

Report on the public health and sanitary condition of the Parish of Clerkenwell [West Division, Borough of Finsbury] for the year 1900.

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REPORT
ON THE
PUBLIC HEALTH
AND
SANITARY CONDITION
OF THE
PARISH OF CLERKENWELL

[Western Division, Borough of Finsbury.]

FOR THE YEAR 1900,

BY

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D.P.H. (Camb.), etc.

Medical Officer of Health to the Metropolitan Borough of Finsbury.

LONDON:

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1901

REPORT
PUBLIC HEALTH

SANITARY CONDITION

PARISH OF CLERKENWELL

LONDON :

VAIL & CO., PRINTERS, 170, FARRINGTON ROAD.



To the Mayor (Enos Howes, Esq., J.P.), Aldermen, and
Councillors of the Metropolitan Borough of Finsbury.

GENTLEMEN,

I have the honour to submit herewith my Annual Report on the Public Health and Sanitary condition of the Parish of Clerkenwell for the year 1900. It contains the statistical tables required by the Local Government Board, and a record of the work of this Department during the year. The Report is arranged for convenience in three chief sections, as follows :—

A.—Vital Statistics.

B.—Diseases and their Prevention.

C.—Sanitary Work.

I need hardly remind you that during the first three months of the period covered by the Report, my predecessor, the late Dr. John Glaister, was Medical Officer of Health, which post he had held since 1896. Both Dr. Glaister and Inspector Bartlett died in the early part of the year. Whilst arrangements were being made to fill their posts Dr. Evan Jones acted temporarily as Medical Officer. In November the Department underwent other changes owing to the formation of the Metropolitan Borough Council of Finsbury. At both these periods of change extra work and responsibility has been thrown upon the Public Health Committee, and I am glad to have the opportunity of expressing my grateful appreciation of the ready support and assistance I have received from the Chairman (Dr. Evan Jones) and Members of the Public Health Committee of the late Vestry and of the present Council.

I am, Gentlemen,

Your obedient servant,

GEORGE NEWMAN.

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

TOWN HALL, ROSEBERY AVENUE, E.C.

April 20th, 1901.

MAP OF THE PARISH OF ST JAMES & ST JOHN, CLERKENWELL.



SCALE OF 1/2 MILE

0 220 440 660 880 YARDS

Stanford's Geog. Estab. London

A.—VITAL STATISTICS.

Population.—From the continual changes occurring in Chesterwell, as in most of the Central London districts, it is impossible to ascertain with accuracy the real population of the district. The Registrar General states it is subdivided as follows:—

St. James	13,777
St. Andrew	14,336
St. George	14,444
Total	42,557

A.—VITAL STATISTICS.

Births.—The total number of births registered in the district during 1900 was 1,207, a number slightly less than that registered in 1899 which was 1,245. The birth rate for Chesterwell for 1900 was 27.4 per 1,000 of the population as compared with 28.9 in 1899. The births in Chesterwell were distributed as follows:—

District	Total	Births per 1,000 of population 1900
St. James	440	27.4
St. Andrew	1,000	28.9
St. George	300	27.4
Total	1,740	28.9

A.—VITAL STATISTICS

Population.—From the continual changes occurring in Clerkenwell, as in most of the Central London districts, it is impossible to determine with accuracy the real population of the district. The Registrar-General states it in Sub-districts as follows :—

St. James	...	...	15,777
Amwell ...	...	...	34,356
Goswell Road	...	...	16,069
Total	...	...	<u>66,202</u>

Since 1896 this total figure has been used for the purposes of vital statistics, and for the sake of uniformity it will be taken as the basis in the rates stated in the present report. As the Census has recently been taken accurate information will be shortly available for the Metropolitan Boroughs. Hence it is unnecessary to discuss the present accuracy or otherwise of these figures.

Births.—The total number of births registered in the district during 1900 was 1,973, a number slightly less than that recorded in 1899 which was 2,050. The birth-rate for Clerkenwell for 1900 works out at 29·8 per 1,000 of the population as compared with 30·9 in 1899. The births in Clerkenwell were distributed as follows :—

District.	Total.	Rate per 1,000 of the Popula- tion in 1900.
St. James	440	27·8
Amwell	1,032	30·0
Goswell Road	501	31·1
Clerkenwell	1,973	29·8

The birth-rate for England and Wales for 1900 is as low as 28·9. The decline in the birth-rate of this country dates from the year 1876 when it stood at 36·3. The birth-rate for the 33 large towns was 29·4 per 1,000 of the population and the London rate was 28·6, which was lower than in any of the 10 preceding years, during which the birth-rate averaged 30·4 per 1,000.

The following table sets forth the population, births, and birth-rates for Clerkenwell for the past five years:—

		Population.		Births.		Birth-Rates.
1896	...	66,202	...	2,223	...	33·5
1897	...	66,202	...	2,092	...	31·6
1898	...	66,202	...	2,072	...	31·2
1899	...	66,202	...	2,050	...	30·9
1900	...	66,202	...	1,973	...	29·8

Deaths.—The total number of deaths after correction* which were registered as properly belonging to this district was 1,403, yielding a total death-rate of 21·1 per 1,000. It is considerably higher than the rate for Registration London, which in 1900 was 18·8; but it compares favourably with that of our immediate neighbours in Central London, Holborn having a death-rate of 26·5, and St. Luke 26·8. Last year (1899) the death-rate for Clerkenwell was 22·3.

The total number of deaths, 1,403, includes 496 deaths of Clerkenwell persons who died in various institutions outside the district. During 1899 there were as many as 553 such extra-parochial deaths. The number of intra-parochial deaths occurring in Clerkenwell from all causes during 1900, was 907 (18 less than last year). With a population of 66,202, this gives an intra-parochial death-rate of 13·6 per 1,000, which is the lowest intra-parochial rate since 1894.

The following table from the report of the Registrar-General, compares the death-rates of London, Clerkenwell and neighbouring districts for 1900, after distribution of deaths in public institutions. I have also added the rates of one of the healthiest districts in London, namely, Hampstead, for purposes of comparison.

* *Correction* consists in *omitting* deaths, occurring in hospitals and kindred institutions within a district, of persons not properly belonging to it; and of *including* deaths of such of its inhabitants as have occurred in hospitals, work-houses, infirmaries, asylums, &c., outside its boundary.

	ANNUAL RATE PER 1,000 PERSONS LIVING. DEATHS FROM											
	ALL CAUSES.	Principal Zymotic Diseases.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Simple Continued Fever.	Diarrhoea.	Phthisis.	Deaths under 1 year to 1,000 births registered.
Registration London	18.3	2.19	0.00	0.42	0.08	0.34	0.42	0.16	0.00	0.77	1.71	158
West London	16.6	1.84	—	0.48	0.07	0.24	0.22	0.13	0.00	0.70	1.48	158
North „	16.7	1.97	0.00	0.36	0.07	0.30	0.41	0.17	0.00	0.66	1.55	145
Central „	22.3	2.15	—	0.47	0.11	0.24	0.52	0.13	—	0.68	2.82	158
East „	21.9	2.89	—	0.57	0.10	0.44	0.57	0.18	0.00	1.03	2.02	175
South „	18.0	2.20	0.00	0.36	0.08	0.37	0.46	0.16	0.00	0.77	1.63	158
Holborn	26.5	2.37	—	0.72	0.14	0.17	0.38	0.14	—	0.82	2.85	240
St. Pancras	18.9	2.35	—	0.51	0.04	0.29	0.43	0.26	0.00	0.82	1.93	160
Islington	16.3	1.90	0.00	0.46	0.07	0.30	0.42	0.14	0.00	0.51	1.59	145
St. Luke	26.8	3.25	—	0.74	0.05	0.32	0.86	0.15	—	1.13	3.16	138
Clerkenwell	21.5	2.71	—	0.59	0.15	0.27	0.79	0.09	—	0.82	2.57	167
Hampstead	11.3	1.18	—	0.26	0.05	0.38	0.11	0.11	—	0.27	0.85	100

In this table 0.00 indicates that the deaths were too few to give a rate of 0.005 ; where no deaths occurred the space is left blank.

The following is a list of the outlying institutions and other places where 496 residents of Clerkenwell died during the year 1900:—

I. GENERAL HOSPITALS.				V. ASYLUMS.			
King's College	..	..	7	Banstead	..	..	4
Middlesex	..	..	5	Caterham	..	..	4
Royal Free	..	..	30	Colney Hatch	..	..	1
St. Bartholomew's	..	..	57	Darenth	..	..	1
St. George's	..	..	1	Hanwell	..	..	1
University	..	..	6	Hoxton House	..	..	1
II. SPECIAL HOSPITALS.				Ilford	..	..	1
Brompton	..	..	1	London County, Dartford			1
City of London Lying-in	..		1	Manor, Epsom	..	..	1
German	..	..	3	VI. UNCLASSIFIABLE.			
Great Ormond St. (Children)			11	The Convent, Homerton	..		3
Homœopathic	..	..	3	Freeman's Orphan School,			
Hampstead Home	..	..	1	Brixton	..	..	1
Hospital for Women				Friedhenheim Home	..		1
(Euston Road)	..		1	65, Judd Street	..	..	1
Italian	..	..	1	Memorial Cottage Hospital			1
Metropolitan	..	..	1	Near St. Bart's. Hospital	..		1
Miller Hospital, Greenwich			1	Near Great Northern Central			
National	..	..	1	Hospital	..	..	1
Royal Chest	..	..	8	Near Royal Free Hospital	..		2
Royal, Waterloo Road	..		2	Nursing Home, Holloway			1
St. Mark's	..	..	1	153, High Street, Homerton			1
III. FEVER HOSPITALS.				98, Theobald's Road	..		1
Eastern	..	..	2	284, Southwark Park Road			1
North Eastern	..	..	1	St. Anne's Home	..	..	1
North Western	..	..	23	South Bromley Railway Sta-			
IV. POOR LAW INSTITUTIONS.				tion	..	..	1
Bethnal Green Workhouse			1	Regent's Canal, Marylebone			1
Hampstead Infirmary	..		1	River Thames, Temple Pier			1
Holborn Infirmary	..		138				
Holborn Workhouse, City							
Road	..	..	131				
Holborn Workhouse, Mit-							
cham	..	..	22				
St. Pancras Workhouse	..		1				
				Total	..	..	496

As regards their distribution, all the deaths belonging to Clerkenwell may be summarized briefly as follows :—

Intra-Parochial—

St. James	215	} = 907
Amwell	...	...	...	484
Goswell	...	...	...	208

Extra-Parochial—

1. General Hospitals	106	} = 496
2. Special Hospitals	...	...	36
3. Fever Hospitals	...	...	26
4. Poor Law Institutions	294	
5. Asylums	15	
6. Elsewhere (unclassifiable)	19	

Total	1,403
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As regards distribution according to age, the following table of total deaths (intra-parochial and extra-parochial) at subjoined ages gives the comparative returns from 1896-1900 inclusive :—

MORTALITY FROM ALL CAUSES AT SUBJOINED AGES, 1896-1900. (Population remaining constant, 66,202).									
	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total Birth Rate.	Total Death Rate.
1896	1,363	399	221	41	46	466	190	33·5	20·5
1897	1,451	386	243	63	65	478	216	31·6	21·9
1898	1,427	403	228	48	46	486	216	31·2	21·5
1899	1,478	395	197	53	51	522	260	30·9	22·3
1900	1,403	328	204	49	44	553	225	29·8	21·1

For a comparison of the Clerkenwell death-rates over a number of years, the following figures may be cited. These rates have

been divided into two classes, those which include the intra-parochial and extra-parochial deaths and those which only deal with the intra-parochial:—

	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
Intra-Parochial and Extra-Parochial }	24·0	23·0	26·0	18·0	22·0	20·5	21·9	21·5	22·3	21·1
Intra-Parochial only }	17·0	18·0	17·0	12·0	14·0	13·9	14·5	14·0	13·9	13·6

INFANTILE MORTALITY.

The infantile mortality of a district is the annual number of deaths of children *under one year of age* to every thousand births during the same year. Such a return is of considerable value, for it is one of the most reliable tests of the health of a community and of the sanitary condition of a district. Migration does not greatly affect the distribution of deaths at this early age, and life is very susceptible to its surroundings. Hence this record of deaths affords a delicate index as to the prevalence of disease and the external circumstances of life affecting it.

During 1900 as we have seen there were 1,973 births. The total deaths of infants under one year was 328, out of the whole total of deaths of 1,403. The infant mortality rate is therefore 166·2 as compared with 192·6 in 1899.

In the whole of London during 1900 there were 20,927 deaths of infants which is equal to 160 per thousand births, and this corresponded to the mean rate for the ten preceeding years. The lowest rates of infant mortality in 1900 were in Hampstead 100; in St. George's, Hanover Square, 107; in Stoke Newington, 108; in St. Giles, 118; and in Marylebone, 125. The highest rates were 192 in Poplar; 197 in St. Saviour's, Southwark; 205 in Rotherhithe; 209 in St. George's, Southwark; 228 in Limehouse; and 240

in Holborn. From these figures it will be apparent, that the infantile mortality for Clerkenwell (166·2) compares very favourably with those of other districts. During the last ten years the average infantile mortality in Clerkenwell has been about 180 per thousand births; 166·2 is one of the lowest on record.

The total of 328 infant deaths includes those occurring outside the parish (32) but belonging to it. The intra-parochial deaths during the year were 296. The distribution was as follows:—

Districts.					Infant Deaths.	Infant mortality rates per 1,000 births.
St. James	...	...	...	.	67	152·2
Amwell	..	...	...	...	164	158·8
Goswell	...	...	...	...	65	129·7
Clerkenwell Intra-parochial					296	150·0
Clerkenwell Extra-parochial and Intra-parochial					328	166·2
London	..	...	...	...	20,927	160

As regards age distribution of infant's deaths, as a general rule, it may be said, that they diminish from the first month onwards to the twelfth. The following table gives the distribution in Clerkenwell for 1900:—

Age in months :	1	2	3	4	5	6	7	8	9	10	11	12	Totals
St. James ..	18	4	9	7	5	4	3	4	2	5	4	2	67
Amwell ..	53	22	13	11	6	9	10	5	6	7	15	7	164
Goswell ..	21	7	3	5	4	1	4	3	6	3	6	2	65
Totals ..	92	33	25	23	15	14	17	12	14	15	25	11	296

The Causes of Infantile Mortality.—Some of the causes of infantile mortality are common to almost every locality. The chief of such common causes may be named :

1. Prematurity of birth and physical defects at birth. The excessive mortality of the first month is almost entirely due to these causes, coupled with debility, feeble vitality, and starvation.
2. Hereditary tendencies, such as Syphilis.
3. Careless nursing, inexperience and neglect of parents.
4. Industrial conditions, especially the industrial employment of mothers.
5. Insanitary conditions.
6. Improper Food. When improper feeding is a factor a large proportion of the deaths are due to Diarrhœa. In relation to this matter the following statement from the last Report of Dr. Hope, the Medical Officer of Health for Liverpool, may be quoted :— “ The deaths amongst children under 3 “ months of age, either wholly or partially fed on artificial “ foods are 15 times as great as they are amongst an equal “ number of infants fed upon breast milk, *e.g.*, investigation “ has tended to prove that out of every 1,000 infants under 3 “ months of age naturally fed upon breast milk alone, 20 die “ of autumnal choleraic diseases (*i.e.*, Diarrhœa); but if the “ same number of infants, at the same age, are artificially “ fed then instead of 20 dying as many as 300 die from this “ cause.”
7. Violence, Suffocation in bed, etc.

Turning now to the infantile mortality of Clerkenwell we find that taking all the intra-parochial infant deaths, including those at

one year into consideration, the causes of death were as follows :—

		Diarrhoea.	Prematurity.	Malnutrition and Debility.	Bronchitis.	Pneumonia.	Convulsions.	Suffocated in Bed.	Measles.	Whooping Cough.	Accidents.	Tuberculosis.	Diphtheria, Ery- sipelas, Croup.	Miscellaneous.	Totals.
St. James	...	10	6	11	6	8	6	6	1	8	..	3	..	2	67
Amwell	..	30	19	25	19	20	9	10	2	7	1	7	1	14	164
Goswell	...	12	15	3	7	6	6	3	2	3	1	3	2	2	65
Total	..	52	40	39	32	34	21	19	5	18	2	13	3	18	296

These figures are, as a whole, comparatively satisfactory. There is a decline under most of the headings as compared with 1899, as there is also a decline of about 50 in the total number of deaths. The high death-rate due to Diarrhoea always raises the number of deaths in the third quarter of the year. Out of the total of 296 infant deaths, 73 occurred in the first quarter; 61 in the second; 100 in the third (40 in August alone) and 62 in the fourth quarter. As a general rule it may be said that old age fatality occurs mostly in the winter half of the year, and infant mortality is highest in the summer half. Prematurity and malnutrition as causes of infant mortality are nearly twice as high in towns as in rural districts. There has been a considerable decline in deaths due to prematurity during the year. "Convulsions" is really more a symptom than a disease, and is a condition brought about by the irritation of dentition, improper food, parasites, etc. It is matter for regret, that 19 lives have been sacrificed to carelessness of parents overlaying their children in bed. I find that in Clerkenwell 14 of these fatalities occurred between Saturday and Monday nights. In London as a whole 608 children were so killed during 1900.

SENILE MORTALITY.

The deaths of persons over 65 were as follows :—

Intra-parochial	$\left\{ \begin{array}{l} \text{St. James } 29 \\ \text{Amwell } 62 \\ \text{Goswell } 34 \end{array} \right\} = 125$
Extra-parochial	98
Total	<u>223</u>

Ninety-seven of these were men and 126 were women.

Out of the total of 223,—74 were between 65-70 years of age.

