	were attacked
Once vaccinated	19	“
Unvaccinated	94	“
Of those Twice vaccinated	0.08	died
Once vaccinated	1.0	“
Unvaccinated	51	“

Mr. Shirley Murphy, in his Annual Report for 1900, has estimated, from the vaccination returns for the ten years 1889-98, the respective numbers of vaccinated and unvaccinated children under 10 years of age living in London in the year 1898, and thus finds that not less than 75 per cent. of these children are vaccinated, and not more than 25 per cent. unvaccinated. Applying these populations to the cases of Small-pox, properly belonging to them, that have been treated in the hospitals of the Metropolitan Asylums Board, and regarding children with no vaccination scars as unvaccinated, he finds that

21 per million of the vaccinated children under 10	were attacked, and
1,715	“ unvaccinated
0	“ vaccinated
525	“ unvaccinated
	“ died, and
	“ died

The above figures prove above question—

- (1) That infantile vaccination is an almost absolute protection against death from small-pox under 10, and a very great protection against attack by small-pox, the protection diminishing as age advances.
- (2) That after the age of 10, re-vaccination is necessary for satisfactory protection.
- (3) That for equal numbers living over 10, six times as many as of those only once vaccinated are attacked with small-pox as of those twice vaccinated, and 30 times as many of the unvaccinated.

As a rule, all the doctors, nurses, and servants at Small-pox Hospitals are re-vaccinated when they join the staff. It appears from an investigation made by the Epidemiological Society that out of 15,000 such employees 43 took small-pox, and it was found on inquiry that each of these had for some reason failed to be re-vaccinated. All the remaining 14,957 employees who were re-vaccinated escaped the disease, although they were daily exposed to infection in a concentrated form.

Not one of the staff of the London Small-pox Hospital Ships has ever died of Small-pox, and not one has even suffered from the disease for the past eight years. (Report of Metropolitan Asylums Board Statistical Committee, 30th January, 1902). Why is this? Because they are all re-vaccinated on joining.

If you get efficiently re-vaccinated, and are not already infected with small-pox, you are quite sure to escape this serious disease during the present epidemic and probably altogether.

Vaccination as now performed by public vaccinators and most private practitioners, is an absolutely safe operation, involving no risk of inoculating any other disease.

By Order,
SIDNEY DAVIES, M.D.,
Medical Officer of Health.

APPENDIX C.

*Report on Salutation Alley to Housing of Working Classes
Committee by the Medical Officer of Health.*

Salutation Alley is a back court lying between Beresford Street and some stables behind Powis Street.

It is approached by a single narrow passage.

It is blocked up at one end by a public house and a shop in Beresford Square; at the opposite end it is closed by the boundary fence of open ground belonging to the Drill Hall.

It contains 11 houses, and also the remains of three demolished houses. Four of the houses contain 8 rooms each, being double fronted, with a staircase on each side; one contains 4 rooms, and six contain 2 rooms each (washhouse excluded), the smaller houses being on the Beresford Street side of the Alley. Between the six small houses and Beresford Street are five semi-detached houses fronting on Beresford Street, and having their yards at the side of each house. These Beresford Street houses each contain 4 small rooms, and a basement. Two of the side yards are partly covered in, one being used as a shooting gallery, and the other for cooking chipped potatoes.

The population of Salutation Alley is 67, and I find there were 6 deaths in the three years 1898-1900 registered in the Alley, and two of the inhabitants of the Alley in the Union Infirmary; to this number I have added $\frac{1}{2}$ as a proportionate number of the deaths occurring in outlying institutions, making a total of $8\frac{1}{2}$ deaths. Two of these deaths were from phthisis. This gives a death rate from all causes of 42.2, and a phthisis death rate of 10.0. Thus the death rate appears to be more than twice as high as the high rate for Woolwich parish, and the phthisis death rate four times as high as in Woolwich parish.

The following are some of the insanitary conditions I found in a house to house inspection ; dirty and dilapidated interiors, dampness, overcrowding, animals kept so as to be a nuisance, w.c.'s dirty and out of order, accumulation of refuse, defective gutters and rain water piping, want of through ventilation, want of floor ventilation, &c.

The arrangement of the houses prevents a free circulation of air, and also affects injuriously decency and morality, which re-acts on health.

The five houses in Beresford Street adjoining the alley, contain various sanitary defects, three of them having basement kitchens which do not comply with the requirements of the Public Health Act for basements separately occupied.

I recommend that Salutation Alley, and 1 to 5, Beresford Street, be dealt with under Section 39 (b) of the Housing of the Working Classes Act, as buildings, the closeness, narrowness, and bad arrangement, bad condition, and want of light, air and ventilation of which is injurious to the health of the inhabitants.

With the Medical Officers
of Health's Compliments

Public Health Dept.
Wolverhampton



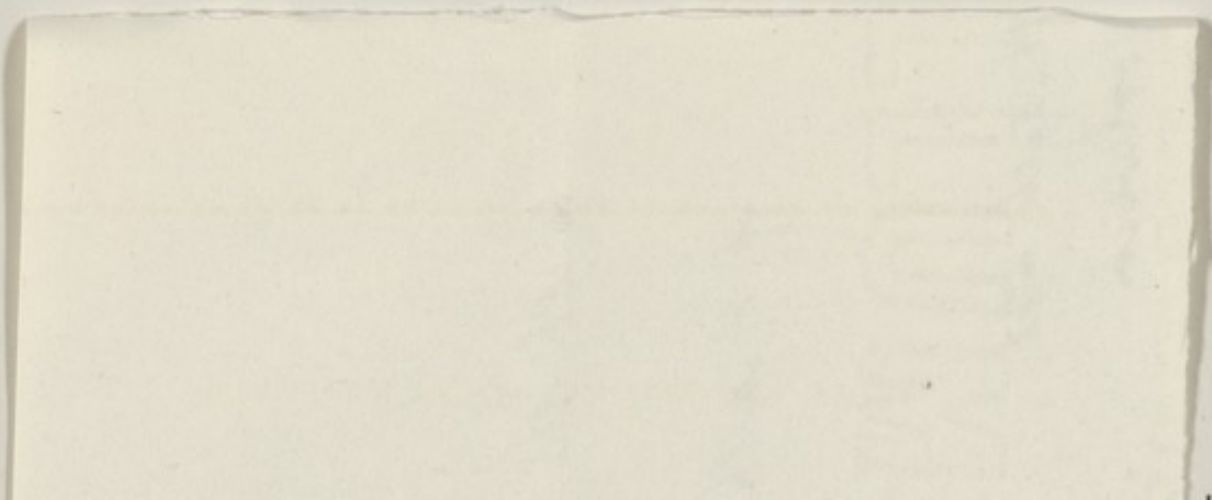
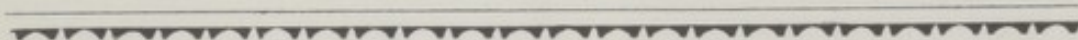
SPECIAL REPORT

ON THE

OUTBREAK OF SMALL-POX IN THE
BOROUGH OF WOOLWICH,

BY THE MEDICAL OFFICER OF HEALTH,

September 23rd, 1901, to June 30th, 1902.



SPECIAL REPORT

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OUTBREAK OF SMALL-POX IN THE BOROUGH OF WOOLWICH,

BY THE MEDICAL OFFICER OF HEALTH,

September 23rd, 1901, to June 30th, 1902.

1. Small-pox has been almost absent from the Borough from 1896 until the autumn of last year, there having been no deaths from this disease, and not more than three cases having occurred in any of the five years 1896-1900. The epidemic which has recently invaded London is the most serious and fatal since that of 1871 and 1872, which was the occasion of the appointing of public vaccinators.

Owing to the increasing neglect of vaccination in London generally (not in the Woolwich Union) an outbreak of Small-pox had been expected for some time past, and last year the expectation was realized.

The epidemic began in the central part of London in June and July, and is supposed to have been imported from Paris. The first case in this Borough occurred on September 23rd and was probably contracted in Hackney. One case occurred in September, 1 in October, 9 in November, 10 in December, 20 in January, 23 in February, 81 in March, 52 in April, 28 in May, and 13 in June.

2. *Locality*.—Of the total of 245 cases, 70 occurred in Woolwich parish, 169 in Plumstead, and 6 in Eltham.