105	„	„	70-80	„	„
40	„	„	80-90	„	„
4	„	„	90-100	„	„

The claims of death at the two extremes of life, and the effect of season, is shown roughly as follows :—

	Jan.-March.	April-June.	July-Sept.	Oct.-Dec.	Total.
Infants at and under 1 year	73	61	100	62	296
Persons over 65 years	45	38	19	23	125

The causes of death amongst aged persons will naturally be those attributable to strain and exhaustion. The number of deaths, over 65 per 1,000 of the population, will also depend to a considerable degree upon the social status of the majority of the population. In an industrial community there will naturally be fewer lives attaining old age. Senility, Heart Disease, Pneumonia, Cerebral Diseases, Paralysis, etc., are common causes of death. As in previous years Bronchitis claimed the largest number of the 125 intra-parochial deaths. Eight deaths of persons over 65 years of age were due to Cancer. It may be noted that 36 deaths were due to Cancer during the year, the average age being 54 years, as compared with 41 deaths so caused last year, with an average age of 50 years.

Death Certification.—It may be remarked here that during the year the Vestry memorialized the Local Government Board in favour of legislation respecting Death Certification on the lines proposed by the Select Committee of the House of Commons in 1893, which recommendations were endorsed by the London County Council in 1895.

The objects to be aimed at in the proposed reform are the prevention of crime and the more exact ascertaining of the cause of death for statistical and public health purposes. The two chief

reasons for the necessity of reform are (1) The unsatisfactory state of the law as it affects *the registration of uncertified deaths*; (2) The unsatisfactory state of the present method of certification.

Referring to the former, it appears that in some districts of London the average percentage of uncertified deaths is as high as 3·5 or 4 per cent. The average for London as a whole for each year from 1896 to 1900 has been 0·6 per cent. In our opinion "in no case should a death be registered without the production of a certificate signed either by a registered medical practitioner, or by a Coroner, after satisfactory inquiries by the medical investigator or after inquest." Taking England and Wales as a whole, it appears from a Special Report of the Registrar-General in 1897 that in 4 per cent. of the total inquests no definite cause of death was entered in the Coroner's certificate. Further, as matters now stand, when there is no medical certificate of the cause of death, the Registrar makes inquiries of the relatives of the deceased person, and, if he is satisfied with their explanation of the cause of death, enters it according to their statements, adding that the death is "not medically certified." As the Registrar is not usually a medical man, and therefore cannot possess the knowledge required for efficient judgment, it is clear that the system is open to abuse.

Referring to the second point, namely, the unsatisfactory state of the present method of certification, it may be remarked that it is of vital importance to the public health that death certification should be an *exact* record of the cause of death. Under the present arrangements, securing this desideratum is not facilitated for various reasons into which it is impossible to enter fully here. Hence the Vestry held that medical certificates should be forwarded direct to the Registrar, and not delivered to the relatives of the deceased; that the fact of death should be certified by the medical man; and, thirdly, that qualified medical investigators should be appointed to inquire into all uncertified deaths, make post-mortem examinations when required, and report to the Coroner.

GENERAL REMARKS RESPECTING MORTALITY STATISTICS.

As we have already remarked, the death rate for 1900 (21·1) is lower than that of 1899 (22·3) and compares more favourably with the returns of other Metropolitan Sanitary Authorities. It should however be remembered, that the London death-rates generally are lower than in some previous years. Notwithstanding a somewhat improved state of affairs, the fact remains that we are considerably above the average death-rate for London as a whole, namely 18·3 per 1000. Out of the 43 sanitary areas which existed previously to the formation of the Metropolitan Borough Councils in November, there were only 13 districts having a higher death-rate than that of Clerkenwell; and it should be borne in mind that the Metropolitan Borough of Finsbury is mainly composed of two districts, Clerkenwell and St. Luke, which have respectively the 14th and the 2nd highest death-rates for 1900, in London.

The general position of Clerkenwell in comparison with London is set forth in the following table:—

Year.	CLERKENWELL.				LONDON.			
	Births.	Deaths from all causes.	Zymotic Deaths.	Infantile Mortality per 1,000 Births.	Births.	Deaths from all causes.	Zymotic Deaths.	Infantile Mortality per 1,000 Births.
1891	33·6	27·8	4·35	170	31·8	22·4	2·27	153
1892	32·9	27·2	2·86	172	30·9	21·6	2·80	154
1893	31·9	29·2	4·83	202	31·0	22·4	3·04	163
1894	33·0	20·8	2·63	145	30·1	18·6	2·65	143
1895	31·5	25·0	3·80	192	30·6	20·8	2·62	165
1896	33·5	22·7*	3·80	184	30·2	19·3	3·11	160
1897	31·6	24·2*	3·70	184	30·0	18·9	2·56	158
1898	31·2	23·8*	4·28	196	29·4	19·4	2·77	166
1899	30·9	24·7*	3·04	193	29·4	19·3	2·46	166
1900	29·8	23·3*	2·71	166	28·6	18·3	2·19	158

* These Death Rates have been "corrected" for sex and age distribution in the same way as the returns 1891-95 were "corrected," in order that all the figures in this table may be comparable.

Before referring to the causes of the comparatively high death-rate in Clerkenwell there are two points calling for comment. First there is no doubt that from the fact that Clerkenwell contains no public hospitals, asylums or similar institutions there are a large number of the population who are not enumerated in the district on account of their absence in various workhouses, hospitals, etc., outside the parish. From this it follows that the population of Clerkenwell is not credited with these numbers, while the deaths from that class, which this year reached 496, are recorded against us. The second point is this : though our death-rate is high, a comparison over a number of years shows it to be a gradually declining one. The intra-parochial death-rate during the last ten years averages 15.2. In 1900 it was 13.6 per 1,000. The total death-rate for Clerkenwell during the last 10 years averages 22.4. In 1900 it was 21.1.

The cause for our comparatively high death-rate is probably a composite one, including many external circumstances and agencies. It is due, that is to say, rather to a set of conditions than to one condition. Therefore to reduce such a death-rate requires not one remedy but many. The chief matters requiring constant supervision are such as affect the number of houses and persons per acre, the number of persons per house, the structural conditions appertaining in various parts of the district, the removal of refuse, the paving of yards, drainage of houses, sanitation of lodging houses and workshops, and the regular inspection of food including milk and meat. In addition to these matters of daily routine work there is infectious disease and its prevention by notification, isolation, and disinfection. Only by continual supervision can disease be minimized and death-rates reduced. The situation of the district in the centre of London and the character of its industrial population are conditions which undoubtedly affect the public health, and yet cannot be altered. It is therefore all the more necessary that we should address ourselves continually to those problems which are more amenable to treatment.

THE ZYMOTIC DISEASES.

The principal Zymotic Diseases are, in number, usually Smallpox, Scarlet Fever, Typhoid, Fever Recurring typhus, Typhus or eruptive, and simple or continued) Diphtheria, Measles, and Whooping Cough. The publications issued by the Public Health London Act, 1872 (Sections 15-17) deal with smallpox, cholera, dysentery and diarrhoea, erysipelas, scarlet fever, typhus, typhoid, relapsing, continued, and protracted fevers. During 1890 there were 107 notifications as against 102 in 1889. The reports according to the Metropolitan Asylums Board Reports are as follows:

B.—DISEASES AND THEIR PREVENTION.

	1889	1890	1891	1892	1893
Smallpox	10	10	10	10	10
Scarlet Fever	10	10	10	10	10
Diphtheria	10	10	10	10	10
Whooping Cough	10	10	10	10	10
Measles	10	10	10	10	10
Typhoid	10	10	10	10	10
Typhus	10	10	10	10	10
Erysipelas	10	10	10	10	10
Relapsing Fever	10	10	10	10	10
Protracted Fever	10	10	10	10	10
Total	10	10	10	10	10

The following table shows the number of cases of each disease notified in the Metropolitan Asylums Board during the year 1893.

THE ZYMOTIC DISEASES.

The principal Zymotic Diseases are seven in number, namely :— Smallpox, Scarlet Fever, Diphtheria, Fever (including typhus, typhoid or enteric, and simple or continued) Diarrhœa, Measles, and Whooping Cough. The notification clauses of the Public Health London Act, 1891, (Sections 55-57) deal with smallpox, cholera, diphtheria and membranous croup, erysipelas, scarlet fever, typhus, typhoid, relapsing, continued, and puerperal fevers. During 1900 there were 397 notifications as against 692 in 1899. The returns according to the Metropolitan Asylums Board Reports are as follows :—^o

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Totals for 1900.
Small Pox .. .. .	..	..	..	..	..
Scarlet Fever	18	39	35	46	138
Diphtheria (including Membranous Croup)	38	31	30	22	121
Fevers—					
Enteric	11	10	8	31	60
Typhus .. .. .	..	..	..	..	..
Continued .. .. .	..	..	1	..	1
Erysipelas	20	17	19	20	76
Puerperal Fever .. .. .	..	..	..	1	1
Totals	87	97	93	120	397

* The difference between these Returns and those of the Vestry in Table iii. at end of the Report is due to duplication.

The deaths from Zymotic diseases occurring in Clerkenwell during the year numbered 154, and were caused as follows. For comparison, the deaths during the last ten years are also given :—

Year.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Diarrhœa.	TOTAL.
1891	0	107	4	7	51	4	50	223
1892	0	40	3	6	39	9	28	125
1893	0	70	11	25	41	6	50	203
1894	0	40	0	7	38	3	27	115
1895	0	81	9	12	34	9	40	185
1896	0	50	4	14	38	9	91	206
1897	0	47	3	16	43	2	69	180
1898	0	56	0	10	34	2	115	217
1899	0	29	0	8	27	4	112	180
1900	0	33	0	5	50	2	64	154
Total..	0	553	34	110	395	50	646	1,788

To these Zymotic deaths in the Parish must be added those which occurred at the various hospitals, etc., outside the district, of persons belonging to it. They were as follows: Measles, 5; Scarlet Fever, 10; Diphtheria, 12; Whooping Cough, 3; Enteric Fever, 4; Diarrhœa, 17; Total, 51; making in all 205 deaths, and therefore giving a zymotic death-rate of 3·09.

The amount paid to medical practitioners for furnishing Notification Certificates amounted to £42 15s. od., as compared with £72 16s. od., in 1899. The Local Authority is recouped for this expenditure by the Metropolitan Asylums Board.

Smallpox.—It is satisfactory to be able again to report that there have been no cases of smallpox recorded in the District. The continuance of freedom from an outbreak of this disease depends mainly upon the following four factors :—

1. The amount of smallpox in other districts of London. Whilst only 4 deaths occurred in London during 1900, it should not be forgotten that in various parts of Great Britain there have recently been serious outbreaks of this disease. In all such epidemics there is some risk that infection may be brought into London.

2. The prompt recognition of any cases of smallpox and their early isolation to hospital.

3. The state of vaccination of the community. The following extract from the Report of the Royal Commission on Vaccination, which for seven years laboriously considered in every conceivable detail, the effects of vaccination upon smallpox, should not be forgotten even in times of apparent immunity: "It does appear to us impossible to resist the conclusion that vaccination has a protective effect in relation to smallpox. . . . The beneficial effects of vaccination are most experienced by those in whose case it has been most thorough. We can see nothing to warrant the conclusion that in this country vaccination might safely be abandoned and replaced by a system of isolation." These are important words to bear in mind at a time when there are, as I regret to learn, a large number of unvaccinated children in this District.

4. General sanitation and freedom from overcrowding.

Scarlet Fever—The total number of notifications received during the year for Scarlet Fever was 131, 81 of these cases occurring in the latter half of the year. No deaths resulted in the seven cases retained at home, and the attacks, speaking generally, were mild. Ten deaths occurred amongst the 124 cases removed to hospital, which was one of the highest proportions of fatality occurring in London. The Scarlet Fever death-rate for the parish is therefore 0·16 per 1000, as compared with 0·08 for London.

These figures are the lowest returns for this District for some years past as will be seen in the following table:—

	No. of Cases Notified.	No. of Deaths.	Death Rate per 1,000.
1896	443	12	0·18
1897	363	13	0·19
1898	321	13	0·19
1899	322	11	0·16
1900	133	10	0·15

The distribution of the disease in Clerkenwell has been fairly uniform. There have not been any marked groups of cases, as not infrequently occurs in Scarlet Fever. In only ten families was there more than one case in the family. Disinfection has been regularly carried out in all cases, and isolation to hospital whenever possible. Every case has been promptly investigated and it has been found that the patients attended about twenty different schools and obtained their milk-supply from upwards of 40 different milkshops (more than 40 of the patients using condensed milk). The two common channels of Scarlet Fever infection, schools and milk, cannot therefore be held so largely responsible as in previous years. There have been, as far as could be observed, no "return cases" of Scarlet Fever from the fever hospitals.

The only "outbreak" of Scarlet Fever occurred at Muswell Hill. During October 12 cases were notified in this detached portion of the District. The first intimation received was the notification on October 3rd, of three children belonging to one family living in Muswell Avenue. The last notification was received on October 27th. In all seven families were involved. In the first nine cases either the patient or some member of the family attended the same elementary school, and other cases attributed their infection to another school. Neither of these schools came under our supervision.

Like Measles, Scarlet Fever falls most heavily on children under five years of age (eight of the ten cases of death quoted above occurred under five years of age) and this points to the importance of protecting such children from exposure to infection. It is not only in the infants' departments of schools, nor only through the milk supply that Scarlet Fever is conveyed. Children, especially in crowded localities, play together, in the streets, courts, yards, and gardens, wear one another's scarves and jackets, lend each other whistles, trumpets and toys, and in a hundred different ways come into close personal contact with each other. The unrecognised cases in whom the rash has not come out, may by these means, spread infection far and near. Such conveyance is almost entirely beyond control. But there is another point where considerable control may be exercised. When a case is notified

Showing the Rise and Fall of SCARLET FEVER each week during 1900.

MONTH.	JANUARY.				FEBRUARY.				MARCH.				APRIL.				MAY.				JUNE.				JULY.				AUGUST.				SEPTEMBER.				OCTOBER.				NOVEMBER.				DECEMBER.								
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
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everything belonging to the patient should be disinfected or destroyed. Dolls, playthings, articles of child's clothing belonging to the patient, etc., should not be hidden away in dark boxes, cupboards, or drawers, until after the disinfector's visit, and then brought out again for the other children. But these things should be as thoroughly disinfected as the room itself or as the sheets and blankets. This is one of the many occasions when the parents and friends of the patient can assist the Sanitary Authority in its work, instead of by concealment effectually check-mate the usefulness of disinfection.*

Diphtheria.—It is satisfactory again to be able to report a further decline in the incidence and death-rate of Diphtheria. There were 116 cases of the disease notified (as against 195 in 1899) during the year.

The age incidence of Diphtheria for 1900 is shown in the following table :—

Ages in Years.	Under 1	1-5	5-15	15-25	25-65	65-	Total
No. of Notified Cases.	4	48	41	17	6	—	116

Of the total of 116 cases of Diphtheria 16 occurred in males and 55 in females

* It would be possible to furnish numerous cases in Clerkenwell where the neglect of these simple precautions has resulted in spread of infection. Two examples may suffice:—A. N. aged 9, H. N. aged 4, F. N. aged 6, were notified on September 11th, as suffering from Scarlet Fever. They were removed to hospital. The rooms, bedding, etc., were duly disinfected. "The toys and books [of these three children] were the only things left undisinfected," as the mother "thought that infection was only retained by clothes." Stanley N. aged 8, played with the toys and books, some of the toys having been particularly bequeathed to him by the other children on their departure to the hospital. He sickened with Scarlet Fever and was notified on November 7th. The mother attributed his infection to the toys and they were destroyed when he went to hospital. He had not been in the way of any other infection. Another case: R. M. aged 3, and E. M. aged 7, were notified as suffering from Scarlet Fever on August 20th. Their toys were also left undisinfected and D. M. aged 8, used them, and was notified with Scarlet Fever on September 4th. There was no other apparent source of infection.

The following table shows the seasonal occurrence of the cases of Diphtheria notified to us :—

Months -	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
No. of Cases -	13	17	6	5	17	7	16	4	10	11	5	5
Total -		36			29			30			21	

Of the 116 cases only ten were treated at home. Of these ten, five proved fatal. All the other cases, 106 were removed to hospital for treatment, and amongst these there were 12 deaths. The total number of deaths was therefore 17, which yields a death-rate of 0.25 per 1,000. The London death-rate for 1900 was 0.34 per 1,000.

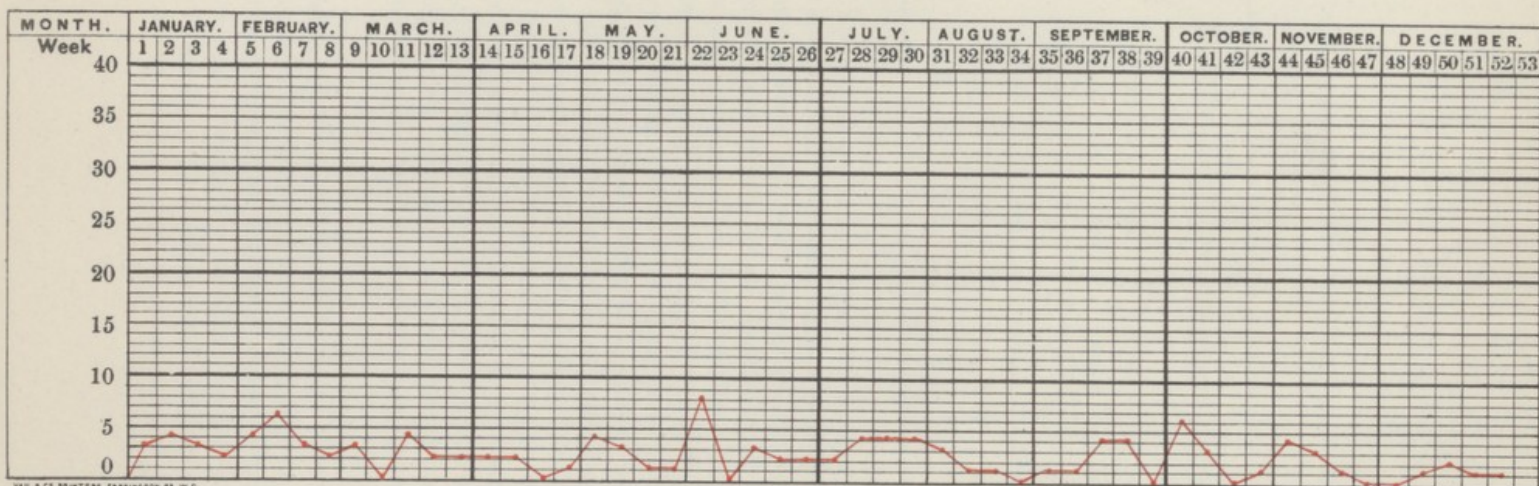
The following are the death-rates from Diphtheria in Clerkenwell during the last 10 years :—

Years.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Death rates due to Diphtheria.	0.42	0.42	1.15	0.51	0.51	0.62	0.73	0.54	0.40	0.25

This lowest death-rate for 10 years is probably due for the most part to the general decline in Diphtheria throughout the London area, and in part possibly to the strict arrangements carried out in the Public Health Department whenever a case of Diphtheria was notified. (See page 38).

Dr. Newsholme, of Brighton, has pointed out the general principle that Diphtheria only becomes pandemic, or widely epidemic, when a succession of years of drought appear. The maximum of Diphtheria and the maximum rainfall occurred in 1893. In limited localities, such for example as the parish of Clerkenwell, a number of accidental circumstances affecting the spread of the disease come into operation.

Showing the Rise and Fall of DIPHTHERIA each week during 1900.



As regards the former point, the following figures will be of interest :—

	Rain in Inches (London).	Difference from average of first 80 years.	Diphtheria Death Rates in Clerkenwell.	No. of Cases of Diphtheria notified.
1895	19.73	−5.33	0.51	128
1896	22.42	−2.56	0.62	222
1897	22.13	−2.83	0.73	335
1898	18.85	−6.07	0.54	268
1899	22.34	−2.50	0.40	195
1900	22.32	−2.51	0.25	116

As regards the second point, it is important to remember the comparatively simple channels of dissemination affecting the disease locally and which may be readily overlooked. Locally the disease is spread most largely in all probability by personal contact, particularly among children. The bacillus which causes it, exists in large numbers in the throat and mouth of the patient. It is probable that diphtheritic children licking slates or exchanging sweets from mouth to mouth, are far more likely to spread the disease than a defective drain, though this latter by lowering vitality diminishes the power of resistance to the disease. The difficulty of controlling such a disease is further enhanced by the fact that the germ may remain dormant *but infective* for many weeks in the throat of an apparently healthy person, or a person suffering from an ordinary sore throat. In certain years personal infection seems to be more potent than in others, and then we get an epidemic.

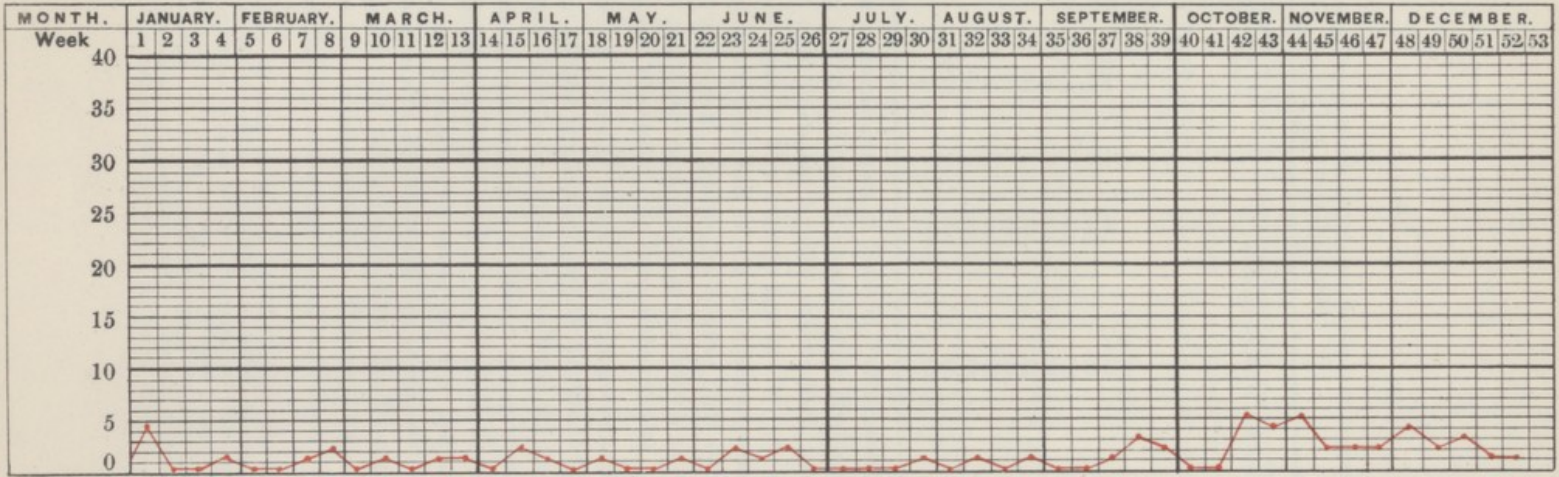
Typhoid Fever.—Enteric (or Typhoid) Fever is a disease caused by a specific germ. The symptoms are continuous fever of some weeks' duration accompanied by prostration, usually by an eruption of rose-coloured spots, and often by diarrhœa. In certain parts of the bowel, the lymph glands and other structures become inflamed and ulcerated, and sometimes serious complications may supervene.

The following are the common channels by means of which the specific germ, the *Bacillus Typhosus*, may be disseminated :—

1. *Inhalation of Infected Sewer Air.*—As a matter of fact, although sewer gas, by its weakening effect, may predispose to Enteric Fever, it does not alone, in all probability, commonly convey the disease.
2. *Drinking Infected Water.*—This is generally looked upon as the common channel of infection. In this country well-known outbreaks at Worthing, Maidstone, Lynn and other places were attributed to this cause. In the recent South African campaign, infected water played a prominent part in the outbreaks of Enteric Fever.
3. *Food* may also be the means of conveying the Enteric bacillus to the human system. Milk, shell-fish (infected oysters, in particular those fattened on contaminated oyster-beds), ice-cream, watercress, etc., have proved to be not uncommon channels of infection.
4. *Pollution of the Soil.*—There is now some evidence to show that certain kinds and conditions of soil favour the growth and multiplication of the micro-organism outside the human body. This being so, it is possible that the soil may be, under certain circumstances, a means of infection directly or indirectly.
5. *Direct infection* from person to person, or from soiled linen, bed-clothes, etc., of a typhoid patient to a healthy person.

In Clerkenwell during 1900 there were 58 cases (as compared with 92 in 1899) of Enteric Fever notified, out of which there were 2 deaths in the district, and 4 deaths among the 50 cases removed to hospital for treatment. The total number of deaths was therefore only six, (as compared with 23 in 1899) giving a death-rate of 0·09 per 1,000. This is the lowest Enteric death-rate for ten years past. For London as a whole the Enteric death-rate was 0·16 per 1,000.

Showing the Rise and Fall of TYPHOID FEVER each week during 1900.



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NOTIFICATION AND DEATH RATES OF ENTERIC FEVER IN CLERKENWELL FOR
TEN YEARS (1891-1900).

Notified cases of Enteric Fever per 1,000 of the population from 1891 to 1900 inclusive.		Death rates from Enteric Fever per 1,000 of the population from 1891 to 1900 inclusive.		
Year.	Cases per 1,000 of Population.	Year.	Death rates per 1,000 of population.	
			Intra Parochial.	Total.
1891	1.02	1891	.06	.19
1892	.72	1892	.13	.19
1893	1.19	1893	.09	.16
1894	.99	1894	.04	.13
1895	.90	1895	.13	.18
1896	.94	1896	.13	.22
1897	.98	1897	.03	.19
1898	.62	1898	.03	.10
1899	1.39	1899	.06	.34
1900	.87	1900	.03	.09

Two common characteristics of Enteric Fever namely, that it attacks young adults and that it appears more frequently in the autumn, are well illustrated by the cases which occurred in Clerkenwell in 1900. The average age of the 58 cases was 22 years, and more than half of all the cases occurred in the fourth quarter of the year. In the first quarter there were 9 cases; in the second, 10; in the third, 8, and in the fourth, 31. Between October 16th and November 16th there were 18 cases.

Enteric Fever is generally looked upon as a preventable disease, and in the light of these figures the question of cause and prevention naturally arises. Whilst accepting provisionally the five channels of infection above enumerated, it is difficult to say which channel is most largely responsible for the 58 cases which have occurred during the year. Inhalation of sewer gas and pollution of soil may, for various reasons, be set on one side as regards Clerkenwell. Infection through the water-supply may also be considered as extremely unlikely, if not impossible. It is well known that the London Water Supply is of a high degree of purity.* There is the

* Thames water which has not passed through the filter beds, contains about 1,500-2,000 microbes per cubic centimetre (*i.e.*, about 20 drops) whilst the New River water filtered, and as delivered, contains 8-10 microbes in 20 drops. The usual standard of purity accepted by bacteriologists is anything under 100 microbes per 20 drops. So that the drinking water of the parish may be looked upon as of very pure quality as regards bacteria. Unclean cisterns or delivery pipes, may of course, bring about pollution of the purest water.

further argument, that if the water-supply was the cause of the typhoid cases in the district, we should expect the disease to be more widespread. For the water-supply is common to the entire population.

From the distribution of the cases there is some evidence to suppose that the actual causes are not common to the whole parish and do not continually operate. From a careful investigation of the cases brought to my notice from April 1900 up to the end of the year, I have formed the opinion that direct personal infection and infection through food are the two common channels for the propagation of Enteric Fever in this District. There is a disposition among medical men and others, to regard Enteric Fever as "only slightly infectious, if indeed it is infectious at all." The disease is looked upon almost solely as a water-borne disease, and certain experiences in outbreaks in this country, in South Africa, and elsewhere, lend support to this view. London Districts, where the water supply is excellent in quality and yet where Enteric Fever prevails, appear to me to furnish indisputable evidence that, there are other agencies commonly at work besides water. I think in this District there is ample evidence, that direct contact with the person or belongings, of either a known or unrecognised case of Typhoid Fever, is one of the greatest factors in the spread of the disease.*

* In support of this contention I may cite the following cases:—

1. *Nelly Harp*, aged 10.
 2. *Minnie How*, aged 14.
 3. *Annie N.*, aged 18.
- } were all notified as suffering from Enteric Fever between October 20th and 22nd. They had each been ill for some days previously. They were members of three different families, but they were mutual friends and attended the same Sunday School. It is possible they contracted the disease at this school, as various complaints were made as to the defective drainage during the autumn, and in particular on one Sunday, when they were all present, at the end of September. In two of the cases there was further evidence to show that the drainage of the two homes was not above criticism. Minute investigation in all three cases revealed no other likely source of infection.
4. *Rose C.*, aged 9, was notified on November 3rd. She was a friend of Minnie How, and went to the same Sunday School. She associated intimately with one or other of the three previous cases during the incubation period of their attacks.
 5. *Florrie H.*, aged 8, was ill during the first part of November and was nursed at home. The case was not notified as Enteric at the time and no doctor was called in. The symptoms were those of Enteric. Florrie H. was a "great friend" of Rose C., and played with her up to the time of the latter's notification. She also attended the same Sunday School as the previous cases, spending her playtime with Rose C. Florrie H. was nursed at home

The chief precautions to be taken, are in my opinion: (1) early notification, to be attained, in part, by means of bacteriological examination of the blood, which facility may now be obtained free at the Town Hall, by any medical man in Finsbury; (2) strict and early isolation of the patient; (3) thorough disinfection of all belongings of the patient; (4) during the treatment of the patient,

by her mother and sister Ellen. She slept with her mother till November 24th, and after that slept with her sister Annie.

6. *Mrs H.* aged 45, was notified as suffering from Enteric on November 28th. She was the mother of Florrie, and had helped to nurse her during her illness, and slept in the same bed with her till November 24th, when Mrs. H. became ill and went to sleep with her daughter Lottie. During the daytime Mrs H. was out to work and Ellen nursed Florrie.
7. *Ellen H.*, aged 22, took ill a day or two after the mother, and was notified on November 28th. She had felt ill for some days but struggled on with her work. Her attack proved a very severe one, and she died in hospital on December 15th.
8. *Henry G.*, aged 21, living in another district of London, was engaged to be married to one of Mrs. H's daughters. He spent his evenings very frequently at Mrs. H's house in Clerkenwell and was a general favourite in the family. During Florrie's illness he nursed her and would sit on her bed and amuse the child "almost every evening." He was very kind to her and they were great friends. On December 1st he sickened, with what afterwards proved to be Enteric. He was nursed at home.
9. *Clara H.*, aged 18, sister of Ellen H., was notified on December 14th as suffering from Enteric. She had helped to nurse both her mother and Ellen previously to her removal to hospital, and was ill at least two weeks before notification.
10. *Lottie H.*, aged 20, sister of the above, was notified on December 14th. She had slept with her mother and nursed her and Ellen previously to their removal to hospital. She was ill for seven days before notification.
11. *Annie H.*, aged 13, sister of the above, became ill on December 13th and was notified with Enteric on December 14th, and removed with the other two sisters to hospital. She had assisted in nursing the previous cases and had slept in the same bed with Clara and Lottie about ten days before.

Here there are eleven cases all closely connected with each other, and in all probability springing from one of the first three patients. The most thorough and careful investigation has revealed no other likely source of infection beyond personal contact, or direct infection from soiled linen, bed clothes, etc. Moreover there is this instructive fact—from the commencement of the illness in the family (in which six cases occurred one after the other) up to November 26th there was no disinfection of excreta, linen, etc., but from that date onwards thorough disinfection was carried out.

In five other cases in the district the only traceable source was the eating of oysters and other shell-fish procured in each case from one particular stall in a certain street. Many of these shell-fish sold in Clerkenwell are collected on the coast of Scotland and Ireland and some come from Holland and Belgium. When they reach the London market they are stored in heaps at Billingsgate, and shovelled up as required for various retail customers. In the case of street stalls in particular, shell-fish also run additional risks of contamination and uncleanness. Street markets and stalls for the sale of food are as a rule to be strongly deprecated from a public health point of view.

the most scrupulous cleanliness on the part of the nurse and patient, with immediate and efficient disinfection of the excreta, without doubt the main vehicle of infection. The first three of these points come within the sphere of this Department, and have received constant and careful attention. The fourth point, which is of vital importance in the prevention of the spread of the disease, must always be most largely in the hands of those nursing the patient. The further suggestion may be made, that as far as possible only persons beyond middle age should act as nurses to typhoid cases.

Epidemic Diarrhœa (*Epidemic Enteritis*).—Under this term is included all forms of zymotic diarrhœa and epidemic enteritis. The Royal College of Physicians has recently (1900) laid down that "gastro-enteritis," "muco-enteritis," "gastric catarrh," and such synonyms of epidemic diarrhœa in medical certificates of death should be discarded. The College recognises that epidemic diarrhœa is *a general disease of a specific character* in the same sense as enteric or other fevers, and it therefore authorises the use of the term "*Epidemic Enteritis*" (or if preferred "*Zymotic Enteritis*" or "*Epidemic Diarrhœa*") to designate the disease in its various forms and degrees. There can be no doubt that the adoption of this common standard will prove of great value in the future, and it is satisfactory to note that medical practitioners generally are following the suggestion of the College of Physicians.

During 1900 there were 81 deaths attributed to this disease, 66 of these cases being infants under one year of age. This gives a death-rate for Epidemic Diarrhœa of 1·2 per 1,000. In 1899 the death-rate for this disease was 1·9 per 1,000 (126 deaths), and in 1898 it was 2·02 per 1,000 (134 deaths). So that the present death-rate compares favourably with previous rates in Clerkenwell. It should not however be forgotten that the London rate for 1900, was as low as 0·78 per 1,000. Hence there is still much room for improvement in this particular district.

Epidemic Diarrhœa is chiefly an autumnal disease of urban life, affecting most largely the children of the industrial classes, and

frequently caused directly or indirectly by climate or by contaminated food.

Briefly the main causes of the disease may be set forth as follows:—

1. *Soil and Climatic Conditions*.—When the four-foot earth thermometer reaches 50° F., the summer rise of epidemic diarrhœa commences. Atmospheric temperature and rainfall exert an indirect influence as they affect the temperature of the soil. A loose permeable soil, habitually damp, and polluted with organic matter and other refuse, due to "made soils," town refuse or sewage leakage, is particularly favourable to epidemic diarrhœa. Possibly such soil contains the ferment or microbes causing the disease.
2. *Density of Population and Buildings*.—Aggregation favours, dispersion over a wide area disfavours the disease.
3. *Insanitary Conditions*.—Darkness, dirt and defective ventilation of a dwelling favour the disease. Accumulation of domestic refuse in ash-pits, dustbins, or on the street may also exert a like injurious influence.
4. *Food*.—The storage of food, particularly milk, in improper places, exposed to emanations from filth acts prejudicially. Disease-producing organisms are thereby greatly increased in the milk which also undergoes organic changes, giving to the milk poisonous and irritating properties.
5. *Maternal Neglect, etc.*.—Infants brought up by hand or bottle suffer most heavily from fatal diarrhœa.