3. *Source of Infection*.—Of the first 10 cases occurring in the Borough, 4 probably contracted the infection in East Ham, 2 in Erith, 1 in Hackney and 1 travelling to Deptford. Altogether in 20 cases the infection was traced with some probability to other districts, viz.:—5 to Erith, 4 to East Ham, 2 to Dartford, 2 to Whitechapel, 2 to Edmonton, and 1 each to Hackney, Gray's, Bexley, Stepney, and Islington.

In addition, 10 of the patients were employed at one of the Asylums Boards Small-pox Hospitals, most of these being workmen engaged in building the new temporary Hospital at Long Reach.

Six probably were infected while travelling.

Of those who probably caught the infection in the Borough, 10 were persons who had been in contact with previous cases, but whose existence or contact was either concealed or not declared: of 43 others affected and known to have been in contact with previous cases in the Borough:—

19 refused re-vaccination.

4 were vaccinated too late (*i.e.*, after three days had elapsed from infection).

20 caught the infection from cases which were not notified until the secondary cases had occurred. The cause of non-notification of the primary case was in

6 cases the exceeding mildness of the primary disease,

2 cases the primary disease considered to be influenza,

8 " " " " chicken-pox,

2 " " " " acne,

3 " " " " confinement

and puerperal hæmorrhage.

3 cases were contracted in common lodging houses ; in two cases it appeared probable that the infection was communicated by third persons who did not themselves contract the disease ; and in one case the person affected took in tailoring work from Stepney where the infection was very prevalent.

In the majority of cases the source of infection could not be found, but it is probable that the disease was spread to a large extent by very mild cases undetected and unsuspected, who were going about their ordinary duties, several of whom were doubtless Arsenal employees.

The following cases which were detected after the occurrence of secondary cases are doubtless examples of many others which were never suspected :—

- (a) A woman being found to have confluent small-pox and not to have been exposed to any likely source of infection away from home, her husband was examined and found to have about half-a-dozen recently healed spots and to have suffered from "influenza" two weeks previously ; the spots appeared after three days of fever. He had been at work all the time with the exception of three or four days.
- (b) A man being found in the Arsenal to be suffering from small-pox, his wife was sent for and on her appearing she was seen to have recent scars of small-pox spots ; she had been unwell for two or three days about two weeks before but had had no doctor. Besides infecting her husband she was the source of infection of two lodgers in the same house.

4. *Aerial convection of Infection.* In no case did the infection appear to spread from one house to neighbouring houses except by means of personal communication. But in one case a child apparently was infected while standing on the footpath watching the removal of a patient to Hospital.

In the case of the workmen employed in building the new Small-pox Hospital at Long Reach, I believe aerial convection from the Small-pox ships was the most probable mode of infection, for it is to be presumed that the Asylums Board would take steps to prevent their having any communication with the patients under treatment.

5. *Diagnosis.* Small-pox having been so rare a disease in recent years many younger practitioners had never seen a case before the present epidemic. My services were accordingly frequently in request for purposes of diagnosis. Altogether 94 doubtful cases were seen either by myself or by Dr. Thomas, temporary assistant Medical Officer of Health.

Most of these proved to be Small-pox, but others were Chicken-pox, Acne, Measles, Impetigo, etc.

One case was notified as Enteric Fever, but I was asked to confirm the diagnosis and on examination decided it was a case of Small pox.

All cases notified without a request for me to visit were removed straightway to the Ambulance Station, of these 7 were returned without being sent to the Small-pox ships, the diagnosis not being confirmed. None of the 94 cases seen by your Medical Officers at the request of the Medical Attendant were returned, but the diagnosis was confirmed in every case. Further, no case was found not to be Small-pox after arriving at the Small-pox ships and other hospitals. I wish to call

special attention to these facts as in several cases reports have been circulated that patients were found not to be suffering from Small-pox on arrival at Hospital. Apparently the sole basis for these reports was the early removal of all mild cases from the ships to the Gore Farm Hospital, which was recently used as a convalescent home for Scarlet Fever and Diphtheria, but the assumption that any of these cases were not actually Small-pox is perfectly groundless.

In a few instances the more serious mistake was made of taking small-pox for chicken-pox, acne, etc.

These errors have already been referred to under the head "source of infection," and whereas there is no reason to think that any harm at all was done by sending the 7 cases mistakenly thought to be small-pox to the Ambulance Station, the overlooking of the symptoms of small-pox in 9 cases gave rise to at least 20 secondary cases of small-pox and probably to considerably more.

6. *Notification of Chicken-Pox.* In order that possible cases of small-pox mistaken for chicken-pox might come to the knowledge of the Medical Officer of Health, the London County Council, with the sanction of the Local Government Board, declared chicken-pox a notifiable disease. 301 cases of chicken-pox were notified between February 1st and June 30th. All these cases were visited to find whether they had been recently vaccinated, and if not or if there appeared any other reason to suspect small-pox, permission was sought to visit and examine the patient if this had not been already requested. In 3 cases the notification of chicken-pox led to the detection of cases of small-pox, but in 2 of these—the very doubtful ones above referred to—the notifications came too late to take the necessary steps as to isolation and vaccination

in time to prevent the occurrence of further cases. Of these 3 cases 1 was an unvaccinated child and 2 were adults vaccinated in infancy only. I may here mention that 7 of the notified cases of chicken pox were over 15 years of age; 2 of these were afterwards found to be small-pox, but I have no doubt that the remaining 5 were genuine varicella; their ages were 15, 22, 26, 35 and 38 respectively. It appears then that whereas 98 per cent. of the chicken-pox cases were under 15 years, this disease certainly does occur at a much higher age.

7. *Difficulties of Diagnosis.* A well marked case of small-pox is very easily recognised after the rash has developed, but in vaccinated persons many cases are so mild or otherwise modified that the greatest difficulty is experienced in arriving at an early decision, which must precede isolation.

Most doubtful cases come under two heads:—

- (1) Those in which the symptoms are so little marked that no certain diagnosis can be made;
- (2) Those in which the rash closely resembles that of Chicken pox.

I have observed 8 cases in which fever without rash occurred about 12 days after exposure to Small-pox. I believe this fever was the expression of an abortive attack of Small-pox. All these cases had been successfully vaccinated more than three days after exposure to Small-pox. In 2 cases vaccinated five days after exposure, one had a mild febrile attack and no spots, and the other at the same time a few typical Small-pox spots and no fever. I did not consider that in any of these cases the vaccination was itself the source of the fever. Fortunately there seems no reason to think that these cases are infectious. The difficulty of distinguishing

certain mild cases of Small-pox from Varicella (Chicken-pox) seems almost insuperable. In certain cases of Small-pox, the vesicles are monocular and not umbilicated, and if in addition there is no clear history, it is impossible to arrive at a diagnosis. Two cases of this kind came under my observation.

Both of them were notified as Chicken-pox, and the diagnosis was only made by the occurrence of secondary cases of Small-pox among the friends. Neither the history nor distribution were of assistance in clearing up the doubt. Unfortunately, the notification of Chicken-pox was not made immediately on the occurrence of the rash. If this had been done earlier steps would have been taken to obtain vaccination of contacts, and the secondary cases prevented.

8. *Delay in Notification.* Medical practitioners are under obligation to notify patients on becoming aware that they are suffering from an infectious disease. For the most part there is little reason to complain of the celerity with which this duty is carried out, but some medical men have an excess of caution, with the result that several days are allowed to elapse before a case is notified, and often too before any steps are taken to prevent the spread of infection, and thus valuable time is lost in taking preventative measures. I consider that it should be compulsory to notify immediately there is reasonable cause to suspect infectious disease. If a medical man may wait till he is certain of the diagnosis, some would never notify at all.

Age Distribution.—The following table gives the age distribution of the cases :—

Age	0-5	5-10	10-20	20-40	40-60	over 60
Cases	5	9	52	140	34	5

The rapid increase in cases in the three age periods, 0-10, 10-20, and 20-40 is noteworthy and is exactly the opposite of what occurs in other infectious diseases, such as Measles and Scarlet Fever, and is also the opposite of what occurred with Small-pox before the introduction of vaccination. There cannot be the least doubt that this changed age distribution is solely due to vaccination, and indicates that the protection afforded by primary vaccination gradually diminishes as age advances. The five cases under five years of age had never been vaccinated, and five of the nine cases between five and ten years had also never been vaccinated.

9. *Interval between Onset and Removal.*—In 240 cases where the onset was definitely ascertained, the average interval between onset and removal was 4·13 days. Two cases were not recognised for 12 and 16 days respectively.