In other words Epidemic Diarrhœa is a so called "filth-disease" and preventable by improved sanitation and public hygiene in the broadest meaning of the terms.

In my opinion these diarrhœal diseases would be largely prevented by attending to the following three matters—particularly during the

summer months—(1) feeding of infants, instruction on and regulation of children's feeding; (2) purification of the ground and streets; and (3) purification as far as practicable of the milk supply. I should like to find that sterilized milk is much more widely used.

Measles.—As this is not a notifiable disease we can only gauge its prevalence and degree of severity by means of the death returns. Including both intra and extra-parochial returns there were 38 deaths attributed to measles during the year giving a death-rate of 0.59 per 1,000 as compared with 0.54 in 1899. The London death-rate for Measles for 1900 was 0.42 per 1,000, there being 1,928 deaths from that cause as against 2,142 in 1899. Thirty-three out of the 38 deaths in Clerkenwell occurred under 5 years of age, only 4 cases out of the total occurred in public institutions, that is were extra-parochial. It is probable that these figures do not by any means indicate the destruction of life due to Measles, for this disease is often complicated with bronchitis or other respiratory disease, and hence some deaths due to Measles are entered in the returns as due to bronchitis, etc. Measles and Whooping Cough—both of which are looked upon generally as slight ailments—caused more deaths in Clerkenwell (namely, 91) during 1900 than Diphtheria, Scarlet Fever, Enteric Fever, Croup and Influenza all put together.

It may be pointed out that the remedy for this state of things lies most largely in the hands of parents and others having the care of children. There are strong reasons against the inclusion of Measles under the notification clauses of the Public Health (London) Act 1891, and hospital provision for this disease is at present impossible. Careful nursing of individual cases and closure of infants' departments of schools during an outbreak, coupled with disinfection when necessary, seem to be the best methods of reducing the high death-rate from this disease.

Whooping-Cough.—Like measles, this is not a notifiable disease. Hence we are only able to gauge its prevalent severity by its death-rate. During 1900 there were 53 deaths from Whooping Cough, as against 28 in 1899 and 34 in 1898. The death-rate per 1,000 was

therefore 0·80 as compared with 0·42 in 1899. The rate for London as a whole during 1900 was 0·42 per 1,000.

Whooping Cough is a disease of about two months duration, and is chiefly characterized by bronchial catarrh and a frequent paroxysmal cough. It generally occurs as an epidemic late on in the winter, say from December to March. Though no age is absolutely exempt from whooping cough, it is essentially a children's disease, most of the cases being met with in children under seven years of age. It is most fatal in the second year of life. The disease is almost entirely spread directly from patient to patient, the patient being infectious from the very commencement of the attack, and remaining so as long as the "whoop" is present. Owing to this prolonged infectiousness, isolation of the patient from other children should be enforced for at least six weeks from the first "whoop."

The above principles are generally accepted as well established, and the experience of the disease in Finsbury in 1900 well illustrate them. Out of the 53 deaths, 42 occurred in the first half-year, and 27 in the first quarter. There were only 3 deaths in the last quarter of the year. The eldest child in which the disease proved fatal was 3 years old, the youngest was 2 months, the average of the 53 deaths being 16 months. That the disease is spread from patient to patient, particularly in crowded tenements, is illustrated by the fact that out of the 52 dwellings where the disease occurred 47 were tenement houses.

The means of preventing whooping-cough, which kills annually in London some 2,000 children, are largely in the hands of the public. Sufficiently long isolation of infected children and watchful care over the infants' departments of the schools, are perhaps the main points requiring attention.

Erysipelas.—Seventy-four cases of Erysipelas were notified in 1900 and there were 4 deaths. Seven out of the total number of cases were treated in hospitals, but no cases were removed to the hospitals of the Metropolitan Asylums Board by this Department.

PREVENTIVE MEASURES IN CASES OF INFECTIOUS DISEASE.

During the year considerable effort has been made to perfect the line of defence against infectious diseases, and it may be well briefly to recite the means now adopted in the Public Health Department. They apply to all notifiable diseases, but particularly to Diphtheria, Enteric Fever and Scarlet Fever.

1. *Bacteriological Diagnosis in doubtful Cases.*—There are few agencies having more potential mischief than unrecognised cases of infectious disease, for such doubtful or mild cases are not easily controlled, and yet are exceedingly infectious. In order to meet this difficulty, the Public Health Committee have made arrangements for bacteriological diagnosis of such cases. Thus one of the most subtle means of spreading the disease can be averted in some measure.

In cases of suspected Phthisis, samples of the expectoration, in suspected Diphtheria swabbings of the affected throat, and in suspicious Enteric Fever a few drops of the patient's blood, are sent to the Jenner Institute. There can be no question that in each of these diseases unrecognised cases are potent in injury to others, and early diagnosis is of the utmost value from a public health point of view. This arrangement is at the immediate service of every medical practitioner in the District, without any fee whatever. During 1900 this facility was made use of on 54 occasions.

2. *Isolation of the Patient.*—Recognising that Clerkenwell is peculiar in having a large number of houses ill-adapted for home nursing of infectious disease, special efforts have been made to have all cases, where at all possible, removed to the hospitals of the Metropolitan Asylums Board for treatment. We have been particularly strict in this respect, and have thus incurred some criticism. If evidence were required to show the desirability of such

isolation, even as it only affects the patient, this one fact would support such action:—Of the ten cases of Diphtheria nursed at home, 5 died, that is 50 per cent. Of the 106 cases nursed in hospital, 12 died, that is 11 per cent. When to this we add the advantageous protection to the entire community, which removal to hospital involves, there can be little doubt as to the necessity of such action. Especially is this the case when it is remembered that Diphtheria, Enteric and Scarlet Fever, are all readily spread by personal contact.

3. *Isolation of Family*.—Notice is sent to the Head Teachers of the schools, where children in the infected house attend, to the effect that a case of infectious disease has occurred in that particular house. By this means the school authorities are able at once to exclude children from such an infected house. Ten days after the first notice, a second notice is sent, stating that the house has been disinfected and is therefore free from infection.

In cases where any members of an infected family borrow books from the Public Library, a notice is sent to the Librarian. Any such borrowed books found in the possession of the patient are destroyed, as it is now well recognised that books may act as vehicles of infection.

During the present year (1901) arrangements have been made by which an advisory notice is sent to the head of the family in which an infectious disease has occurred recommending that no members of the family attend public meetings, etc., until the family is free from infection.

4. *Disinfection*.—The bedding, clothes, and other belongings of the patient are thoroughly disinfected in the steam disinfecter, and the rooms fumigated with sulphur, or formic aldehyde gas. (See page 68.)
5. *Sources of Infection*.—Upon the receipt of the notification, the sanitary inspector makes a thorough investigation of the case, a sanitary examination of the house, and as far as

possible, he endeavours to follow up the source of infection. As a result, a full written report is made to the Medical Officer on each case of infectious disease, sanitary defects are remedied, and causes of infection as far as possible removed.

It may be remarked, that all the above arrangements are being vigorously carried out in the Metropolitan Borough of Finsbury.

6. *Vaccination*, (*e.g.*, in smallpox) though not enforced by this Department, should be added to the above methods of prevention.

Schools and Infectious Disease.—Certificates have been forwarded to me by most of the head teachers of the elementary schools in the district relating to children who have been excluded from school on account of infectious disease existing in their houses and it is chiefly from this source that we have ascertained the existence of Measles, Whooping Cough, Mumps, and Chicken-pox. All the schools (16) in the district have been visited and inspected during the year, and in March one class in the Winchester Street School was closed on account of Measles, and the room disinfected.

PHTHISIS.

This disease has claimed a large amount of attention during the year. But certainly not more than it requires. Our district is unfortunately one of those where Phthisis flourishes. This will be even more the case in the Borough of Finsbury, for the district of St. Luke has a higher Phthisis death-rate even than Clerkenwell.

During the year, at the instruction of the Public Health Committee, I drew up a Special Report on the Prevention of Consumption and other Tubercular Diseases in the Parish of Clerkenwell, which was separately printed (35 pp.). This report dealt with (a) Tuberculosis in general and the channels by which it is spread, (b) the prevalence of Phthisis in Clerkenwell, (c) preventive measures in the hands of the public, and (d) preventive measures in the hands of Sanitary Authorities. Into these matters therefore it

will be unnecessary to enter here, except in so far as there is action on the part of the Vestry to report during 1900.

The total deaths due to "Consumption" or Phthisis during 1900 were 172, giving a death-rate of 2.59 per 1,000. The London rate was 1.71 per 1,000. The highest rates were, 2.85 in Holborn, 2.99 in St. Giles, 3.11 in St. Saviour, Southwark, 3.16 in St. Luke, 3.26 in Strand, and 3.66 in St. George, Southwark. The lowest occurred, generally speaking, in areas where there is most fresh air, namely Hampstead 0.85, and Stoke Newington 1.04 per thousand. The total deaths from Phthisis in London during 1900 numbered 8,030. The Registrar-General has pointed out that Clerkenwell and several other districts are examples of sanitary areas, the Phthisis mortality of which is very imperfectly represented by the deaths registered in the several areas. The Clerkenwell mortality has however been "corrected" as far as possible.

There were 230 deaths certified during the year as due to Tuberculosis. One quarter of these were due to what is now classified as "Other Tubercular Diseases," and the other three quarters were due to "Phthisis" or Tuberculosis of the Lungs. The "Other Tubercular Diseases" mainly consist of Tubercular Bowels and Abdominal Glands (*Tabes Mesenterica*) or Tuberculosis of the Membranes of the Brain (*Tubercular Meningitis*), both conditions chiefly occurring in young children.

The following table shows the total deaths from Phthisis in Clerkenwell for the last five years, the age incidence of the mortality, and the death rates :—

YEAR	0-10	10-20	20-30	30-40	40-50	50-60	60	Totals.	Death Rate.
1896	18	5	25	36	41	19	5	149	2.25
1897	17	5	31	38	35	20	9	155	2.34
1898	17	9	29	37	38	22	8	160	2.41
1899	2	8	19	34	52	24	7	146	2.20
1900	8	9	26	40	47	18	6	154	2.32
TOTALS	62	36	130	185	213	103	35	764	2.30

It should be clearly understood that these are not the actual totals of all deaths in Clerkenwell due to Phthisis, but only those deaths of which we have full particulars as to age and address. For example, in 1900 there were 172 deaths from Phthisis attributed to this parish (giving a death-rate of 2.59 per 1,000) but in 18 of these cases records of exact place of abode are lacking.

Dr. MacLearn, the Medical Superintendent of the Holborn Union Infirmary, writes to me under date of February 4th, 1901 :—
 “During the year 1900, I find that 54 deaths from Phthisis occurred amongst inhabitants of Clerkenwell in the Holborn Infirmary, Archway Road, N. On February 2nd, 1901, there were 75 inhabitants of Clerkenwell under treatment for Phthisis in the same Infirmary. I might add that nearly all these cases suffer from the advanced stages of the disease.”

As regards *sex* it may be mentioned that out of the 154 cases above recorded 99 were males and 55 were females. The average age at death of the 154 cases was 35 years. The greater prevalence among men is probably caused by their greater degree of exposure to unfavourable conditions. As regards the effect of *season* on the Phthisis mortality it may be said that it is apparently small, the deaths being fairly uniform throughout the year.

From a careful study of the distribution of the disease in the Parish during the last five years there appear to be one or two general conclusions to be drawn :—

1. The disease has proved most fatal in persons aged 20—50. It has therefore removed by death a large number of lives at their prime and when most valuable to their homes and to the community. Out of the 764 deaths from Phthisis for the last 5 years 528 occurred between the ages of 20 and 50 years.
2. A second general conclusion is that most cases of Phthisis mortality have occurred in the overcrowded portion of the district and in houses of comparatively low rental. Lower rental does not necessarily mean defective sanitary surroundings, yet we know that, generally speaking, classes inhabiting such property suffer from poverty, deficient nourishment, intemperance and other conditions predisposing them to disease. Even a cursory examination of

a map of Finsbury on which are marked the Phthisis deaths for the past 5 years will show how exactly this is the case. It is indisputable that Phthisis has been most prevalent in Finsbury, in those portions of the district which possess the following four characters, namely :—

Overcrowding of the houses on the land, without open spaces ;

Overcrowding of people in the houses ;

Small, ill-ventilated living rooms ;

Ill-ventilated workrooms and workshops.

As a rule, it may be said that such properties are generally old, worn out, and insanitary. It is extremely noticeable that in somewhat similar properties to the above, *but in immediate proximity to open spaces* the prevalence of Phthisis is very much less. Around the Squares in the Amwell District, around the open space of the Charterhouse, and around the Artillery Ground and Finsbury Square, the cases of death from Phthisis have been extremely few. And whilst it is true that in these neighbourhoods there are some houses of a different class to those in the more overcrowded districts, yet it is also true that many of the houses are very similar in every way except that they are surrounded by open spaces. I attribute the comparative freedom from Phthisis of the Amwell District in part to the fact that it stands on rising ground.

3. A third conclusion is that a large number of cases have occurred in the same houses. Taking the local distribution of the disease for the last 6 years there are 98 houses in Clerkenwell alone in which more than one case of Phthisis has occurred during that period. In some houses several cases have occurred. I attribute this persistence of the disease in one house mainly to infected dust, due to the expectoration of persons suffering from Phthisis, who previously inhabited the house. This fact alone affords abundant reason for the vigorous disinfection measures which we have adopted.

Preventive Measures.—During 1900 the Public Health Committee inaugurated the following arrangements with a view to combating Phthisis as much as possible.

1. *Part iii. of the Medical Officer's Special Report* was reprinted in pamphlet form and 10,000 copies were circulated throughout the district. Arrangements were also initiated to hold a public meeting with the view of informing public opinion as to the prevalence and preventability of the disease.* There can be doubt at all as to the urgent importance of taking all possible steps to create a well informed public opinion concerning Consumption. After all, the most effective measures of prevention are in the hands of the public, and particularly the patient and his friends and neighbours.

2. *Voluntary Notification* was also established. The following letter was sent to every medical practitioner in Clerkenwell :—

TOWN HALL, CLERKENWELL,
ROSEBERY AVENUE, E.C.

DEAR SIR,

I am happy to inform you that the Vestry has now confirmed the decision of the Public Health Committee to carry out various measures for the prevention of Phthisis. I have already set forth the reasons for the measures proposed, in the Special Report, a copy of which has been sent to you.

I beg, therefore, to invite you to co-operate with me in notifying cases of acute Phthisis (with muco-purulent discharge or infective sputum from the lungs) occurring in your practice, where in your opinion public good can be achieved by such notification. I may remind you that even though in the individual case under your care no further precautions and no sanitary improvements are required, the official knowledge of your case may direct my attention to "infected areas," and possibly be the means of facilitating important sanitary reforms.

The Public Health Committee consider that such notifications, although completely voluntary, should be placed on the same basis, as regards payment, that holds good for notifications under the Public Health (London) Act, 1891; and the Vestry have now agreed to this for an experimental period, of the termination of which due notice will be given to you in the event of its being decided not to continue the experiment.

* This Public Meeting was held under the auspices of the Metropolitan Borough of Finsbury, on February 22nd, 1901. The Mayor of Finsbury (Enos Howes, Esq., J.P.) presided, and addresses were given by Sir William Broadbent, M.D., F.R.S., Sir James Crichton Browne, M.D., F.R.S., and Prof. MacFadyean.

There will, I need scarcely say, be no official interference, as the result of the notification, with your patient, either at home or in connection with his occupation, the steps taken being confined to a sanitary inspection of the house and leaving a copy of enclosed leaflet. We shall be glad to afford any assistance in our power in the way of Disinfection if that be desired in any case, by yourself or the patient.

As it is of great importance from the point of view of treatment, as well as infectivity, that *early* cases of Phthisis should be detected, I have further to inform you that the same arrangements which the Vestry have now in force for the Bacteriological examination of Diphtheria and blood from cases of Enteric Fever will appertain in doubtful cases of Phthisis. Sputum should be sent to me in a Test Tube which will be provided for the purpose, and I will transmit it to the Jenner Institute. The Public Health Committee have also made arrangements for disinfection to be carried out after death from Phthisis as after the ordinary notifiable infectious diseases.*

Trusting that you will be able to co-operate with us in this work.

I am,

Yours faithfully,

GEORGE NEWMAN, M.D., D.P.H.

Medical Officer of Health.

In accordance with the above a special form of Notification Certificate was printed and supplied to medical practitioners as follows:—

THE VOLUNTARY NOTIFICATION OF PHTHISIS.

CERTIFICATE OF MEDICAL PRACTITIONER.

To the Medical Officer of Health,

Town Hall, Rosebery Avenue, E.C.

I HEREBY CERTIFY that in my opinion the person herein-after named is suffering from Phthisis (with muco-purulent discharge or infective sputum); and I further certify the following particulars in respect of such person:—

Name in full of the Patient

Age of Patient.....

Sex.....

Full Postal Address of House of which Patient is an Inmate

.....

* **DUPLICATE NOTIFICATION AND MORIBUND CASES.**—The Public Health Committee do not desire cases to be notified which have been notified by another practitioner within the last three months, unless there has been a change of address in the meantime. As cases will only be notified with the consent of the patient, there will, it is thought, be no difficulty in obtaining information on this point. The notification of moribund cases is not desired.

State whether disinfection be desired at the time of notification, or periodically,
 or not at all
 Whether the case has occurred—(a) In the private practice of the Practitioner
 certifying.....or (b) In his practice as
 Medical Officer of a Public Body or Institution; and, if so, of what Body or
 Institution.....
 Dated the.....day of.....190
 SignedMedical Practitioner.*
 Address of person signing.....

Voluntary Notification commenced about the middle of November, and from then to the end of the year 12 notifications were received. I am satisfied that Voluntary Notification is desirable, and that the facts which we obtain by its means are of the greatest importance. It is the only means of ascertaining the prevalence of the disease prior to death, when it is too late to assist the patient and too late to prevent infection. It is also the means by which we can ascertain affected houses or areas. We have not up to the present experienced any insurmountable difficulties in carrying out this Voluntary Notification. Medical practitioners are paid the ordinary notification fees.

3. *Bacteriological Diagnosis in Doubtful Cases.*—Facilities for the free examination of sputum in doubtful cases was also instituted, and the same methods adopted for its examination by the Jenner Institute as in cases of Enteric Fever and Diphtheria.

4. *Disinfection after Death from Phthisis* was commenced in June and from then to the end of the year there were 80 deaths from Phthisis, after 65 of which thorough disinfection was carried out. The 15 cases where this was not done were either cases of infants, who, it may be presumed could not greatly infect a house with expectoration, or cases in which the patient had been removed from the house to hospital some weeks or months before death. In many cases disinfection has been requested spontaneously by the

*NOTE.—This certificate is a voluntary one. The Public Health Committee desire notification to be made only where in the opinion of the Medical Practitioner public good can be achieved by such notification. There will be no official interference as the result of notification with your patient, either at home or in connection with his occupation, the steps taken being confined to sanitary inspection and disinfection where desired. No case should be notified without the consent of the patient. Cases should not be notified which have been notified by another practitioner, unless there has been a change of address in the meantime. The notification of moribund cases is not desired.

friends of the patient. I look upon this disinfection after death from Phthisis as probably the most important disinfecting work done during the year.

5. *Protection of the Food Supply.*—The supervision of meat and milk, the two foods likely to convey tuberculosis, has been as strictly enforced as possible.* There can be no doubt at all that tuberculous meat and milk is not infrequently placed upon the London market.† As regards the former it will be understood that in retail shops it is a comparatively rare thing to find tuberculous meat as it is well nigh impossible to determine whether or not meat is tuberculous when it is cut up in small joints, and glands and membranes have been removed. Both in the living animal and in the carcase the disease manifests itself in the organs, membranes and glands. It does not commonly show itself in the meat substance. The latter may readily become infected in the process of butchering and dressing, for the same knife is used to remove the organs and offal and to joint up the meat, and by this means the meat may become smeared with tuberculous matter from the knife. Moreover, it is quite possible to have *localized* tuberculosis in certain organs only and not affecting the carcase as a whole, and in such cases the entire carcase need not be seized.

As from November 1900 the Extra-Corporation Meat Markets came under our supervision it may be desirable to state that the second Royal Commission on Tuberculosis (1898) laid down the following principles for guidance as to seizure of tuberculous meat :—

1. *The entire carcase and all the organs may be seized :—*

- (a) When there is Miliary Tuberculosis of both lungs.

* Since January 1901 all the milk-shops in Finsbury have been registered by the Borough Council, and will be periodically inspected by the Public Health Department.

† The evidence for this statement appears in the frequent seizures of tuberculous meat, and the special milk examinations which have been made from time to time in London when tuberculous milk has been again and again detected.

- (b) When tuberculous lesions are present on the pleura and peritoneum.
- (c) When tuberculous lesions are present in the muscular system or in the lymphatic glands embedded in or between the muscles.
- (d) When tuberculous lesions exist in any part of an emaciated carcase.

2. *The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized : —*

- (a) When the lesions are confined to the lungs and the thoracic lymphatic glands.
- (b) When the lesions are confined to the liver.
- (c) When the lesions are confined to the pharyngeal lymphatic glands.
- (d) When the lesions are confined to any combination of the foregoing but are collectively small in extent.

The Commission add :— “ In view of the greater tendency to generalisation of Tuberculosis in the pig, we consider that the presence of tubercular deposit in any degree should involve seizure of the whole carcase and of the organs. In respect of foreign dead meat, seizure should ensue in every case where the pleura have been stripped.”

These recommendations are not, in the opinion of many authorities, sufficiently strict to be scientific and really effectual as protective measures, and the signs of *generalised* tuberculosis (Section 1) are not wholly adequate. But it must be borne in mind that for various practical reasons it is desirable, at present, to follow as strictly as possible the findings of the Royal Commission which form a well recognised standard.*

* It may be mentioned that in France, where these matters receive more attention than in this country, an Order was made by the Minister of Agriculture in 1896 recommending the total seizure of the carcase (a) when the tuberculous lesions are accompanied by emaciation, (b) when tuberculosis exists in the muscles or in the intra-muscular glands, (c) when generalized tuberculosis shows itself by miliary eruptions of internal parts, particularly the spleen, and (d) when marked tuberculosis lesions exist at one and the same time in the thoracic and abdominal organs. *Commission de la Tuberculose : La Propagation de la Tuberculose*, Paris 1900. p. 267.

Milk comes into a different category to meat, for it is impossible by mere inspection to ascertain if milk contains the germs, or products of the germs, of Tuberculosis. Tubercle bacilli present in milk are, with few exceptions, derived from the cow, an animal very susceptible to the disease. Such milk is only virulent when the cow's udder is the seat of the Tuberculous disease, but then its virulence can only be described as extraordinary. It should also be remembered that udder disease is not peculiar to advanced tuberculosis, but may occur in mild forms of the disease, and is a condition very rapidly developed in the cow. The danger from using such milk naturally occurs in persons who drink it uncooked and as their principal food, namely, young children. All danger is avoided by boiling (212° F.) or pasteurizing (185° F.) the milk.

A somewhat serious proportion of the milk of this and other countries is infected with Tubercle, and there can be little doubt that by means of this channel the disease is spread. While the death-rate from Phthisis is declining in England it should not be forgotten that the death-rate from Consumption of the Bowels (*Tabes Mesenterica*) is remaining stationary, and in some places appears to be increasing. *Tabes Mesenterica* chiefly attacks infants and young children, and it is held to be largely due to drinking uncooked milk from tuberculous cows. In Clerkenwell, during 1900, there were 48 deaths of children under 5 years attributed to "other forms of tuberculosis" (which mainly consists of consumptive bowels), and there were 82 children under 5 years of age certified as having died from "Debility." In my mind there is very little doubt that many of these deaths from "debility" were also due to consumptive bowels.

Here, then, the matter is in a nutshell. We have in Finsbury, say, 300 deaths from Phthisis every year (largely caused by dried infective sputum), and the preventive measures already discussed are being carried out. In addition to this we have, say, 150 deaths of children from tuberculous diseases partly caused by infective dust, partly by tuberculous milk. Most of such milk comes in from the country, and from experiments by Dr. Klein for the London County Council in 1900, it appears that out of 97 samples,

mostly taken at railway stations, there were 7 which shewed the presence of the bacillus of Tubercle. London cows are regularly inspected for Tuberculosis by the London County Council and do not show such a high percentage*. It is to be hoped that the same rigorous inspection may be enforced before long on country cows, for thus only can the London milk supply be protected. At present all that can be done is to urge the importance of boiling all milk for young children, and scrupulous cleanliness in all milk shops.

Special Inspection after Consumption.—During the year a scheme of systematic investigation of each case of Phthisis coming to our knowledge was instituted. This was carried out, with few exceptions, after notification, and always after death. A full written report is made on each case. This comprises the main facts about the patient's illness, his occupation, his places of abode during the last 5 years, his family history as regards Phthisis, the house he lives in as regards its sanitary conditions, overcrowding, cleanliness, light, dampness, and ventilation, the source of the milk supply, etc. Apart from the important facts thus obtained the investigation, if carried out tactfully and wisely, has undoubtedly a certain educational value to the patient himself. He learns (*a*) that the disease is infectious, (*b*) that it is caused by a germ present in the expectoration in enormous numbers, (*c*) that when the expectoration dries on the pavement or floor the dust disseminates the germ, (*d*) that such infective dust may convey the disease, especially in dark, dirty, overcrowded dwellings, (*e*) and that in addition to being carried in dry dust by the air the germ may also be introduced into the body by milk from a tuberculous cow. With these facts clearly in his mind the patient is able to see that it is reasonable that the community should be protected as far as possible by means of simple precautions, namely, that the consumptive patient should not spit about on floors or pavements but into small spittoons or cups containing disinfectant solution, that *dry*

* The Medical Officer of the London County Council, who has kindly given me much information on this subject, states that on a recent inspection of London cows (February, 1901) out of 4,317 six had tuberculosis of the udder. These figures may be compared with those of Dr. Hope, of Liverpool, who states that whilst six per cent. of the samples of City milk examined were tuberculous, 14·7 per cent. of samples of Country milk examined showed the presence of tubercle.

dusting is dangerous and must give place to damp dusting, and that periodically the room and belongings of the patient should be thoroughly cleansed with water or disinfectant solution, and that milk should be boiled, and every available means taken to prevent tuberculous milk being sold. Thus many advantages are gained both to the patient and to the community. Moreover the occasion of these visits to cases of Phthisis affords an opportunity for a thorough house inspection and for the service of any sanitary notices which may be required.

ALCOHOLISM.

During 1900 there were 16 deaths in Clerkenwell directly attributed to alcoholism or delirium tremens. Of these, 10 were men and 6 were women, and only two were over 60 years of age.

These figures, do not of course, represent more than a small proportion of the mortality really caused by alcoholism. It is more than likely, that most, if not all of the deaths of infants due to being "laid upon" in bed, are really caused indirectly by alcoholism. During 1900 there were, as already pointed out, 19 deaths so caused. Fourteen of these fatalities occurred between Saturday and Monday nights.

Many deaths attributed to various degenerative conditions of the tissues are also probably brought about or hastened by excessive indulgence in alcohol. "There is no other agent" says Dr. Newsholme, Medical Officer of Health for Brighton, "so competent to hurry on the degenerative changes in the system associated with old age; in other words, alcohol is one of the chief causes of premature old age. It is not sufficiently recognised that these evil effects are very commonly produced by the systematic indulgence in an amount of alcoholic drinks, that would by most be regarded as moderate; and that those who, while never becoming intoxicated, daily take a considerable amount of spirits (especially if taken apart from meals) are much more likely to suffer in health and prematurely break down, than a labourer who may get drunk once a fortnight and be a tee-

"totaller in the intervals."* In this District a large number of deaths occur from such premature old age. Further, the recent dictum of the French Commission on Tuberculosis should not be forgotten in this respect:—"The most alcoholic nations are those which make "the greatest contribution to Tuberculosis."

Cirrhosis of the Liver and alcoholic neuritis are both conditions due to alcoholism. Together they caused 25 deaths in Clerkenwell during 1900. The above figures may be tabulated for convenience and compared with 1899. It should of course be understood that the deaths of infants by suffocation in bed, owing to having been "laid upon," are not necessarily always due to alcoholism.

	Cirrhosis of Liver.	Alcoholism and Delirium tremens.	Neuritis.	Infants "laid upon."	Total.
1899.	10	8	3	23	44
1900.	19	16	6	19	60

It will be observed that in 1900 the deaths from each of these causes, with the exception of the suffocated infants, is just about double those of 1899.

In the Annual Report of Registrar-General for 1899 (just issued) it is stated that of the 3,280 deaths, recorded in England and Wales as due to dietetic diseases, 2,871 were directly ascribed to alcoholism. The Registrar-General adds: "Probably many other deaths were "actually caused by intemperance although they appear in the "certificate as from cirrhosis of the liver, neuritis, etc. The "mortality from this cause (alcoholism) alone was equal to a rate "of 112 per million living among males and to a rate of 70 per "million among females; both these rates being the highest on "record." In London in 1899 there were 788 deaths directly due to alcoholism as compared with the corrected annual average for last ten years of 574. In 1900 such deaths numbered 696.

The question naturally arises as to whether the increase of 1900 over 1899 was due to Arsenic. In many parts of the country, particularly in the Manchester District, there was during the year

* Annual Report on the Health of Borough of Brighton 1900 (p. 64).

(particularly from June to October) a very marked increase in the deaths due to alcoholism, and it was found that many such deaths were due to arsenical poisoning. The arsenic present in the beer was derived from impure glucose, used in its manufacture. It appears that one firm supplied glucose contaminated with arsenic, which was introduced into it in the process of conversion from starch, by the use of contaminated sulphuric acid, supplied by another firm. The whole question of such contaminated beer is now being investigated by a Royal Commission. The Public Analyst (Mr. Kear Colwell), deemed it desirable to analyse a number of beers, with a view to ascertaining if arsenic was present. In all he examined upwards of 40 samples in Clerkenwell alone, and it is satisfactory to report that no cases of arsenical beer were detected. It may be hoped that one result of the enquiry now proceeding, will be, that it will be held that glucose or malt used in beer production, shall be entirely free from arsenic. For it should be remembered that the action of even infinitesimal doses of arsenic is cumulative, and might result in grave illness or even death.

THE PLAGUE.

Owing to the outbreak of Plague in Glasgow during the summer we received from the Local Government Board official intimation that they proposed to place the disease under the Notification Clauses (Sect. 55) of the Public Health (London) Act, 1891. The following is an extract from their communication : —

“ In the District of every Sanitary Authority in the Administrative County of London, and in the District of the Port Sanitary Authority of the Port of London, the persons mentioned in Section 55 of the Public Health (London) Act, 1891 (including the Managers of the Metropolitan Asylum District), and the Sanitary Authority shall, under this Order, have the same powers and duties in relation to the notification of cases of Plague as they would have under that Section if Plague were an infectious disease to which that Section applied.

"The Sanitary Authority shall forthwith cause Circular Letters to be sent to all legally qualified Medical Practitioners in the District informing them of their duties under this Regulation."

In accordance with these instructions the following circular letter was at once sent to every medical practitioner in the District :

PUBLIC HEALTH DEPARTMENT,
TOWN HALL, CLERKENWELL.

24th September 1900.

DEAR SIR,

NOTIFICATION OF CASES OF PLAGUE.

I have received from the Local Government Board a circular, dated 20th September 1900, stating, that in consequence of the appearance of the Plague at Glasgow, and in view of the possible occurrence of cases of the disease in England and Wales, they have decided to issue an order requiring the immediate notification to the Sanitary Authorities and to themselves of all cases of plague.

The Local Government Board has accordingly issued a Special Order extending the Provisions of Section 55 of the Public Health (London) Act 1891, to Plague. The Sanitary Authorities will, therefore, under this Order, have the same powers and duties in relation to notification of cases of plague as they would have under that Section (Section 55), if Plague were an infectious disease similar to other diseases which are notifiable.

The Order instructs me to inform you of this officially, and to remind you of the duties falling upon all medical practitioners concerning the notification of Infectious diseases.

It will be the duty of this Sanitary Authority to report forthwith to the Local Government Board any cases of plague which may be notified to us.

I need scarcely add that I shall, of course, be glad to immediately co-operate with you in the event of it becoming necessary, which I hope and expect will not be the case.

Yours faithfully,

GEORGE NEWMAN, M.D., D.P.H.,

Medical Officer of Health.

Notification is, of course, the first item in the line of defence against infectious disease. Isolation of cases follows as a matter of course upon notification. The Metropolitan Asylums Board therefore made all arrangements for immediate removal to the South Eastern Hospital of any person duly certified to be suffering from Plague. The London County Council also made arrangements

for the examination of suspected cases at the Port of London and immediate isolation in various localities in different parts of London, coupled with efficient disinfection. In cases of difficulty in diagnosis occurring in London the London County Council retained the services of a Plague expert, formerly medical officer in one of the Plague hospitals in Hong Kong, and of Dr. Klein, the bacteriologist. The London County Council also issued a memorandum on the signs and symptoms of Plague, and asked for immediate notification of any mortality among rats observed in this and other Metropolitan Districts. This last precaution was taken on the ground that it is supposed that rats are infected with Plague previously to an epidemic affecting humanity.

There is yet one more prophylactic measure, namely, Protective Inoculation, introduced by Professor Haffkine in invaded districts in India. The Local Government Board made arrangements to supply, if necessary, this protective material to the Sanitary Authority for persons subjected to sustained exposure to Plague infection.

From these facts it will be gathered that London was as thoroughly prepared for, and as thoroughly protected against, an epidemic of Plague as it is possible for a community to be fore-armed.

It may be convenient that the chief signs and symptoms of Plague should be briefly stated here, as suspicious conditions may occur at any moment on account of "imported" cases from places where Plague is at present epidemic:—

Plague fastens most readily on that section of the community which is badly housed, poor, uncleanly, and generally insanitary. Dirt, squalor, and overcrowding and the conditions generally which favoured typhus fever in the past are the favourable conditions for Plague.

Plague, in all its forms, should be regarded as personally infective. It is spread chiefly by human agency. But rats, body parasites, household insects and vermin, wounds, bedding, excreta, clothing, food and drink, and even infection by the air are all possible agents in the spread of the disease.

Rats are very prone to the disease. The first warning of Plague may be deaths among rats. It is by the vermin in the rat's coat that infection is probably conveyed to man. The vermin leave the rat after the animal dies, and as it is found that the vermin contain the bacilli the poison may gain entrance to the human body by vermin bites or by the abrasion of the skin consequent on the scratching they induce.

Parasites, such as fleas, bugs, lice, etc., acquire the bacillus from feeding on plague sick persons, or they may gather it from clothing, bedding, etc., soiled by excretions. It is probable that the bacillus gains entrance to the body most commonly by the skin.