Duration.—In 200 cases which recovered, the duration (reckoned to date of discharge from Hospital) averaged 36·4 days, and in 40 cases which died, it averaged 14·1 days. The duration both for recoveries and deaths was greater in the unvaccinated than in the vaccinated cases, being 53·1 and 16·5 days respectively for the unvaccinated, and 34·4 and 11·9 for the vaccinated.

10. *Mortality.*—Of the 245 cases, 205 recovered and 40 died, giving a case death rate of 16·3. Among the 194 cases known to be vaccinated, the deaths were 24 and the case death rate 12·3, while among the 38 unvaccinated, the deaths were 15 and the case death rate 39·5; *i.e.*, for equal numbers attacked three unvaccinated persons died to every vaccinated person.

Of those referred to as vaccinated only 4 had been revaccinated and one of these died, she was a woman aged 51

who was said to have been revaccinated 24 years before. The statement was not confirmed. Not a single one of the fatal cases had been vaccinated within 20 years: of the 15 deaths in the unvaccinated 7 were under 20 years of age.

11. *Contacts.* 1,673 persons known to have been in contact with cases of Small-pox were under the observation of your Medical Officers and Sanitary Inspectors. 1,171 of these were vaccinated within 3 days of the exposure to infection, or had been vaccinated in the previous 10 years; only 1 of such protected persons contracted Small-pox from the case to which they had been exposed, or a proportion of 1 per 1,000 protected persons were infected after exposure. 420 contacts refused vaccination or were otherwise unprotected by vaccination in the 10 years before or within 3 days after exposure. 45 of these contracted Small-pox, or 107 per 1,000 partially protected persons were infected after exposure. In other words, a person recently vaccinated (*i.e.*, within a period of 10 years) is a hundred times more likely to escape infection than 1 unvaccinated or only protected by a vaccination 10 to 50 years ago.

Eight of the contacts were altogether unprotected by vaccination (as above defined) and 2 of these were attacked, *i.e.*, 250 quite unprotected persons per 1,000 contracted Small-pox after exposure.

The following table summarises the above statement:—

Susceptibility to infection of vaccinated and unvaccinated contacts.

	No. Exposed.	No. Attacked.	Rate per 1,000.
Protected	1171	1	0·9
Partially protected ..	412	43	104·4
Unprotected	8	2	250·0

Protected means persons vaccinated within 10 years before exposure or within 3 days after exposure. Partially protected means persons vaccinated more than 10 years before exposure (most of whom refused revaccination).

Unprotected means never successfully vaccinated, or vaccinated more than three days after exposure.

These figures are absolutely conclusive as to the value of the protection afforded by vaccination. The persons who refused vaccination were equally healthy, equally well housed, and well fed, and otherwise under equal advantages with those who accepted it; many of them were strong young men employed in the open air.

Of course there is some uncertainty about the term contact, and in many cases the contact was doubtful and not direct, but all were marked as contacts and as vaccinated or refusing vaccination immediately the information was obtained and before it was known whether they contracted infection or not, so that the figures are absolutely comparable in the different classes. All in the same house were put down as contacts, though many (including four of the eight unprotected), it is fairly certain were never in the same room as the patient.

All cases of Small-pox not previously down on the list of contacts are of course excluded from the above table.

Condition of Cases as to Vaccination.

Table showing the number of cases and number of deaths among the vaccinated and unvaccinated at various age groups:—

Ages.	No. of Cases.		No. of Deaths.	
	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.
0-5	0	5	0	4
5-10	3	4	0	1
10-20	35	12	0	2
20-40	121	15	11	5
40-60	29	6	9	4
Over 60	5	0	2	0
All ages	193	42	22	16

Of the 245 cases, 193 had been vaccinated in infancy, 42 were unvaccinated, and the vaccination of 10 was doubtful. Thus 17 per cent. of the cases at least were unvaccinated.

It is impossible to say exactly the proportion of vaccinated to unvaccinated in the general population of the Borough, but three sources of information enable me to form a rough estimate :—they are (1) the examination of many hundreds of persons for life insurance in the past seven years; (2) the information obtained as to the vaccination of contacts; (3) the information supplied by the public vaccinators as to the numbers of unvaccinated children discovered in the primary schools. From these sources I estimate the number of unvaccinated in the Borough to be decidedly below five per cent. Thus for equal numbers of vaccinated and unvaccinated persons at least three times as many unvaccinated were attacked.

All the cases under five years of age—five in number—were unvaccinated. Of the seven cases between five and ten years, three were vaccinated and four unvaccinated; the vaccinated were all aged seven years.

No vaccinated child under seven years of age was attacked.

In one family, in spite of early removal to Hospital, the first case infected three others, making four in all, of whom

three died ; one of these was unvaccinated, and all had refused re-vaccination ; four members escaped, one who had accepted re-vaccination and three children who had been vaccinated within 12 years.

In another house where re-vaccination was refused by all but two sons, these sons and a vaccinated boy aged 10 were the only members of a family of eight persons who escaped infection.

There were only four cases who had been twice vaccinated before infection, and one who had been thrice vaccinated. The intervals between the last vaccination and the attack of Small-pox were 24 years, 13 years, 10 years, and six weeks respectively.

This last case was the sole exception to the rule that vaccination is a sure protection for seven years. The patient was a laundry man, 27 years of age, who was said to have been thrice vaccinated, the last time being seven weeks before infection. He did not feel at all unwell, but noticing some spots on his face he called in at a hospital on his rounds, and the spots were pronounced to be variola. He went to the West Ham Small-pox Hospital, whence he was discharged in 3 weeks. The facts of successful vaccination and of the actual occurrence of Small-pox were verified, on enquiry, by the medical men concerned.

Such cases do very exceptionally occur, as do also second attacks of Measles and Scarlet Fever within a few years or even months of the primary attack. Such facts cannot be explained in the present state of medical knowledge ; they indicate an idiosyncrasy similar to that which makes some persons susceptible to the smallest doses of certain poisons such as opium and alcohol and makes others proof against large doses.

13. *Vaccination of Contacts.* Immediate steps were taken to procure revaccination of all contacts. The public vaccinators were communicated with directly and the vaccination officer was also informed in order that] he might visit neighbouring houses and discover any unvaccinated persons.

The contacts were usually vaccinated within 24 hours of the receipt of the notification. Bills were distributed to every house recommending re-vaccination, with the result that about 13,000 persons were re-vaccinated from October, 1901 to May, 1902; about 10,500 of these were done by the public vaccinators.

The total cost of vaccination in the Woolwich Poor Law Union in the year ending Lady Day, 1902, was £1,385 3s. 7d.

Vaccination and its Opponents. There is probably more ample proof of the fact that vaccination protects against Small-pox than of any other similar fact in the realm of curative and preventive medicine.

The exceptions to the law of protection present no greater difficulty than the exceptions to the law of gravitation.

The suggestion has been made that the general practice of vaccination was a means of inoculating syphilis wholesale.

Without staying to question the morality of publishing such a statement it need only be pointed out that since vaccination has become general, syphilis in women and children has diminished, and among the women and children of the upper classes who are far more thoroughly vaccinated than the lower classes it is of the rarest occurrence. Every effort is used by the Government to secure that their lymph is free from un-

desirable organisms, and as a fact under present methods it is so pure, that there is no danger of any other disease being inoculated.

Who is likely to know whether vaccination inoculates disease? Is it not the medical practitioners? Yet I venture to say there is no class more careful to have themselves and their families well vaccinated than the medical profession.

I have not the least doubt that if the re-vaccination of contacts and others had not been carried out, the epidemic, in spite of hospital isolation and disinfection, would still have been raging, and instead of affecting 2 per 1,000 of the population would have decimated it. The only effective alternative to vaccination is quarantine of contacts as practised at Leicester, and I fancy the people of Woolwich prefer vaccination to being imprisoned in their own homes.

14. *Hospital Isolation.*—All the cases notified were removed to the Asylums Board's Small-pox Hospitals with two exceptions. One of these was a mild case which had been mistaken for Chicken-pox, and was effectively isolated and nursed at home; no other case occurred in the house or neighbourhood. The other was a case which I notified myself, but which was so mild that I was not prepared to take the responsibility of insisting on removal. There were three non-vesicular papules, coming after two or three days slight malaise and in a house where a child had a well marked attack of Small-pox.

Owing to the pressure on the Hospital accommodation at the early part of the epidemic, many patients were discharged when the vesicles had not completely desquamated. No secondary or return cases however occurred to my knowledge, from which I should be inclined to infer that the later desquamation of Small-pox vesicles is not highly infectious.