Signs and Symptoms of Plague—

An ordinary attack of Plague usually begins some three to five days after exposure to infection. Such an attack may develop gradually, but, as commonly met with, there is sudden onset with much fever, as indicated by a high temperature, rapid pulse, headache, hot skin, and thirst. The eyes are injected as if inflamed; the expression, at first anxious and frightened, becomes subsequently vacant and dull; the utterance is thick, and the gait unsteady as in one under the influence of drink. There is at times a distinct tendency to faint. The tongue is at first covered with a moist white fur, except at the edges, which are red, but later on it becomes dry and of a mahogany colour.

Physical strength suddenly declines. Mental aberration develops rapidly. The temperature may rise from 101° F at the onset to 103°-105°-107° F during the first few days, or it may reach 105° F within a few hours after invasion.

Sleeplessness is a distressing symptom.

The most distinctive sign of Plague is the presence of swellings, or "buboes" as they are called, in the groin, armpit, or neck. These "buboes," which led to the disease being called "bubonic plague" and which have no relation to venereal complaints, appear as a rule about the second or third day of the disease. They are large, smooth, elastic, bun-shaped swellings of the glands, usually painful and tender on pressure, and in size they vary from that of an almond to that of an orange. Later on they may "gather" and burst like an ordinary abscess. There may also appear about the body purple spots, and what are known as "carbuncles."

But buboes are not an essential feature of plague. Cases occur in which these manifestations of the disease are greatly delayed or even absent, as for instance in "Pneumonic," "Gastric," and "Septicæmic" plague—forms of the malady which may be mistaken for respectively inflammation of the lungs, typhoid fever, and acute blood poisoning. Plague in these forms is always grave; not only because of the fatality of the cases, but for the reason that they, especially the "Pneumonic," are highly infectious to other persons. It is important, therefore, that in localities where Plague is present or is threatened, cases of anomalous illness of the above sorts be without loss of time brought under medical supervision.

Besides the forms of Plague already referred to there is yet another, namely, the so-called "ambulant" form. In Plague of this description the affected person is hardly ill at all, presenting no definite symptoms perhaps beyond indolent, though painful, swellings in groin or armpit. Such Plague cases may nevertheless be instrumental in spreading the disease, and any persons therefore

who, having been possibly exposed to Plague, exhibit these symptoms, should be isolated and watched medically until the nature of their malady has been definitely ascertained.

Diagnosis—

"The sudden onset, the marked prostration, the mental aberration, the "splitting headache, vomiting and nausea, backache, the rise in temperature, the "furred tongue, when taken in conjunction with tenderness and pain in some one "of the groups of glands are sufficient to indicate the necessity for a speedy "microscopic search for the plague bacillus."—*Cantlie*.

Amongst white people attacked with Plague in India about 30-40 per cent die. Amongst the natives the percentage of fatality is much higher.*

* Some of the above particulars appeared in the Local Government Board memorandum issued in October, 1900. All particulars concerning the examination of suspected cases of plague may be obtained at the Public Health Department, Town Hall, Rosebery Avenue, E.C.

HOUSING OF THE WORKING CLASSES ACT, 1901

During the past year a considerable amount of work has been done with reference to the Housing of the Working Classes Act, 1901. The Housing of the Working Classes Committee have been engaged in considering the various provisions of the Act, and have been in communication with the various authorities concerned. The Committee have also been engaged in considering the various provisions of the Act, and have been in communication with the various authorities concerned.

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C.—SANITARY WORK.

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HOUSING OF THE WORKING CLASSES ACT, 1890.

During the year a considerable amount of work has been undertaken in connection with this Act. The Bolton Court houses have been demolished under Part II., and an insanitary area, namely, the Aylesbury Place Area, has been dealt with under Part I. In addition to these actions the Vestry has taken various opportunities of expressing its views on the Housing Question in general.

Bolton Court.—The seven houses in Bolton Court were first represented by the late Dr. Griffith as far back as 1884 as “in a state dangerous to health and unfit for human habitation.” The causes of the evil were stated to be three, viz. : insufficient height of rooms on first and ground floors, defective and dilapidated condition of premises generally, defective paving of yard and insufficiency of water closet accommodation. The premises were closed in and without back ventilation. In 1886 the Vestry purchased a lease of the houses with a view to demolition.

The mode and means of dealing with these 7 houses was matter of discussion for fifteen years, at the end of which time it was resolved by the Vestry to commence proceedings *de novo* under Section 32 (2) of the Housing of the Working Classes Act in order to obtain a closing order. The late Dr. Glaister therefore re-represented the houses and obtained a closing order on October 3rd, 1899.

This resolution was further considered by the Vestry on 25th January, 1900, after the usual notices had been served upon all interested persons, when the Vestry ordered the demolition of the said premises.

After the expiration of the necessary time provided by the Act the Vestry directed tenders to be obtained for carrying out the order. A tender was accepted on the 14th April, and the work of demolition was rapidly completed.

The Aylesbury Place Area.—On December 11th. 1897, the late Dr. Glaister made an official representation under Part I. of the Housing of the Working Classes Act, 1890, with respect to an

area abutting on St. John Street, and comprising houses in Jerusalem Court, Bishop's Court, Aylesbury Place, St. John Street, Albemarle Street, Aylesbury Street and Jerusalem Passage. The representation was considered by the London County Council who forwarded a reply to the effect that the area was not of such a character as to be of general importance to the County of London, and should therefore be dealt with by a scheme under Part II, of the Act. After negotiations and further consideration the Council decided on March 28th, 1899, that the area should be dealt with under Part I. and instructed the Housing Committee to prepare a scheme for dealing with the insanitary courts and alleys. The represented area is very largely composed of business premises, which occupy almost all the frontages, the houses inhabited by the working classes lying for the most part in the rear. As the Council, on July 25th, 1899, resolved to widen St John Street between Aylesbury Street and Albemarle Street in connection with the construction of a double line of tramways, the Housing Committee confined themselves in preparing a scheme to the insanitary portions of the represented area.

This scheme was sealed on November 2nd, 1899. After the publication of the necessary advertisements and the service of the notices required by the Act a petition praying for the confirmation of the scheme was forwarded to the Secretary of State for Home Affairs in January, 1900. A Commissioner (Mr. H. T. Steward) was appointed and the Local inquiry as to the accuracy of the representation and the sufficiency of the scheme was held at the Holborn Town Hall on March 15th, 1900.

Owing to the death of the late Dr. Glaister, the Chairman of the Public Health Committee (Mr. Evan Jones, M.R.C.S., D.P.H., etc.) was on February 22nd authorised by the Vestry to act as their Medical Officer for the purposes of this scheme and give the necessary evidence at the Inquiry.

At the Inquiry, which was duly held on March 15th, it was shown by Dr. Evan Jones that the total area included in the scheme is 4,915 square yards of which 3,817 square yards are covered by buildings the remaining 1,098 being the footways in the courts. The total number of houses included in the scheme is 73

and the total population 511. The houses are for the most part small, very old, very much worn out, and filthy and dirty, their construction being such that no amount of repairs would be likely to make them fit for human habitation. The courts are small and narrow, the neighbouring buildings are high and interfere with the ventilation and to a great degree exclude sunshine.

There are practically no facilities for through ventilation of Aylesbury Place, Bishop's Court, or Jerusalem Court. The inhabitants are very poor, and keep their rooms in a filthy condition with the exception of Jerusalem Passage which is partly inhabited by small tradesmen whose rooms are slightly better, and Aylesbury Street, where most of the rooms are kept as clean as the defective construction of the houses will permit.

The attention of the Vestry has been continually directed to the area by its medical officers and sanitary inspectors. The average annual mortality during the last 5 years has been 36·4, whereas the annual mortality for the whole parish was only 21·55, and for the County 20·5, showing a much increased mortality for the area.

The average annual infantile mortality (for children under 1 year) was during the last 5 years for every 1,000 born = 447·36, for the whole parish for every 1,000 born = 168·5, for the whole county = 165·8.

The number of notifications of infectious diseases per 1,000 of population for the area was 14·48 and for the parish was 11·26 for the 5 years.

The mortality from zymotic diseases for 5 years for the area was 17·02, whilst for 5 years for the parish it was 17·66.

The density of population is thus represented :—

For the Area	...	...	...	503·0 per acre.
„ Parish	...	...	...	124·2 „
„ County	...	...	...	58·9 „

The foregoing statistics, though dealing with comparatively small numbers, show clearly that the area is far more unhealthy than the parish generally and a danger to the locality.

Following these general statistics Dr. Evan Jones gave detailed evidence for each house in the condemned area. No opposition was raised in the cases of 71 out of the 73 houses. The owners of

7, Jerusalem Court and 10, Aylesbury Street were represented in each case by Counsel and a Surveyor. Both parties raised objections on the ground that these houses were not in themselves insanitary but were rendered so by the other houses, and that they were therefore entitled to the extra 10 per cent. compensation. The Counsel, who appeared for the L.C.C., was Mr. Cripps, K.C.

General Principles.

During the year, in response to various communications, the Vestry gave its support to several amendments of the Housing of the Working Classes Act (1890) Amendment Bill, then before Parliament, and copies of resolutions were forwarded to the Local Government Board dealing with the following recommendations:—

1. That the London County Council should contribute towards the cost of building Dwellings for the Working Classes by Local Authorities in London, such contributions to be determined, in case of dispute, by the Local Government Board.
2. That Local Authorities should be allowed to permanently retain and manage any Dwellings of the Working Classes erected by them, and that the provision of Section 12 (5) of the Housing of the Working Classes Act, 1890, requiring them to sell or dispose of such Dwellings within 10 years from the completion thereof, unless the Local Government Board otherwise determine, should be repealed.
3. That in view of the heavy cost of land in London and the fact that the value of such land is more likely to increase than decrease the Local Authorities should not be compelled to repay the cost of such land out of the income from the Dwellings, and that the period for borrowing for building should be extended to 100 years.
4. That the Local Government Board should at once extend the period of repayment actually granted to Local Authorities for building loans under Part 3 of the Housing Act to the full statutory period of 60 years, and that they should relax and vary the restriction on building cottages, especially in the direction of enabling more rooms to be provided at a less cost per room, where this can be done without prejudice to consideration of sanitation and safety.

The Vestry also took occasion to join with other Local Authorities in calling the attention of the Local Government Board to the judgment in the case of *Gover v. St. George's Vestry* which appeared to render Section 33 of the Housing of the Working Classes Act, 1890, inoperative.

HOUSE TO HOUSE INSPECTION.

In 1897 arrangements were made for the establishment of a House register to contain full particulars of every house in the Parish. In this register records are kept concerning the owner, the mode of occupation, the cubic space in feet per room, the sanitary notices which have been served, the infectious diseases and deaths, and the condition of the drains. During 1899, 845 house to house inspections were made, and during 1900 only 743. Out of the total number of houses in the Parish (approximately 6,000) this number of inspections appears to be, and is in point of fact, altogether inadequate. But taking into account the small number of inspectors for the whole district this work is as much as could have been reasonably expected. It has been carried out under considerable pressure of routine work throughout the year. It is important work and should not be neglected, for by it we learn the exact sanitary condition of the District. The record of such work is constantly of service and of very considerable permanent value.

HOUSES LET IN LODGINGS.

The Bye-laws as to houses let in lodgings which changed the minimum permissible cubic space from 350 cubic feet per head to 400 cubic feet in rooms day and night, were enforced during the year. At the end of the year there were 176 houses on the register. The summonses which were issued to owners of registered houses for not complying with the bye-laws numbered 15.

Steady but continued progress should be made with the work of placing suitable houses on this register as it is one of the most satisfactory and reliable ways of maintaining a good standard of sanitation in such houses and of preventing overcrowding.

All over the district the question of *overcrowding* has not been lost sight of. A common standard of 400 cubic feet per head (two children under 12 counting as one adult) has been adopted. Reform in a matter like overcrowding is, and must be, slow and delicate work. The lack of accommodation for the displaced is, of course, the chief difficulty.*

COWHOUSES AND SLAUGHTER HOUSES.

The following five cow houses and four slaughter houses have been inspected and supervised during the year:—

COW HOUSES.	SLAUGHTER HOUSES.
4, Sermon Lane (54 cows).	14, Penton Street.
230, St. John's Street (30 cows).	20, Amwell Street.
27, Whiskin Street (19 cows).	191, Goswell Road.
40, Rawstorne Street (9 cows).	161, St. John Street.
30A, Great Sutton Street (4 cows).	

The Slaughter House at 138, St. John Street, is now discontinued.

The annual licensing of these places is undertaken by the London County Council, but the local Sanitary Authority has right of entry for the purpose of examining whether there is any contravention of the Public Health (London) Act, 1891, or any by-law under it, with regard to insanitary conditions, periodical removal of manure or other refuse matter, etc.

BAKEHOUSES.

During the year the following 45 Bakehouses were regularly inspected:—

Upper District.—21 and 53, Amwell Street; 76 and 96, Caledonian Road; 2, 55 and 65, Chapel Street; 1, Collier Street; 13, Field Place; 45A, Henry Street; 92, King's Cross Road; 7 and 43, Liverpool Road; 44, North Street; 18, Penton Street; 190, St. John Street Road; 42, Southampton Street; 72, White Lion Street; and 22, Wynford Road.

* It may be well to state that arrangements have been made by the Public Health Committee of the Finsbury Borough Council for a Special Report on the Housing Question in Finsbury at an early date. In consequence of this it has been considered undesirable to enter more fully into this question in the present report.
G.N.

Middle District.—12 and 17, Exmouth Street ; 88, Farringdon Road ; 235 and 281, Goswell Road ; 16, Margaret Street ; 4, Myddelton Street ; 29 and 51, Rosoman Street ; 1, 61 and 131, St. John Street Road ; 16, Tysoe Street ; and 1, Wilmington Square.

Lower District.—10 and 14, Aylesbury Street ; 6, Great Bath Street ; 11, Bowling Green Lane ; 6, Clerkenwell Green ; 1, 60 and 68, Compton Street ; 32, Northampton Street ; 40, Red Lion Street ; and 36, Warner Street.

Periodical lime-washing, water supply, water-closet accommodation, drainage, and cleanliness, are the main points over which we have maintained as strict a supervision as possible. A number of notices have been issued and legal proceedings taken where necessary. Inspections have also been made of sweet factories in the district, and it is intended that in future all places where food is manufactured or prepared shall be regularly inspected.

WORKSHOPS.

In 1897, after the London County Council inspection, carried out by Dr. Young, a register was established containing a complete list of the workshops in the district. The facts which this register contains refer to the address, name of occupier, trade or business, position, cubic space, number of gas burners, number of occupants allowed in each workshop, and the details of ventilation and sanitary convenience. During the year 37 workshops were placed upon this register. The total number on the register at the end of 1900 was 256. Many of these workshops have been visited at various times during the year in the ordinary course of the inspectors' work. But it has been found impossible to set apart a special Inspector for workshops, though undoubtedly this is the only way to insure efficient inspection.

THE MORTUARY AND SHELTER.

The total number of bodies received at the Mortuary, 47, Northampton Road, during 1900 was 226 (as compared with

218 in 1899 and 217 in 1898). Out of the 226 cases there were 172 private burials and 54 Holborn Guardian cases. The total cases were divided as follows :—

	1898	1899	1900
Inquest cases	168	158	157
Infectious diseases	8	15	9
Bodies deposited by Vestry Orders ..	10	12	5
Bodies brought for convenience of relatives, &c.	31	33	55
TOTALS	217	218	226

Of the 157 inquests post-mortem examinations were required in 57 cases. The infectious cases included 5 of Diphtheria, 1 of Croup, 1 of Scarlet Fever and 2 of Enteric Fever.

The *Shelter*, 47, Northampton Road, was reserved for the use of persons temporarily displaced for disinfection purposes. During 1900 the Shelter was used 19 times (once in occupation for 10 days). Its proximity to the mortuary, as in the past, militated against its more frequent use.

DISINFECTION.

After all cases of infectious diseases, in a certain number of notified cases of Phthisis, and after all deaths from Phthisis, premises have been thoroughly disinfected. Where necessary the walls have been stripped. No charge is made for disinfection unless the householder requires it to be done at a time when the officers are not on duty. In such cases a nominal fee would be charged.

The methods of disinfecting a room in vogue at the beginning of the year appeared to me to be open to criticism and accordingly I have made some alterations in order to secure more efficient disinfection. Sulphur has been shown to be almost useless as a gaseous disinfectant unless used in a particular way. The following

seem to be the only lines upon which anything like adequate disinfection can be secured by means of sulphur :—

1. The room to be disinfected must be *effectually* sealed up.
2. Not less than three pounds of sulphur should be used for every 1000 cubic ft.
3. Twenty-four hours should elapse between the time of lighting the sulphur and the unsealing of the room.
4. The air in the room should be damp during the process and this may be achieved by steam, or spraying the walls with water, or suspending wet blankets.
5. At the end of the twenty-four hours the doors and windows should be kept wide open for at least one day and if possible for two days.
6. Furniture and fixtures should, as far as possible, be wiped down with a damp cloth soaked in carbolic or some other disinfectant solution. *Dry dusting or sweeping is to be strongly deprecated.* Stripping of walls should always be done in cases of recurring infection or when the walls are dirty.

During the year I have also instituted the use of Formic Aldehyde and Formalin for room disinfection and this has proved of great service in cases where rapid disinfection was necessary. There is now abundant evidence to show that the value of Formic Aldehyde as a germicide when used in gaseous form, or as formalin in solution, is considerably greater and much more efficacious than sulphur as ordinarily used. Almost its only drawback is that it is somewhat more expensive than sulphur. Formic Aldehyde gas is produced by burning tabloids (30 to every 1,000 cubic ft.) in a small "alformant lamp." The solution (Formalin) may be used in exactly the same manner as carbolic solution.

Articles of clothing, bedding, etc., have been disinfected in the steam disinfecting apparatus (Goddard, Massey and Warner) which has given satisfaction. Disinfection by this means is absolutely efficient and occupies about one hour. Two vans are used for conveyance of the articles. One van for bringing the infected articles, and a second van for taking the disinfected articles back again. The following is the record of work done for Clerkenwell (not including that done for the Holborn Board of Works) during 1900 :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total
Beds	82	105	118	141	446
Mattresses	19	29	41	27	116
Pillows	176	191	222	239	828
Bolsters	53	68	76	89	286
Sheets	127	169	154	191	641
Blankets	164	194	129	215	702
Quilts	90	91	105	147	433
Cushions	18	13	38	42	411
Table cloths	1	—	—	6	7
Curtains	79	53	54	65	251
Carpets	14	1	4	5	24
Wearing apparel	264	442	322	555	1,583
Sundries	32	70	32	51	185
	1,119	1,426	1,295	1,773	5,613

It will be understood that the above Table deals with the articles which have been disinfected. The actual cases of infectious disease for which steam disinfection has been done during 1900 are as follows :—

	Scarlet Fever.	Enteric Fever.	Puerperal Fever.	Diphtheria.	Croup.	Disinfections at request of occupiers for non-infectious diseases.	Phthisis.	Erysipelas.	TOTALS.
January ..	4	4	..	15	..	2	..	..	25
February ..	4	2	..	16	..	..	..	..	22
March ..	11	2	..	10	..	2	..	..	25
April.. ..	8	1	..	4	..	..	..	..	13
May	17	1	..	11	..	..	..	..	29
June	21	1	..	9	..	..	4	..	35
July	13	..	..	15	..	..	12	..	40
August ..	12	1	..	3	..	..	9	..	25
September ..	10	9	..	8	..	..	9	1	37
October ..	13	11	..	11	..	..	4	..	39
November ..	14	12	1	4	..	..	8	..	39
December ..	8	7	..	6	..	..	13	..	34
TOTALS ..	135	51	1	112	..	4	59	1	363

There has been during the year a total of 24 "burnings," that is complete destruction of infected bedding, mattresses, wearing apparel, etc. The total number of rooms disinfected with sulphur was 1309, 1150 of these were for infectious diseases, 109 for Phthisis, and 50 for vermin, &c.

I understand that Dr. Klein of St. Bartholomew's Hospital is now engaged in a thorough investigation into the efficacy of different modes of disinfection at the instigation of the London County Council. His report will probably be issued at an early date, and Metropolitan Sanitary Authorities will then perhaps be able to adopt some more uniform method of room disinfection than obtains at the present time.

My own conviction is that the methods of room disinfection generally adopted are essentially unsatisfactory. In the first place, many so-called "disinfectants" are not germicides, but merely deodorants, or perhaps feebly antiseptic. But a disinfectant in the strict sense of the term must be a germicide, that is, it must be of sufficient strength to *kill* the disease-producing organism. In the second place, it is not gaseous or aerial disinfection that is required, but thorough disinfection of the *surfaces* of the room. Bacteria do not as a rule live in the air. They occur in the air only in being carried by currents of air from one surface to another. It is on the floors, walls, ledges, and ceilings of a room that germs are really present in largest number. It is these parts of the room, and the visible or invisible dust upon them, that requires disinfection. Hence, I am at the present time using *wet disinfection and cleansing of surfaces* as much as possible and hope before long to adopt some method of really adequate and efficient disinfection of rooms.

UN SOUND FOOD.

During the year considerable effort has been made to secure and maintain a high standard of purity in Food. In a district like Clerkenwell this matter is of particular importance and at the same time is surrounded by considerable difficulty. Street stalls and ice cream manufacture are two of the peculiar features of the parish which have to be added to the ordinary difficulties of the food problem in an industrial community. The street markets have been inspected daily (including Sundays).

The Bakehouses and Confectionery Factories have been inspected, and a number of defective conditions and circumstances remedied. Wherever possible these remedies have been secured without recourse to law, but in some cases it has been necessary to prosecute. The following table deals with articles of unsound food :—

Article.	If con- demned by Magistrate.	If proceed- ings taken.	Result.
7 lbs. unwholesome meat..	Yes	Yes	Fine £5 and 2s. costs
2½ lbs. do. ..	"	"	Fine £5 and 2s. costs
Two hocks of bacon ..	"	"	Fine £2 and 2s. costs
7 lbs. unwholesome meat..	"	"	Fine £10 and 2s. costs
4½ lbs. rabbits.	"	"	Fine £15 and 2s. costs
17 pomegranates and bananas	"	"	Fine £2 and 2s. costs
2 fore-quarters of diseased beef	"	"	Three months' hard labour

Under the Sale of the Food and Drugs Act the Inspectors collected during the year 296 samples, of which 24 were adulterated. There have been 20 prosecutions under this Act, and the aggregate amount of fines and costs was £27 15s.

The samples collected were as follows :—

Milk	121
Butter and Margarine	58
Lard	5
Pepper	16
Sugar	6
Whisky, Rum and Gin	33
Baking-Powder	2
Cocoa	4
Mustard	14
Condensed Milk	2
Cheese	8
Coffee	7
Soda Water	1
Olive Oil	2
Sweets	4
Gingerbread	1
Beer	12

I may add that from November 9 up to the end of the year the Extra-Corporation Meat Markets came under the supervision of this Department, and during these seven weeks the following were handed over to Inspector Billing:—

DISEASED.	UNSOUND.
6 Quarters of beef.	6 Barrels of tripe (150 stones).
1 Stirk.	1 Barrel of mixed offal.
3 Carcases of pork.	14 Turkeys.
322 Sheeps' livers.	6 Bullocks' livers,
8 Bullocks' livers.	30 „ lungs.
11 Pairs of sheeps' lungs.	30 Sheeps' livers.

In order to inform tradesmen and others as to the provisions of the new Act concerning the Sale of Food and Drugs, which came into operation on January 1, 1900, the Vestry published the following summary:—

(1) All packages of "Margarine" or "Margarine Cheese" must be marked as such in $\frac{3}{4}$ -inch letters on the top, bottom and sides of such package, not on a label attached thereto. When exposed for sale, it must be marked in $1\frac{1}{2}$ -inch block letters, and when sold must be delivered in a wrapper marked in $\frac{1}{2}$ -inch block letters "Margarine" or "Margarine Cheese," as the case may be, and no other printed matter must appear on the wrapper. All manufacturers and wholesale dealers in Margarine must register the premises in which their business is carried on with the local authority.

(2) No one shall make, sell or expose for sale any Margarine the fat of which contains more than 10 per cent. of butter fat.

(3) Every person who by himself or his servant, in any highway or place of public resort, sells milk or cream from any vehicle, can or other receptacle, must have his name and address conspicuously inscribed on the vehicle or receptacle.

(4) Every tin containing condensed separated or skimmed milk must bear a label clearly visible to the purchaser, on which the words "Machine skimmed Milk," or "Skimmed Milk," as the case may require, are printed in large and legible type.

(5) No label giving notice of admixture of any article shall be deemed to be distinctly and legibly written or printed if the notice of mixture is obscured by any other matter on the label.

(6) All samples when purchased must be divided into three parts. If the vendor wishes to have one of these parts, he must ask the purchaser for it.

(7) At the request or with the consent of the purchaser or consignee, samples of all articles may be taken in course of delivery.

8) Any person obstructing or impeding any officer in the course of his duties, or bribing or attempting to bribe, will be liable to penalties.

(9) If a warranty is relied upon as a defence, a notice to that effect must be forwarded to the Prosecutor within seven days of the service of the summons with a copy of the warranty. The person who gave the warranty may attend the Court, if he think fit, and give evidence. A person giving a false warranty is liable to penalties unless he proves that when he gave the warranty he had reason to believe the statements contained therein were true. An invoice is not a warranty except as regards "Margarine."

(10) If a defendant proposes to produce the certificate of a Public Analyst as evidence, he must send a copy of it to the prosecutor three clear days before the date of hearing.

(11) The expression "Food" includes any article used for food or drink by man, except drugs or water, and any article which ordinarily enters into or is used in the composition or preparation of food and flavouring matters and condiments.

NUISANCES.

Smoke.—Speaking generally it may be said that there has been a decided and steady improvement taking place in connection with nuisances from smoke in this district. The improvement has been going on for several years past, and is in all probability due to the increased activity of the Sanitary Authority and of the Inspectors of the London County Council. During the year four Smoke Nuisances have been dealt with but it was not necessary to issue any summonses.

Stable Manure.—There are now, I believe, no dung-pits remaining in the district, all the receptacles for manure being above the surface of the ground. Perhaps about 50 per cent. of these receptacles are iron cages. Notices for removal have been issued when necessary and during the Summer months this should be done as far as practicable every day. There can be no doubt that owners of manure have increasing difficulties, especially in harvest time, in complying with sanitary requirements. Considering the very serious nuisance created in the hot Summer months by collections of manure there certainly should be no relaxation of effort to secure regular and prompt removal.

House Refuse.—The bye-laws of the London County Council made under the Public Health (London) Act require the removal of the house refuse from all premises not less frequently than once a week. In Clerkenwell this cleansing has been under the supervision of the Surveyor, and has been regularly done. Its efficiency of course depends largely upon the willing co-operation of the house-holders and, on the whole, it may be said that this co-operation has been rendered. The dust-bins or dust-boxes throughout the district have been emptied weekly, and in courts or sets of buildings common to many families, bi-weekly. All the refuse has been carted to the wharf and when requisite it has been burned in the Destructor. It was at one time the custom to sprinkle carbolic powder in the dustbin after emptying but this has recently been discarded as non-efficacious. I am glad to report that fixed dust-bins or brick bins are becoming rare. Metal dust-bins, easily movable and having a metal cover, are now very largely used. They are not only much more cleanly but materially lighten the work of the dustmen. During 1900 orders were issued from this department for 149 new metal dust-bins and 102 dust-bins were repaired.

I view the matter of rapid and effectual removal of refuse and dust and the satisfactory cleansing of the streets, particularly in the months of July and August, as of the greatest importance. The relationship between bad scavenging and disease is an intimate one, and there can be no doubt that a well scavenged town, other things being equal, will be characterised by a lower infantile death rate and a lower zymotic death-rate than that which will occur in a dusty and badly scavenged town.

For particulars as to other nuisances in which action was taken, reference may be made to the following reports of the Sanitary Inspectors and the legal proceedings:

THE SANITARY INSPECTORS' REPORTS.

For convenience of Sanitary inspection the parish is divided into three districts. The Sanitary Inspectors during 1900 were the late Inspector Bartlett (up till March) for No. 1 District; Inspector Green for the same District from March to December; Inspector Ensor for No. 2 District; Inspector Longden (temporary) for No. 3 District from March to December. I append their reports which show a very large amount of excellent work:—

Inspector Green's (No. 1) District:

88 dirty rooms and houses cleansed.	15 choked drains unstopped.
2 damp rooms remedied.	3 drains ventilated.
6 cases of overcrowding abated.	7 rain water pipes disconnected from drains.
6 illegal occupation of kitchens abated.	9 defective rain water pipes repaired
3 cases of animals being improperly kept abated.	3 defective gutterings repaired.
3 defective doors repaired.	14 leaky roofs remedied.
11 defective floorings repaired.	2 dilapidated ceilings repaired.
22 defective water closets remedied	4 water supplies to houses and fittings repaired.
47 defective water apparatus to closets repaired.	2 area pavings repaired.
6 defective pans to water closets remedied.	9 areas limewhited and cleansed.
30 foul closets cleansed or new pans fixed.	1 area drained.
31 choked water closets unstopped.	3 washhouse pavings repaired.
9 water closets limewhited.	24 washhouses limewhited and cleansed.
3 cases where external ventilation to water closets was improved	13 spaces under flooring ventilated or improved.
14 additional water closets provided or number reduced.	4 basements limewhited and cleansed.
12 defective soil pipes remedied or reconstructed.	4 workshops limewhited and cleansed.
14 soil pipes ventilated.	12 accumulations of refuse removed.
32 pavings of yards repaired.	13 miscellaneous nuisances abated.
21 yards limewhited.	1 smoke nuisance dealt with.
10 sink wastes disconnected from drains.	175 house-to-house inspections.
17 foul water cisterns cleansed.	270 first visits of inspection were made, including infectious cases.
11 covers to cisterns provided or repaired.	1170 re-visits to houses.
102 defective dust bins repaired or new ones provided.	286 intimation notices served.
6 improper traps to drains removed	90 statutory notices served.
43 defective drains repaired or reconstructed.	47 cases of scarlet fever investigated and reported upon.
	26 " diphtheria. "
	18 " typhoid fever. "
	30 " erysipelas. "

Inspector Ensor's Report, No. 2 District :

- | | |
|---|---|
| 149 dirty rooms and houses cleansed. | 25 defective gutters repaired. |
| 4 damp rooms remedied. | 24 defective stack pipes repaired. |
| 12 cases overcrowding abated. | 70 roofs repaired. |
| 5 underground rooms emptied. | 17 ceilings repaired. |
| 1 nuisance from animals abated. | 22 water supplies reinstated and repaired. |
| 9 broken doors repaired. | 4 areas pavings repaired. |
| 21 defective floors repaired. | 14 areas limewhited. |
| 7 sash cords repaired. | 23 washhouses paved. |
| 73 defective water closets repaired. | 62 washhouses limewhited. |
| 57 water closets refitted. | 1 washhouse drained. |
| 72 defective water supply apparatus repaired. | 13 basements cleansed. |
| 19 foul closets cleansed. | 15 workshops limewhited. |
| 23 water closets unstopped. | 41 accumulations of rubbish removed. |
| 77 water closets walls cleansed. | 3 smoke nuisances dealt with. |
| 3 ventilations to water closets improved. | 3 foul urinals cleansed. |
| 19 extra water closets provided | 7 dirty bakehouses cleansed. |
| 8 soil pipes refitted. | 52 miscellaneous items. |
| 4 soil pipes ventilated. | 58 cases of scarlet fever investigated and reported upon. |
| 50 paving of yards repaired. | 54 " diphtheria " |
| 82 yards limewhited. | 30 " enteric fever " |
| 2 yards drained. | 28 " erysipelas " |
| 13 sinks disconnected from drains | 1 case of puerperal fever " |
| 37 foul cisterns cleansed. | 355 houses visited upon complaint and infectious cases. |
| 35 cistern covers repaired. | 285 house-to-house inspections. |
| 62 new dust bins provided. | 2305 re-visits. |
| 29 defective dust bins repaired. | 549 intimation notices served. |
| 24 inlets of drains improperly trapped. | 84 statutory notices served. |
| 69 defective drains remedied. | |
| 23 choked drains remedied. | |
| 14 stack pipes disconnected from drain. | |

Inspector Longden's Report, No. 3 District :

142 dirty rooms and houses cleansed.	44 defective drains remedied or re-constructed.
2 damp rooms remedied	21 choked drains unstopped.
7 cases of overcrowding abated.	8 rain water pipes disconnected from the drain.
6 underground rooms illegally occupied abated.	25 defective rain water pipes remedied.
1 animal kept so as to be a nuisance abated.	7 defective gutterings repaired.
4 defective doors remedied.	61 defective roofs repaired.
27 defective flooring of houses remedied.	5 defective ceilings repaired.
23 sash cords remedied.	5 water supplies to houses provided.
41 defective water closets refitted.	13 water pipes and fittings repaired.
129 defective water apparatus to water closets remedied.	30 undrained and improperly paved areas remedied.
7 defective pans to water closets remedied.	10 dirty areas limewhited.
93 foul water closets cleansed.	9 defective paving of washhouses remedied.
72 water closets unstopped.	21 walls and ceilings of washhouses cleansed.
4 dirty walls of water closet cleansed.	7 spaces under floors ventilated.
1 external ventilation to water closet provided.	12 basements limewhited.
23 additional water closets provided or numbers reduced.	22 workshops cleansed.
7 defective soil pipes remedied.	37 accumulation of refuse removed.
1 soil pipe improperly ventilated remedied.	59 miscellaneous.
25 defective paving of yards remedied.	34 cases of scarlet fever investigated and reported upon.
46 dirty yards limewhited.	26 " diphtheria "
38 defective sink wastes remedied.	12 " enteric fever "
24 foul cisterns cleansed.	19 " erysipelas "
14 defective covers to cisterns remedied.	1 case of membranous croup "
25 new dust bins provided.	1 " puerperal fever. "
43 defective dust bins repaired.	230 houses visited upon complaint and infectious disease.
9 inlets to drains improperly trapped remedied.	297 house-to-house inspections.
	2960 re-visits.
	590 intimation notices served.
	149 statutory notices served.

LEGAL PROCEEDINGS UNDER PUBLIC HEALTH (LONDON) ACT, 1891.

Nuisance Cases.

INSPECTOR GREEN.