All patients from Woolwich were conveyed by the Asylums Board Ambulances to the Small-pox Station at Rotherhithe, there they were examined by the Board's Medical Officer and if the diagnosis was confirmed were removed by the Board's steam vessels to Long Reach.

15. *Removal to Hospital.* Where the diagnosis was not confirmed by the Board's Medical Officer the case was either detained at the wharf for a few days for observation or else returned to the patient's home. On certain occasions a large number of patients had to be detained for several hours (once for 24 hours) on account of fog preventing the sailing of the Ambulance steamer. The patients on this occasion did not accumulate beyond the number that could be accommodated in the wharf shelter and the Ambulance steamer, but if the fog had continued the removal of patients from their houses would have necessarily ceased until the lifting of fog enabled the steamers to sail. The Managers of the Asylums Board regarded this as so serious a contingency that they considered the incurring of a heavy expenditure for the purpose of providing additional horse ambulances and a half-way resting station to enable patients in an emergency to be conveyed by road to Dartford.

The Managers have also been pushing forward the provision of Small-pox Hospitals on a large scale so that (as stated by Dr. Dudfield in his monthly report, dated July 17th) shortly there will be accommodation for 4,000 Small-pox patients—more than double the number under treatment at any one time during the current epidemic.

I am informed by the kindness of the Asylums Board's Accountant that the total expenditure for Small-pox Ambulances and Hospitals during the year ending Lady

Day, 1902, was £77,006, £1,254 of which is apportioned to the Borough of Woolwich. But this does not include Head Office charges nor expenditure on capital account, and, of course, the chief part of the expenditure on the new Small-pox Hospitals will come into the current year's accounts which will, no doubt, reach a somewhat alarming figure.

The cost to the Woolwich Union of vaccination in the 12 months ending Lady Day was £1,385 3s. 7d. To get the cost for the Borough the charge for Charlton and Kidbrook has to be deducted, and that for Eltham added; I have not the figures for these parishes, but it is certain that the cost for Eltham is considerably less than that for Charlton.

Altogether it is obvious that in vaccination we have an effectual and comparatively cheap means of preventing Small-pox, whereas Hospital isolation affords an expensive and very ineffective means of dealing with this disease. In fact, I am quite of the opinion of the *British Medical Journal*, that an effective system of re-vaccination of children before leaving school would render Small-pox as exceptional as it now is in Germany, and would make the maintenance of expensive Hospitals and Ambulance service quite unnecessary; and in this way a great economy would be effected for London rate-payers.

16. *Houses affected*.—From the list of cases appended to this report, it will be seen that the houses affected were distributed all over the Borough, though Plumstead parish was affected far the most in proportion to population.

The 245 cases were contained in 209 houses.

Of these, 178 were in good sanitary condition and 31 had some sanitary defect. In 20 houses there were dirty interiors, in one overcrowding, and in the remaining nine defective water closets or some structural defect.

In one house there were five cases ;
 „ one „ „ four „
 „ four houses „ three „
 „ twenty-one „ „ two „

Only five of the 27 houses in which two or more cases occurred, appear on the list of insanitary houses.

It cannot be said then that there is any evident connection between Small-pox and insanitary houses.

17. *Social condition of Patients.*—The list of cases shows that the social condition of the patients agrees fairly well with that of the inhabitants of the Borough. Certain classes of persons, however, are noteworthy by their absence from the list of cases, viz.: doctors, of whom there are about 50 practising in the Borough, and who are specially liable to infection; nurses, also much exposed; sanitary inspectors, who visited all the infected houses; policemen and postmen. One soldier only was attacked (who had just joined the Army and consequently was not protected by re-vaccination) out of a garrison of 5,000. I know of no reason for the immunity of these classes except the fact that they are specially well protected by vaccination. Two doctor's servants were attacked who had refused re-vaccination. The small gipsy community suffered severely, 10 of these being attacked; these were all particularly robust persons, living as they do practically in the open air, but unprotected by any vaccination, opposition to which is said to be with the gipsies a religious duty. Fortunately, for themselves and the general community they were so impressed with the severity with which Small-pox attacked their colony that they did not persist in their opposition, but all submitted to vaccination with the result that there were no further cases.

My experience of this epidemic bears out what has been already taught that there are only two essential factors necessary to produce an outbreak of Small-pox ; these are the existence of 1 or more centres of infection and the presence of a susceptible population, *i.e.*, one unprotected by vaccination or previous Small-pox. Sanitary conditions, bodily health and strength, conditions of mind such as fear, have little or nothing to do with susceptibility to infection, though no doubt they affect the tendency to recovery or death. In this, Small-pox resembles Measles and Whooping Cough and differs from Diphtheria and Enteric Fever.

18. *Conclusion.* In conclusion, I have to acknowledge the devotion of the whole sanitary staff by which alone it was possible to control the epidemic, and to thank especially Dr. Thomas for his able assistance both in dealing with the epidemic and preparing this report.

Dr. Thomas was appointed for 6 weeks at a salary to assist me in dealing with the outbreak, but for 4 months since the expiration of his office he has worked voluntarily on 2 or 3 days a week, without remuneration.

SUMMARY OF REPORT.

1. There were, between September 23rd, 1901, and June 30th, 1902, 245 cases of Small-pox and 40 deaths ; 70 occurred in Woolwich Parish, 169 in Plumstead and 6 in Eltham.

2. In the majority of cases the source of infection could not be found, but it is probable that the disease was spread to a large extent by very mild cases, undetected and unsuspected, who were going about their ordinary duties, several of whom were doubtless Arsenal employees.

3. In no case did the infection appear to spread from one house to neighbouring houses, except by means of personal communication.

4. All cases notified without a request for me to visit were removed straightway to the Ambulance Station ; of these 7 were returned without being sent to the Small-pox ships, the diagnosis not being confirmed. None of the 94 cases seen by your Medical Officers at the request of the Medical Attendant were returned, but the diagnosis was confirmed in every case. Further, no case was found not to be Small-pox after arriving at the Small-pox ships and other hospitals.

5. The difficulty of distinguishing certain mild cases of Small-pox from Varicella (or Chicken-pox) seems almost insuperable.

6. I consider that it should be compulsory to notify immediately there is reasonable cause to suspect infectious disease.

7. Of the 245 cases 205 recovered and 40 died, giving a case death-rate of 16.3. Among the 194 cases known to be vaccinated, the deaths were 24 and the death-rate 12.3 per 100

cases; while among the 38 unvaccinated the deaths were 15 and the death-rate 39·5, *i.e.*, for equal numbers attacked, 3 unvaccinated persons died to every vaccinated person.

8. Not a single one of the fatal cases had been vaccinated within 20 years. Of the 15 deaths in the unvaccinated 7 were under 20 years of age.

9. The following table shows the susceptibility to infection of vaccinated and unvaccinated contacts:—

	Numbers Exposed.	Number Attacked.	Rate per 1,000
Protected	...1,171	1	0·9
Partially protected...	404	43	106·4
Unprotected	... 8	2	250·0

Protected means vaccinated within 10 years before exposure, or within three days after exposure.

Partially protected means persons vaccinated more than ten years before exposure, most of whom refused re-vaccination.

Unprotected means never successfully vaccinated, or vaccinated more than three days after exposure.

10. No vaccinated child under seven years of age was attacked.

11. There were only four cases who had been twice vaccinated before infection, and one who had been thrice vaccinated.

12. There is probably more ample proof of the fact that vaccination protects against Small-pox, than of any other similar fact in the realm of curative and preventive medicine. The exceptions to the law of protection present no greater difficulty than the exceptions to the laws of gravitation.

13. Altogether it is obvious that in vaccination we have an effectual and comparatively cheap means of preventing Small-pox, whereas Hospital isolation affords an expensive and very ineffective means of dealing with this disease. In fact, I am quite of the opinion of the *British Medical Journal*, that an effective system of re-vaccination of children before leaving school would render Small-pox as exceptional as it now is in Germany, and would make the maintenance of expensive Hospitals and Ambulance service quite unnecessary; and in this way a great economy would be effected for London rate-payers.

14. From September 1901 up to August 9th, Woolwich had 21.0 cases of Small-pox per 10,000 population, compared with 20.3 in London County. And Woolwich had 2.8 deaths from Small-pox per 10,000 compared with 3.3 in London. It must be remembered that Woolwich has on its borders extra-Metropolitan districts, in one of which at least the case and death rate were very much higher than in London.