Date.	Name.	Address of Premises.	Offence.	Result.
1900 Jan. 30th	Messrs. Batt and Hart	21, St. James's Walk	Constructing water closet without first giving notice to Sanitary Authority contrary to Bye-law.	Fined 1s. and 2s. costs.
do.	do.	do.	Constructing water closet contrary to London County Council Bye-laws.	Fined 1s. and 2s. costs.
May 15th	Luther Clements	8, St. James's Street	Nuisance from defective paving of yard.	Fined 5s. and 2s. costs.
do.	Charles Pazzoli	2, St. James's Street	Illegally occupying a kitchen.	Fined 5s. and 2s. costs.
May 8th	Luther Clements	do.	For allowing underground kitchen to be illegally occupied.	Fined £5 and 2s. costs.
June 19th	Frederick Eiloart	8, Godson Street	Contravention of Vestry's Bye-laws for "Houses Let in Lodgings."	Fined £2 and 2s. costs.
do.	do.	9, Godson Street	do.	Fined £2 and 2s. costs.
do.	do.	10, Godson Street	do.	Fined £2 and 2s. costs.
do.	do.	11, Godson Street	do.	Fined £2 and 2s. costs.
do.	do.	12, Godson Street	do.	Fined £2 and 2s. costs.
do.	do.	13, Godson Street	do.	Fined £2 and 2s. costs.
July 3rd	Mr. Harris	17, Risinghill Street	do.	Fined £1 and 2s. costs.
Amount of Inspector Green's fines and costs, forward				£19 16 0

Nuisance Cases—Continued.**INSPECTOR GREEN.**

Date.	Name.	Address of Premises.	Offence.	Result.
1900		Amount of Inspector	Green's fines and costs, forward	£19 16 0
July 3rd	Mr. Harris	15, Risinghill Street	Contravention of Vestry's Bye-laws for "Houses Let in Lodgings."	Fined £1 and 2s. costs.
do.	do.	13, Risinghill Street	do.	Fined £1 and 2s. costs.
do.	do.	11, Risinghill Street	do.	Fined £1 and 2s. costs.
July 17th	Luigi Rossi	45, Warner Street	do.	Summons withdrawn. Wrong defendant. 3s. costs paid.
do.	Luther Clements	17, St. James's Walk	do.	Fined 1s. and 2s. costs.
July 31st	Luigi Terroni	32-4, Warner Street	do.	Fined £1 and 2s. costs.
do.	T. Bedford Pitcher	34, Penton Place	Constructing soil pipe contrary to Bye-law.	Fined £1 and 2s. costs.
do.	do.	do.	Constructing water closet contrary to Bye-law.	Fined 1s. and 2s. costs.
Aug. 21st	Wm. Bray	7, Liverpool Road	Insanitary bakehouse.	Fined £5 and 2s. costs.
Aug. 22nd	Mr. Percival	63, Farringdon Road	Constructing water closet contrary to Bye-law.	Fined £1 and 2s. costs.

Aug. 22nd	Mr. Percival	15, Risinghill Street	Constructing water closet without giving notice.	Fined 10s. and 2s. costs.
Sept. 6th	A. Coker	9, Collier Street	Contravention of Vestry's Bye-laws for "Houses Let in Lodgings."	Summons withdrawn. Wrong defendant.
do.	do.	11, Collier Street	do.	do.
do.	S. Coker	9, Collier Street	do.	Fined 1s. and 2s. costs.
do.	do.	11, Collier Street	do.	Fined 1s. and 2s. costs.
Oct. 26th	Mr. Woodbridge	14, Collier Street	Illegally occupying an overcrowded room.	Fined 10s. and 2s. costs.
Oct. 30th	Mr. Agar	27, Aylesbury Street	Nuisance from defective drain.	Fined 1s. and 2s. costs.
do.	Mr. Edwards	3, Stratton Place	Nuisance from accumulation of refuse.	Summons withdrawn. 3s. costs paid.
do.	do.	54, Red Lion Street	For failing to provide a metal dustbin.	Summons withdrawn. 2s. costs paid.

Diseased and Unsound Food.

Sept. 18th	C. L. Aldred	82, Chapel Street	Exposing for sale at 82, Chapel Street, 15 pieces of unwholesome meat weighing about 7 lbs.	Fined £5 and 2s. costs.
do	H. J. Johnson	10, Chapel Street	Exposing for sale at 10, Chapel Street, 16 pieces of unwholesome meat weighing about 2½ lbs.	Fined £5 and 2s. costs.
Oct. 2nd	Palmer's Stores, Ltd	11 to 15, King Street, W.	Depositing for sale at 39, Chapel Street, 2 pieces of bacon and 1 piece of ham unwholesome and unfit for food.	Fined £2 and 2s. costs.
Oct. 23rd	E. W. Wainwright	31, Aylesbury Street	Exposing for sale at 31, Aylesbury Street, 48 pieces of unwholesome meat weighing about 7 lbs.	Fined £10 and 2s. costs.
		Amount of Inspector	Green's fines and costs, forward	£56 5 0

Diseased and Unsound Food—Continued.

INSPECTOR GREEN.

Date.	Name.	Address of Premises.	Offence.	Result.
1900		Amount of Inspector	Green's fines and costs, forward	£56 5 0
Oct. 23rd	A. E. Jackson	28, Chapel Street	Exposing for sale on a stall outside 28, Chapel Street, 21 pieces of unwholesome rabbit weighing about 4½ lbs.	Fined £15 and 2s. costs.
Nov. 20th	Richard Swift	3, 5 & 5A, Liverpool Road	Exposing for sale at 5A, Liverpool Road, 14 pomegranates and 3 bananas in an unsound and unwholesome condition.	Fined £2 and 2s. costs.

Sale of Food and Drugs Acts.

Jan. 9th	The Sudbury Dairy Co., Ltd.	172, Wardour Street, W.	Selling milk from which had been abstracted 8 per cent. of its natural cream or fat.	Ordered to pay £1 16s. costs.
do.	Mr. Wm. Davies	104, Goswell Road	Selling milk adulterated with 11·1 per cent. of added water.	Fined £2 and 12s. 6d. costs.
do.	Mrs. E. Adcock	1, Malta Street	Selling milk adulterated with 11·7 per cent. of added water.	Fined 10s. 6d. and 2s. costs.
April 10th	A. A. Riddle	32, Allen Street	Selling whisky adulterated with water reducing same to 31·66 degrees under proof.	Fined £1 and 12s. 6d. costs.
May 1st	Callow Park Dairy Co.	79, Copenhagen Street	Selling milk from which 10 per cent. of the fat had been abstracted.	Fined £2 and 12s. 6d. costs.
do.	Henry Dawe	5, Weston Street	Selling milk adulterated with 9·1 per cent. of added water.	Fined £1 and 12s. 6d. costs.
do.	Mrs. H. Stow	1A, Weston Street	Selling margarine in a wrapper not so labelled.	Ordered to pay 12s. 6d. costs.
July 17th	Wm. Evans	131, Graham Street, E.C.	Selling milk adulterated with 44·0 per cent. of added water.	Fined £2 and 12s. 6d. costs.
July 17th	E. Owen	43, Red Lion Street	Selling milk adulterated with 17·6 per cent. of added water.	Summons withdrawn. Reserve bottle having burst.
do.	Mrs. Jane Heaps	6, Berkley Street	Selling milk adulterated with 7·0 per cent. of added water.	Fined 10s. 6d. and 2s. costs.
do.	Rees Jones	1, George Street, N.	Selling milk adulterated with 14·8 per cent. of added water.	Fined £1 and 12s. 6d. costs.
Aug. 21st	G. S. Daunton	1, Guildford Street, W.C.	Selling milk from which 16·6 per cent. of the fat had been abstracted.	Withdrawn. Warranty produced.
Oct. 23rd	James Weir	9, Aylesbury Street	Selling sugar; white crystals coloured with an organic dye.	Ordered to pay 12s. 6d. costs.
do.	William Jenkins	6, Aylesbury Street	Selling margarine in a wrapper not so labelled.	Fined £1 and 2s. costs.
do.	do.	do.	Exposing margarine for sale not so labelled.	Fined £1 and 2s. costs.
		Total amount of Inspector	Green's fines and costs	£92 14s. 0d.

LEGAL PROCEEDINGS UNDER PUBLIC HEALTH (LONDON) ACT, 1891.

Nuisance Cases.

INSPECTOR ENSOR.

Date.	Name.	Address of Premises.	Offence.	Result.
May 22nd	Frank Job Chambers	49, Rosebery Avenue	No water closet accommodation.	Fined £2 and 2s. costs.
May 29th	James Soames	156, Farringdon Road	Refitting water closet without giving notice.	Fined 1s. and 2s. costs.
do.	do.	do.	Refitting water closet contrary to London County Council Bye-laws.	Fined £1 and 2s. costs.
July 7th	Edward Smith	25, St. Helena Place	Defective drain.	Fined 1s. and 2s. costs.
do.	do.	26, St. Helena Place	do.	Fined 1s. and 2s. costs.
Oct. 2nd	A. J. Hutton	35, Spencer Street	Defective soil pipe and water closet.	Fined £5 and 2s. costs.
Oct. 9th	Pisa Barnett	14, Vineyard Walk	Nuisance from defective water closets.	Fined £5 and £1 costs.
do.	do.	do.	Nuisance from defective paving of yard.	Fined £5 and £1 costs.
do.	do.	15, Vineyard Walk	Nuisance from defective water closets.	Fined £5 and £1 costs.
do.	do.	do.	Nuisance from defective paving of yard.	Fined £5 and £1 costs.
Oct. 23rd	A. J. Hutton	35, Spencer Street	do.	Fined £2 and 10s. costs.
		Amount of Inspector	Ensor's fines and costs, forward	£35 5s. 0d.

LEGAL PROCEEDINGS (SALE OF FOOD AND DRUGS ACTS).
INSPECTOR ENSOR.

Date.	Name.	Address of Premises.	Offence.	Result.
1900		Amount of Inspector	Ensor's fines and costs, forward	£35 5s. 0d.
April 17th	Alfred Williams	74, Farringdon Road	Selling milk from which 50 per cent. of the fat had been abstracted.	Fined £2 and 12s. 6d. costs.
do.	do.	do.	Selling butter adulterated with 75·0 per cent. of foreign fat.	Ordered to pay 12s. 6d. costs.
do.	James Humphries	46, Northampton Road	Selling milk adulterated with 6·3 per cent. of added water.	Fined £2 and 12s. 6d. costs.
April 24th	John Evans	32, Rosoman Street	Selling margarine in a wrapper not so labelled.	Ordered to pay 12s. 6d. costs.
do.	David Hobbs	1, Gloucester Street	Selling pepper adulterated with 20 per cent. of foreign starch.	Summons withdrawn Warranty produced.
		Total amount of Inspector	Ensor's fines and costs	£41 15s. 0d.

LOCAL GOVERNMENT TABLES.

TABLE I.
Name of District—*Clerkenwell*.
FOR WHOLE DISTRICT.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-Residents registered in District.	Deaths of Residents registered beyond District.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1890	65,885	2,204	33·4	367	166·5	1,184	17·9	442	—	442	1,626	24·3
1891	66,216	2,222	33·5	351	157·9	1,171	17·0	475	—	475	1,646	24·0
1892	66,216	2,175	32·8	347	159·5	1,125	18·0	484	—	484	1,609	23·0
1893	66,216	2,106	31·8	396	188·0	1,183	17·0	551	—	551	1,634	26·0
1894	66,216	2,180	32·9	309	141·7	807	12·0	420	—	420	1,227	18·0
1895	66,202	2,083	31·4	376	180·5	1,038	14·0	450	—	450	1,488	22·0
1896	66,202	2,223	33·5	357	160·5	923	13·9	440	—	440	1,363	20·5
1897	66,202	2,092	31·6	342	163·4	966	14·6	485	—	485	1,451	21·9
1898	66,202	2,072	31·2	357	172·2	933	14·0	493	—	493	1,426	21·5
1899	66,202	2,050	30·9	395	192·6	925	13·9	553	—	553	1,478	22·3
Averages for years 1890-1899	66,175	2,140	32·3	359	167·7	945	14·2	479	—	479	1,494	22·1
1900	66,202	1,973	29·8	296	150·0	907	13·7	496	—	496	1,403	21·1

* Rates calculated per 1,000 of estimated population.

NOTE.—The deaths included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths 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 illness, and dying there; and by the term "Residents" is meant persons who have been taken out of the district on account of illness, and have died elsewhere.

Area of District in acres (exclusive of area covered by water)	380	Total population at all ages, 66,216	At Census of 1891.
		Number of inhabited houses, 7,363	
		Average number of persons per house, 8·9	

TABLE II.
Name of District—Clerkenwell.

NAMES OF LOCALITIES.		1.—CLERKENWELL.				2.—ST. JAMES.				3.—AMWELL.				4.—GOSWELL.			
YEAR.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	
	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>a.</i>	<i>b</i>	<i>c.</i>	<i>d.</i>	
1896	66,202	2,223	1,363	357	15,777	505	335	93	34,356	1,130	707	280	16,069	582	321	84	
1897	66,202	2,092	1,451	382	15,777	472	374	82	34,356	1,080	768	224	16,069	540	309	76	
1898	66,202	2,072	1,426	397	15,777	487	368	91	34,356	1,037	741	209	16,069	548	317	97	
1899	66,202	2,050	1,478	395	15,777	468	416	118	34,356	1,062	699	173	16,069	520	363	104	
Averages of Years 1896 to 1899.	66,202	2,109	1,429	362	15,777	483	373	96	34,356	1,077	729	221	16,069	547	327	90	
1900	66,202	1,973	1,403	328	15,777	440	368	83	34,356	1,032	739	176	16,069	501	296	69	

NOTES.—(a) Deaths of residents occurring beyond the district are included in sub-columns *c* of this table, and those of non-residents registered in the district excluded.
(b) Deaths of residents occurring in public institutions are allotted to the respective localities, according to addresses of the deceased.

TABLE III.
Clerkenwell District.
 CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1900.

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.						Amwell.	St. James.	Goswell.	Amwell.	St. James.	Goswell.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.	1.	2.	3.	1.	2.	3.
Small Pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	116	4	48	41	17	6	..	66	22	28	60	21	25
Membranous croup ..	3	..	3	..	..	..	..	2	1	..	2	..	..
Erysipelas	74	4	6	5	6	50	3	39	19	16	5	2	..
Scarlet Fever	135	2	53	68	9	3	..	70	33	32	63	31	31
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	58	..	3	16	18	21	..	34	11	13	30	9	11
Relapsing Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever	1	..	..	..	..	1	..	..	1	..	..	1	..
Puerperal Fever	1	..	..	..	..	1	..	..	..	1	..	..	1
Plague .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	388	10	113	130	50	82	3	211	87	90	160	64	68

TABLE IV.
Clerkenwell District.
CAUSES OF, AND AGES AT, DEATH DURING YEAR 1900.

CAUSES OF DEATH.	Deaths in whole District at subjoined Ages.							Deaths in Localities (at all Ages.)			Deaths in Public Institutions.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	St. James.	Amwell.	Goswell.	
Small Pox .. ..	..	..	..	..	..	..	..	..	..	..	..
Measles	38	9	24	5	..	..	..	9	19	9	4
Scarlet Fever ..	10	..	8	2	..	..	..	1	7	2	10
Whooping Cough ..	53	17	36	..	..	..	..	21	22	10	3
Diphtheria and Mem- branous Croup ..	17	3	11	3	..	..	..	5	8	4	12
Croup	2	1	1	..	..	..	..	1	1	..	..
Fever { Typhus .. ..	..	..	..	..	..	..	..	..	..	..	..
Enteric	6	..	..	..	3	3	..	1	3	2	4
Other continued ..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza ..	18	1	..	1	..	13	3	6	7	5	3
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..
Plague .. ..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa. (<i>See notes</i>) ..	81	66	12	..	..	2	1	21	40	14	11
Enteritis. (<i>See notes</i>) ..	5	1	1	..	..	2	1	2	3	5	7
Puerperal Fever .. ..	..	..	..	..	..	..	..	..	1	..	1
Erysipelas	4	1	..	..	..	2	1	2	3	2	4
Other Septic Diseases ..	27	5	1	5	1	12	3	1	11	1	3
Phthisis	172	1	4	6	18	139	4	43	95	41	94
Other Tubercular Diseases	58	13	35	7	1	1	1	13	27	7	13
Cancer, Malignant Disease	36	..	..	..	..	28	8	3	20	12	17
Bronchitis	186	33	19	..	1	82	51	46	97	44	70
Pneumonia	169	25	39	6	5	75	19	47	87	33	45
Pleurisy .. ..	..	..	..	..	..	..	..	1	..	..	1
Other Diseases of Res- piratory Organs ..	4	..	..	..	..	3	1	2	5	2	7
Alcoholism) Cirrhosis of Liver) ..	38	..	..	..	..	32	6	9	20	3	8
Venereal Diseases ..	3	2	..	..	..	1	..	1	1	1	..
Premature Birth ..	41	41	..	..	..	..	..	6	23	12	1
Diseases and Accidents of parturition ..	5	4	..	..	..	1	..	..	4	..	..
Heart Diseases ..	125	2	..	4	6	72	41	27	71	29	54
Accidents	56	22	7	4	4	15	4	15	32	9	28
Suicides	7	..	..	..	..	6	1	1	4	2	2
Renal Diseases ..	23	..	..	2	2	14	5	4	8	4	3
Nervous and Cerebral Diseases	44	1	..	..	1	30	12	13	15	13	16
Debility	83	75	6	..	..	1	1	21	42	14	2
Senility	54	..	..	..	..	..	54	18	22	11	26
All other causes ..	38	5	..	4	2	19	8	27	33	34	47
All causes ..	1,403	328	204	49	44	553	225	347	731	325	496

- NOTES.—(a) The deaths of residents occurring beyond the limits of the district are included in this table, and deaths of non-residents occurring in the district are excluded. See note on Table I. as to meaning of "Residents" and "Non-residents."
- (b) Deaths of residents occurring in public institutions are allotted to the respective localities according to the addresses of the deceased as given by the Registrars, and, in addition, classified under "Public Institutions."
- (c) Under the heading of "Diarrhœa" are included deaths certified as from diarrhœa, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from
- Epidemic enteritis;
 - Zymotic enteritis;
 - Epidemic diarrhœa. Summer diarrhœa;
 - Dysentery and dysenteric diarrhœa;
 - Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic cholera).
- Under the heading of "Enteritis" are included those certified as from Gastro-enteritis, Muco-enteritis and Gastric catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health had reason for including such deaths, especially those of infants, under the specific term "Diarrhœa."
- Deaths from diarrhœa secondary to some other well-defined disease are included under the latter.