TABLE I.

Summary of Cases up to 30th June, 1902.

Cases, 245, excluding those returned as not Small-pox.

Cases returned as not Small-pox, 6.

Age distribution—0—5 5—10 10—20 20—40 40—60 60 and over.
5 9 52 140 34 5

There were 3 cases under 1 year—all unvaccinated, and aged 2, 3 and 4 months respectively.

The five cases over 60 were aged 64 (2), 67, 70, and 79.

MONTHS.

1901.	Sept.	Oct.	Nov.	Dec.			
	1	1	9	10	..	..	= 21
1902.	Jan.	Feb.	Mar.	April	May	June	
	20	25	85	53	28	13	= 224

MORTALITY.

Vaccination.	Total Cases.	Recovered.	Died.	Case Death Rate.
Infancy ..	194	170	24	12.3
Doubtful ..	13	12	1	
Unvaccinated	38	23	15	39.5
	<u>245</u>	<u>205</u>	<u>40</u>	<u>16.3</u>

Vaccination of Cases under 10 years :—

	0—5		5—10				
Vaccinated ..	..	0	3			
Deaths among such..	..	0	0				
Unvaccinated	..	5	4				
Deaths ..	..	4	1			
Vaccination marks	1	2	3	4	5		
Cases	5	22	20	24	1	
							Total observed, 72.

Days between onset and removal :—

In 240 cases where the onset was definitely ascertained

991 days—240 cases

an average of 4.129 days per case,

Roughly 4 days, 3 hours.

Two cases were not recognised for 12 and 16 days respectively.

TABLE I.—*continued.*

Duration in 240 cases where the dates were ascertained :—

Cases	..	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Recoveries	200.		0	1	30	44	46	25	15	11	17	4	2	2	3	0
Deaths	40.		5	25	6	1	2	0	0	0	0	0	0	1	0	0

Total Days' illness :—

Recoveries	..	7281 days—200 cases	..	Average 36·4 days.
Deaths	..	566 ,, — 40 ,,	..	Average 14·1 ,,
Total	..	7847 ,, —240 ,,	..	Average 32·7 ,,

Duration in the Vaccinated and Unvaccinated :—

Recoveries.		Days illness.	No. of Cases.	Average duration.
Vaccinated	..	5814	169	34·4 days.
Doubtful	..	245	8	
Unvaccinated	..	1222	23	53·1 days.
Deaths.				
Vaccinated	..	286	24	11·9 days.
Doubtful	..	32	1	
Unvaccinated	..	248	15	16·5 days.

TABLE II.
Summary of Small Pox Cases.

No.	Sex.	Age.	Address.	Date of Com- mence- ment.	Date of Recovery or Death.	Work.	Vaccination.
1	F	19	17, Armstrong Place ..	23/9/01	Recovered	..	.. Infancy, 3 marks
2	F	13	40, Whitworth Road ..	26/10/01	do.	School ..	.. Infancy, 1 mark
3	F	19	29, Charlotte Street ..	8/11/01	do.'	..	.. Doubtful
4	M	21	29, Charlotte Street ..	13/11/01	do.'	Arsenal ..	.. Infancy, 2 marks
5	M	25	32, William Street ..	11/11/01	R. 7/12/01	Arsenal ..	.. Infancy
6	M	42	37, The Grove, Abbey Wood	14/11/01	R. 31/12/01	Labourer ..	.. Infancy
7	M	24	19, Eton Road ..	15/11/01	R. 11/12/01	Tailor ..	.. Infancy
8	F	52	152, Lakedale Road ..	14/11/01	R. 18/12/01	..	.. Infancy, 2 marks
9	M	35	12, Kate's Place ..	14/11/01	R. 21/12/01	Labourer ..	.. Infancy
10	F	23	161, Albert Road ..	15/11/01	R. 29/1/02	..	.. Infancy
11	M	7	37, The Grove, Abbey Wood	28/11/01	R. 31/12/01	..	.. Infancy
12	M	22	73, Conway Road ..	1/12/01	R. 24/12/01	..	.. Infancy, 2 faint marks
13	F	20	73, Conway Road ..	1/12/01	R. 17/1/02	..	.. Unvaccinated
14	M	36	5, Barnfield Road ..	2/12/01	R. 19/12/01	Disinfectors ..	.. Infancy
15	M	44	The Infirmary (11, Ropeyard Rails)	2/12/01	R. 30/1/02	..	.. Infancy
16	M	32	32, Waverley Road ..	1/12/01	R. 19/12/01	Arsenal ..	.. Infancy
17	F	27	28, Charlotte Street ..	4/12/01	R. 20/12/01	..	.. do., refused re-vacci-
18	F	18	41, Abbey Wood ..	13/12/01	R. 15/1/02	At Home ..	.. do., 4 marks [nation
19	F	10	35, Marmadon Road ..	13/12/01	R. 15/1/02	High Street School, St. Paul's S.S.	Unvaccinated
20	F	31	57, Reidhaven Road ..	23/12/01	R. 15/1/02	..	.. Infancy
21	M	22	"Caravan," Swingate Lane..	24/12/01	R. 4/2/02	Dust Shoot, Green- wich	Unvaccinated
22	M	39	Casual Ward, Workhouse, admitted 4/1/02	4/1/02	D. 15/1/02	Tramp ..	.. Infancy
23	F	43	95, Tuam Road ..	4/1/02	D. 16/1/02	..	.. do.
24	M	3/12	Caravan ..	7/1/02	D. 26/3/02	..	.. Unvaccinated, vaccina- ted 31/12/01 or 1/1/02

25	M	51	85, Princes Road	..	7/1/02	D.	16/1/02	Spice Works, near Siemens'	Infancy
26	M	21	4, Flaxton Road	..	9/1/02	R.	29/1/02	Royal Laboratory, R.A.	Infancy, 4 marks
27	M	29	Van, The Orchard, Timbercroft Lane	..	10/1/02	R.	16/2/02	Out of work since Xmas	Unvaccinated, refused vaccination
28	M	35	Van, Bostall Lane	..	11/1/02	R.	10/2/02	Coal Porter, Gittins, High St., Pl'mst'd.	Unvaccinated
29	M	27	93, High Street (Common Lodging House)	..	18/1/02	R.	14/2/02	Arsenal	2 marks
30	M	44	33, Ogilby Street	..	19/1/02	R.	3/2/02	Hammerman, Dockyard	3 marks
31	F	21	5, High Street, Plumstead	..	21/1/02	R.	11/2/02	West Ham, Discharged 20/1/02	4 marks
32	M	27	9, Majendie Road	..	23/1/02	R.	24/2/02	Labourer, New S.P. Hospital	3 marks
33	M	28	5, Grove Road	..	23/1/02	R.	27/2/02	Carpenter do.	..
34	M	27	37, Robert Street	..	27/1/02	R.	15/2/02	Labourer do.	Infancy
35	M	27	111, Plumstead Road	..	26/1/02	R.	25/2/02	Carpenter do.	..
36	M	27	67, Tewson Road	..	26/1/02	R.	15/2/02	Arsenal	4 marks
37	M	27	44, Princes Road	..	25/1/02	R.	13/2/02	Greengrocer (Coster)	Doubtful
38	M	52	164, Albert Road	..	25/1/02	D.	2/2/02	New S.P. Hospital..	Unvaccinated
39	M	16	7, Hanover Terrace	..	23/1/02	R.	13/4/02	Proof Butts, Arsenal	Unvaccinated
40	M	22	111, Plumstead Road	..	27/1/02	R.	12/3/02	New S.P. Hospital..	Infancy, 2 marks, re-vaccinated 27/1/02
41	M	24	62, Wickham Lane	..	28/1/02	R.	22/2/02	Carpenter do.	Infancy
42	M	25	93, High Street, Woolwich	..	3/2/02	R.	25/3/02	..	..
43	F	19	20, Barnfield Road	..	3/2/02	R.	2/3/02	Charwoman	Infancy, 2 marks
44	M	41	7, Hanover Terrace	..	8/2/02	R.	7/3/02	Arsenal	Revaccinated 31/1/02
45	M	9	2, Romford Cottages, Chapel Street	..	9/2/02	R.	5/4/02	Wood Street School	Unvaccinated
46	F	33	9, Majendie Road	..	13/2/02	D.	10/3/02	..	Infancy. refused revaccination
47	M	16	4, Portland Place	..	13/2/02	R.	6/3/02	Labourer	Infancy, 4 marks
48	M	29	182, Grangehill Road	..	14/2/02	R.	3/3/02	Bricklayer	Infancy
49	M	20	4, Portland Place	..	12/2/02	R.	9/3/02	Labourer	do.
50	M	29	147, Sandy Hill Road	..	13/2/02	R.	5/3/02	Royal Laboratory, Arsenal	do.
51	M	29	145, Eglinton Road	..	16/2/02	R.	6/3/02	Metal Turner, Erith	do.

TABLE II.—*continued.*

No.	Sex.	Age.	Address.	Date of Commencement.	Date of Recovery or Death.	Work.	Vaccination.
52	M	20	11, Swetenham Place, Plumstead	17/2/02	D. 1/3/02	Royal Laboratory, Arsenal	Infancy
53	F	4	228, High Street, Plumstead	16/2/02	D. 4/3/02	Foreman, Sewage Outfall	Unvaccinated
54	F	14	307, High Street ..	15/2/02	R. 10/3/02	At Home, tramping for work	Infancy
55	F	27	26, Ritter Street ..	15/2/02	R. 12/3/02	At Home	do.
56	F	30	11, Llanover Road ..	17/2/02	R. 9/3/02	At Home	1 mark
57	F	30	17, Herbert Road ..	18/2/02	R. 19/3/02	Charwoman	Infancy
58	M	33	28, Merchland Road ..	15/2/02	R. 14/4/02	Plasterer, Gore Farm Hospital	do.
59	M	30	2, Romford Cottages ..	22/2/02	R. 8/4/02	Lewisham	Revaccinated 26/2/02
60	M	14	101, Genesta Road ..	26/2/02	R. 14/4/02	Builder's Lad	Unvaccinated
61	F	46	101, Genesta Road ..	26/2/02	R. 29/3/02	.. ..	Infancy
62	M	34	80, Conway Road ..	27/2/02	R. 5/4/02	Royal Laboratory, Arsenal	Infancy
63	M	21	4, George Street ..	26/2/02	R. 13/4/02	Labourer, Siemens'	do., 4 marks
64	M	25	21, Thomas Street ..	27/2/02	R. 23/4/02	Shop Assistant ..	do.
65	M	21	52, Warwick Street ..	2/3/02	R. 21/3/02	Siemens' ..	do.
66	M	24	128, Maxey Road ..	1/3/02	R. 21/3/02	Paperhanger ..	do., 2 marks
67	F	37	164, Grangehill Road ..	1/3/02	D. 1/4/02	Husband in Arsenal	Unvaccinated
68	M	33	70, Orchard Road ..	1/3/02	D. 17/3/02	Royal Laboratory, Arsenal	Infancy
69	F	28	10, Milward Street ..	28/2/02	R. 22/4/02	.. ..	do.
70	F	28	1, Elizabeth Place, James St.	4/3/02	R. 30/4/02	.. ..	do.
71	F	43	19, Sun Street ..	4/3/02	D. 14/3/02	.. ..	do.
72	M	30	1, Thomas Street ..	3/3/02	D. 13/3/02	Royal Laboratory, Arsenal	do.
73	M	33	58, Robert Street ..	6/3/02	R. 10/4/02	Cartridge Factory, Arsenal	do.

74	M	33	22, Eton Road	..	4/3/02	R.	26/3/02	Royal Laboratory, Arsenal	Infancy
75	M	26	3, Ancona Road	..	7/3/02	R.	24/3/02	Carriage Departmnt. Arsenal	do., 3 marks
76	M	29	8, Miriam Road	..	5/3/02	R.	22/3/02	S. Boring Mills, Gun Factory, R. A.	do., and 5/3/02
77	M	27	14, Roydene Road	..	1/3/02	R.	17/3/02	Ordnance, R. Arsenal	Doubtful
78	M	18	4, Riverdale Road	..	7/3/02	R.	9/4/02	Building Works, Arsenal	Infancy, 1 mark
79	F	30	3, West Barracks, Brookhill Quarters	..	24/2/02	R.	26/4/02	.. ..	Unvaccinated
80	M	32	79, Princes Road	..	8/3/02	R.	16/4/02	Royal Laboratory, Arsenal	Infancy
81	M	44	11, Old Mill Road	..	3/3/02	R.	7/4/02	Plasterer, Belvedere	do.
82	M	25	1, Catherine Square	..	8/3/02	R.	29/3/02	Labourer, Dockyard	do.
83	M	24	87, Brookhill Road	..	5/3/02	R.	21/3/02	Carriage Departmnt. Arsenal	do., 4 marks
84	F	18	3, Dicey Street	..	9/3/02	R.	26/4/02	.. ..	Unvaccinated
85	F	32	25, Ann Street	..	9/3/02	R.	4/5/02	.. ..	Infancy, 3 marks
86	M	41	85, Conway Road	..	8/3/02	D.	13/3/02	Temp. S.P. Hospital	do., 2 marks
87	M	34	40, Durham Road	..	9/3/02	R.	30/3/02	Royal Laboratory, Arsenal	do., 2 or 3 marks
88	F	31	18, Olven Road	..	8/3/02	R.	27/3/02	Husband, Arsenal ..	do.
89	F	24	56, Nithdale Road	..	9/3/02	R.	27/3/02	.. ..	do.
90	M	32	36, Jackson Street	..	11/3/02	R.	31/3/02	Driver, Fairbrothers'	do.
91	M	43	143, Reidhaven Road	..	13/3/02	R.	1/5/02	Gun Fact., Arsenal	do.
92	F	17	26, Plumstead Road	..	9/3/02	R.	8/4/02	Mrs. Glover's School	do.
93	F	23	36, Coxwell Road	..	13/3/02	R.	10/4/02	.. ..	do., 4 marks
94	M	17	3, Heath Villas	..	13/3/02	R.	30/4/02	Siemens' (Heavy tools)	Unvaccinated
95	F	23	Tent, N. of Football Ground	..	14/3/02	R.	17/5/02	Gipsy ..	do.
96	F	14	73, Villas Road	..	14/3/02	R.	24/4/02	.. ..	2 marks
97	F	47	9, Alabama Street	..	14/3/02	R.	21/4/02	.. ..	Infancy
98	F	22	39, Francis Street	..	14/3/02	R.	11/5/02	.. ..	Unvaccinated |
99	F	26	3, Wood View, Wickham Lane	..	11/3/02	R.	2/4/02	.. ..	do.
100	F	30	116, Crescent Road	..	15/3/02	D.	25/3/02	Husband, Naval Ordnance	Infancy, marks barely visible
101	M	26	46, Sandy Hill Road	..	13/5/02	R.	11/4/02	.. ..	Infancy, 4 marks
102	F	29	46, Sandy Hill Road	..	3/3/02	R.	29/3/02	.. ..	do., 4 marks
103	F	23	14, Roydene Road	..	17/3/02	R.	5/4/02	.. ..	.. ..

TABLE II.—continued.

No.	Sex.	Age.	Address.	Date of Commencement.	Date of Recovery or Death.	Work.	Vaccination.
104	M	48	44, Union Street ..	11/3/02	D. 26/3/02	Cook, Frost's ..	Infancy
105	M	7	2, Bank Cottages, Beckton ..	16/3/02	R. 8/5/02	.. ..	Unvaccinated
106	F	33	95, Princes Road ..	16/3/02	R. 24/4/02	.. ..	Infancy, 4 marks
107	M	13	35, Albion Road ..	14/3/02	R. 5/4/02	.. ..	do., 2 marks
108	F	39	1 Brookhill Row ..	15/3/02	D. 27/3/02	.. ..	do.
109	F	36	28, King Street ..	15/3/02	R. 11/4/02	.. ..	do.
110	F	22	1, Collingwood Street ..	16/3/02	D. 24/3/02	General Servant (53a High Street)	do.
111	M	25	46, Sandy Hill Road ..	15/3/02	R. 10/4/02	.. ..	do.
112	M	48	Dispensary, Raglan Hall, Stepney		R. 30/4/02	.. ..
113	M	67	11, St. Mary Street ..	19/3/02	R. 22/4/02	Piermaster, G.E. Ferry, N.W.	Infancy
114	M	19	18, Grove Road ..	14/3/02	R. 11/4/02	Out of work ..	do., 4 marks
115	F	31	11, Old Mill Road ..	18/3/02	R. 7/4/02	.. ..	do., Re-vaccinated,
116	M	13	19, Lyndhurst Terrace, N.E.	22/3/02	R. 26/4/02	Truant School ..	do. [12/3/02
117	M	20	16, Orchard Road ..	22/3/02	R. 11/4/02	Royal Laboratory, Arsenal	do.
118	F	13	82, Ann Street ..	21/3/02	R. 20/4/02	St. Patrick's School	Unvaccinated
119	M	22	346, Albert Road ..	23/3/02	D. 3/4/02	Labourer, Chemical Works (Chapman, Missel & Co.)	do.
120	F	42	16, Winifred Street ..	22/3/02	D. 31/3/02	.. ..	Unvaccinated
121	M	32	Van, N. of Football Ground	24/3/02	D. 31/3/02	.. ..	Unvaccinated when infected, Vaccinated on 17/3/02
122	F	28	Van, N. of Football Ground	24/3/02	R. 19/4/02	.. ..	Unvaccinated
123	M	25	Cambridge Barracks ..	22/3/02	D. 28/3/02	Soldier ..	Recruit of 3 days. Infancy, and 20/3/02
124	M	70	3, Ancona Road ..	20/3/02	R. 26/4/02	Superannuated ..	Infancy

125	M	13	16, Powis Street	..	22/3/02	R.	14/4/02	Shop with father (baker)	Infancy, revaccinated 22/3/02
126	F	16	39, Francis Street	..	25/3/02	R.	28/5/02	..	Unvaccinated
127	F	26	42, Villas Road	..	25/3/02	R.	29/4/02	..	Infancy
128	M	20	24, Hudson Road, c/o Mrs. Coleman	..	25/3/02	R.	23/4/02	..	do.
129	M	10	Van N., Football Ground	..	29/3/02	R.	27/5/02	..	Unvaccinated until
130	F	45	45, Villas Road	..	27/3/02	R.	10/5/02	..	Infancy (23/3/02)
131	F	25	14B, Upper Harden Street	..	23/3/02	R.	23/4/02	..	do.
132	F	53	69, Kidd Street	..	27/3/02	D.	5/4/02	..	do.
133	F	23	13, Portland Place	..	25/3/02	D.	13/4/02	..	Unvaccinated
134	F	9	44, Union Street	..	28/3/02	D.	31/3/02	..	do.
135	F	15	8, Globe Lane	..	27/3/02	R.	13/4/02	..	Infancy
136	M	64	39, Francis Street	..	29/3/02	D.	9/4/02	Home, wood chopping	do., had S.P. as an infant
137	M	28	39, Francis Street	..	27/3/02	R.	13/4/02	Arsenal	do., and 20/3/02
138	F	32	42, Jackson Street	..	24/3/02	R.	18/4/02	..	do., 4 marks
139	F	39	6, Benares Road	..	26/3/02	R.	18/4/02	..	do.
140	F	35	9, Frederick Place	..	29/3/02	R.	29/5/02	..	do., 3 marks
141	M	19	105, Parkdale Road	..	29/3/02	R.	1/5/02	Royal Laboratory, Arsenal	do., 3 marks
142	F	46	44, Union Street	..	29/3/02	D.	5/4/02	..	do., 2 marks
143	M	19	44, Union Street	..	29/3/02	R.	14/4/02	..	do., 3 marks
144	F	24	34, Ann Street	..	27/3/02	R.	28/4/02	Charwoman	do.
145	M	18	20, Mabyn Road	..	30/3/02	R.	10/5/02	Royal Laboratory, Arsenal	do.
146	M	27	58, High Street, Eltham	..	2/4/02	R.	24/4/02	Laundry	Thrice, last time 7 weeks before notification
147	M	56	3, Dicey Street	..	31/3/02	R.	30/4/02	Bricklayer	Infancy, 3 marks
148	F	1 $\frac{2}{3}$	83, Elm Street	..	30/3/02	D.	7/4/02	..	Unvaccinated
149	M	27	92, Genesta Road	..	21/3/02	R.	24/4/02	Small Arms Factory, Edmonton	Infancy
150	M	24	45, Saunders Road	..	24/3/02	R.	23/4/02	Lighterman	do.
151	M	35	83, Elm Street	..	28/3/02	R.	9/4/02	Royal Laboratory, Arsenal	do., 1 mark
152	F	23	16, Elm Street	..	1/4/02	R.	29/4/02	Married	do.
153	F	21	62, Beresford Street	..	2/4/02	R.	12/5/02	"Unfortunate"	do.
154	F	12	39, Francis Street	..	4/4/02	R.	4/5/02	..	do., and 28/3/02
155	M	31	19, Barnfield Road	..	4/4/02	R.	2/6/02	At Home	do., 2 marks
156	M	18	2, Station Terrace, High St.	..	1/4/02	R.	23/4/02	Out of Work	do., 2 marks

TABLE II.—continued.

No.	Sex.	Age.	Address.	Date of Commencement.	Date of Recovery or Death.	Work.	Vaccination.
157	M	22	351, High Street	.. 31/3/02	R. 28/4/02	Labourer on roads..	Infancy
158	M	18	4, Rippolson Road	.. 6/4/02	R. 4/5/02	Painter at Belvedere	do., 3 marks
159	M	18	4, Rippolson Road	.. 7/4/02	R. 1/6/02	Carrg'eDept., Arsenal	do.
160	M	20	4, Rippolson Road	.. 10/4/02	R. 7/6/02	Percival's, bakers ..	do.
161	M	27	23, Hector Street	.. 7/4/02	R. 4/6/02	Painter, M.B.W. ..	do., 4 marks
162	F	31	49, Beresford Street	.. 9/4/02	R. 3/6/02	.. ..	do.
163	F	54	8, Globe Lane	.. 12/4/02	D. 20/4/02	.. ..	Unvaccinated
164	F	29	122, Brewery Road	.. 12/4/02	R. 28/5/02	At home ..	Doubtful
165	F	15	9, Paradise Hill	.. 11/4/02	R. 29/4/02	Doctor's Servant, Eleanor Road	Infancy
166	M	14	26, Morris Street	.. 13/4/02	D. 24/4/02	Fishmonger, 38, North St., Charlton	Unvaccinated (unsuc- cessfully vaccinated)
167	M	13	59, Beresford Street	.. 14/4/02	R. 16/5/02	Union St. School ..	Infancy, 3 marks
168	M	29	344, Albert Road	.. 15/4/02	R. 12/6/02	Labourer, Beckton Gas Works	do., 3 marks
169	F	33	64, Henry Street	.. 16/4/02	R. 18/5/02	Married ..	do., 2 marks
170	M	27	20, Gough Street	.. 14/4/02	R. 12/5/02	Lighterman ..	do., 5 marks
171	F	26	14, Villas Road	.. 16/4/02	R. 5/5/02	Married ..	do., 3 marks
172	M	18	36, Riverdale Road	.. 14/4/02	R. 6/5/02	Labourer ..	do.
173	F	44	10, Fenwick Street	.. 13/4/02	R. 5/5/02	Herbert Laundry ..	do., 4 marks
174	F	31	57, Pattison Road	.. 17/4/02	R. 25/6/02	Housework ..	do.
175	M	31	26, Joseph Street	.. 17/4/02	R. 15/5/02	R.N. Ordnance ..	do.
176	F	30	9, Manthorpe Road	.. 18/4/02	R. 15/5/02	.. ..	do.
177	F	25	37, Ritter Street	.. 18/4/02	R. 28/5/02	Married ..	do., 3 marks
178	M	33	4, Garibaldi Street	.. 18/4/02	R. 28/5/02	Royal Laboratory, Arsenal	do., 1 mark
179	M	39	7, Monk Street	.. 18/4/02	R. 19/5/02	Brass Foundry, Arsenal	do.
180	M	45	110, Chesnut Road	.. 19/4/02	R. 10/5/02	Field Gun Section, Arsenal	do.
181	F	33	22, Earl Street	.. 19/4/02	R. 22/5/02	Married ..	do.

182	M	21	6, Lakedale Terrace	..	17/4/02	R.	24/5/02	Carpenter, Temp. S.P. Hospital	Infancy, and 1892
183	F	35	16, Piedmont Road	..	19/4/02	R.	31/5/02	Married ..	do., 2 marks
184	F	12	5, Anglesea Road	..	19/4/02	D.	3/5/02	Mulgrave Place Schl.	Unvaccinated
185	M	19	31, Ordnance Road	..	19/4/02	R.	12/5/02	Labourer, A.O.D. ..	Infancy, 3 marks
186	M	41	9, Garland Street	..	19/4/02	R.	13/5/02	Labourer for Mr. Harper	Infancy, 2 marks
187	M	29	56, High Street	..	21/4/02	R.	21/5/02	Manager of Boot Shop	Doubtful
188	F	16	77, Westdale Road	..	20/4/02	R.	15/7/02	Mangling at home ..	Infancy
189	M	4/12	356, High Street	..	20/4/02	R.	13/6/02	.. ..	Unvaccinated
190	M	21	103, Benares Road	..	20/4/02	R.	22/5/02	Royal Laboratory, Arsenal	Infancy
191	M	30	13, Portland Place	..	20/4/02	R.	16/6/02	.. ..	Unvaccinated
192	F	52	21, Elm Grove, Plumstead	..	21/4/02	R.	12/6/02	Washing at home ..	Infancy
193	F	19	23, Garland Street	..	22/4/02	R.	29/5/02	Laundry at home ..	do.
194	F	30	5, Plantation Cottages (Ser- geant's Quarters, R.M.A.)	..	20/4/02	R.	26/5/02	Washing at home ..	"Re-vaccinated 6 weeks ago. Didn't take "
195	M	27	37, Orchard Place	..	23/4/02	R.	14/5/02	Writer, A.O.D. ..	Infancy, 4 marks
196	M	21	3, Benares Road	..	21/4/02	R.	28/5/02	Boot Shop, 144, High Street	Doubtful
197	M	23	121, High Street	..	26/4/02	R.	21/5/02	Do. do. ..	Infancy, and 12/4/02 un- successfully
198	M	21	7, Liffiler Road	..	21/4/02	R.	19/5/02	Coalman for Timson, Wickham Lane	Infancy
199	F	40	64, Anglesea Hill	..	21/4/02	R.	17/5/02	.. ..	do.
200	M	49	3, Saunders Road	..	24/4/02	D.	24/5/02	Plumber, Gas Works, Silvertown	do.
201	M	79	30, Swetenham Place	..	22/4/02	R.	30/6/02	Confined to house ..	Vaccinated
202	F	29	Bottom of Church Manorway (Lambeth's Field)	..	28/4/02	D.	11/5/02	Hawker ..	Unvaccinated
203	F	34	328, Albert Road	..	26/4/02	D.	7/5/02 (pregnant 8 months)	.. ..	Infancy, 4 marks
204	M	64	6, Beresford Street	..	2/5/02	D.	5/5/02	Night Watchman ..	do., frequents the "Salutation "
205	M	21	7, Edith Terrace, Abbey Wood	..	1/5/02	R.	28/5/02	Downs, Builder, School Board	do.
206	F	7	9, Garland Street	..	3/5/02	R.	3/6/02	Slade School ..	do., & re-vaccinated
207	F	26	45, Brookhill Road	..	3/5/02	R.	12/7/02	Housework ..	do.
208	M	18	77, Westdale Road	..	2/5/02	R.	30/6/02	Frost's, Confectrns.	do., 2 marks

TABLE II.—continued.

No.	Sex.	Age.	Address.	Date of Commencement.	Date of Recovery or Death.	Work.	Vaccination.
209	M	20	77, Westdale Road ..	3/5/02	R. 2/6/02	Out of work ..	Infancy, 2 marks
210	F	12	7, Edith Terrace ..	20/4/02	R. 16/6/02	Purrett Road School	Unvaccinated
211	F	2/12	45 Brookhill Road ..	4/5/02	D. 12/5/02	.. ..	Not vaccinated before infection—2/5/02
212	F	33	87, Craigton Road, Eltham ..	6/5/02	R. 31/5/02	Home	Infancy, 3 marks
213	F	7	4, Edith Terrace ..	3/5/02	R. 15/7/02	.. .. ..	do. 4 marks
214	F	26	99, Crescent Road ..	5/5/02	R. 7/6/02	Home	do.
315	F	47	56, Miriam Road ..	2/5/02	R. 31/7/02	Home	Unvaccinated
216	F	26	110, Parkdale Road ..	6/5/02	R. 18/6/02	Home	Infancy, 4 marks
217	M	30	59, Wernbrook Street ..	6/5/02	R. 2/6/02	Writer, Arsenal ..	do. 3 marks
218	M	24	23, Garland Street ..	9/5/02	R. 4/6/02	Carter	do.
219	M	27	168, Powis Street ..	8/5/02	R. 4/6/02	Grocer, Lipton's, Hare Street	do.
220	F	20	41, Warwick Street ..	3/5/02	R. 28/5/02	Servant at Powis St.	do. 2 marks
221	F	19	2, Gallosson Road ..	7/5/02	R. 10/6/02	Doctor's Servant	do. Refused re-vaccination
222	M	22	6, Riverdale Road ..	8/5/02	R. 4/6/02	Turner, Royal Gun Factory, Arsenal	do. 4 marks
223	M	19	111, Parkdale Road ..	8/5/02	R. 6/6/02	Coal Porter, Timson's High Street	do. 3 marks
224	M	14	16, Raglan Road ..	10/5/02	R. 12/6/02	Seal, Grocer, Bloomfield Road	do. 4 marks
225	F	45	35, Piedmont Road ..	10/5/02	D. 16/5/02	Home work ..	do.
226	M	37	125, Benares Road ..	10/5/02	R. 11/6/02	Labourer, Royal Gun Factory, Arsenal	do. 2 marks
227	M	28	6, McLeod Road, Abbey Wood	10/5/02	R. 6/6/02	Labourer, R.A. Co-operative Society	do. 4 marks
228	F	50	2, Monk Street ..	14/5/02	D. 21/5/02	.. .. ..	do.
229	F	48	22, Sladedale Road ..	16/5/02	D. 27/5/02	Widow	Unvaccinated
230	M	27	52, High Street ..	15/5/02	R. 16/7/02	Dock Labourer ..	Infancy
231	M	14	30, Bassant Road ..	17/5/02	R. 23/6/02	.. .. ..	do. 4 marks

232	F	23	33, Waverley Road	..	21/5/02	R.	10/6/02	Home ..	..	Infancy, 2 marks
233	F	38	8, Warren Lane	..	2/6/02	R.	18/7/02	Home ..	..	do. 4 marks
234	F	57	14, Abbey Wood Road	..	4/6/02	R.	21/8/02	Tailoress for Cook & Son, Glass House St., E. Smithfield	..	do.
235	F	6	14, Abbey Wood Road	..	7/6/02	R.	5/8/02	No School, Day or Sunday	..	Unvaccinated in infancy Vaccinated 4/6/02
236	M	19	6, Auberon Terrace, N.W.	..	8/6/02	R.	1/9/02	Glass Factory	..	Unvaccinated
237	M	19	115, Plumstead Common Rd.	..	8/6/02	R.	8/7/02	R.G.F. Arsenal	..	Infancy, 1 mark
238	M	14	4, Brookdene Road	..	8/6/02	R.	5/7/02	Collins, Butcher, Glyndon Road	..	do. 3 marks
239	F	51	155, Powis Street	..	10/6/02	D.	19/6/02	Housewife	..	do. & 1878
240	F	57	19, Plum Lane	..	13/6/02	R.	18/7/02	Housewife	..	do. 2 marks
241	M	36	18, Griffin Road	..	14/6/02	R.	14/7/02	Tram Inspector	..	do.
242	F	37	35, Saunders Road	..	17/6/02	R.	15/7/02	Grocer's Shop	..	do. 4 marks
243	F	56	4, Brookdene Road	..	23/6/02	D.	10/7/02	House ..	..	Unvaccinated
244	M	37	58, Benares Road	..	22/6/02	R.	1/8/02	R.G.F. Arsenal	..	Infancy
245	M	31	4, Brookdene Road	..	26/6/02	R.	4/8/02	Soldier back from the Front	..	Infancy. Re-vaccinated 1899, 4 g. marks. Said to have been revaccinated 1899. "Didn't take." "No marks."
246	F	62	7, Union Street	..	2/7/02	D.	10/7/02	House ..	..	Infancy, 3 marks
247	F	25	31, Brookdene Road	..	12/7/02	R.	9/9/02	House ..	..	do. 3 marks
248	M	36	36, Plum Lane	..	11/7/02	R.	18/8/02	Carriage Department, Arsenal	..	do. 4 marks
249	M	27	4, Armstrong Place	..	29/7/02	R.	25/8/02	Painter..	..	do. 3 marks

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