### [Report of the Medical Officer of Health for Whitechapel].

#### **Contributors**

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THE

# ANNUAL REPORT

ON THE

## SANITARY CONDITION,

&c., &c., of the

# WHITECHAPEL DISTRICT,

(WITH VITAL STATISTICS,)

FOR THE YEAR 1887,

BY

JOSEPH LOANE,

MEDICAL OFFICER OF HEALTH,

Surgeon to the London Sailors' Home, &c.

LONDON:

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1888.

POLITICIAN CONDITION

Office of the Board of Works for the Whitechapel District,

No. 15, GREAT ALIE STREET,

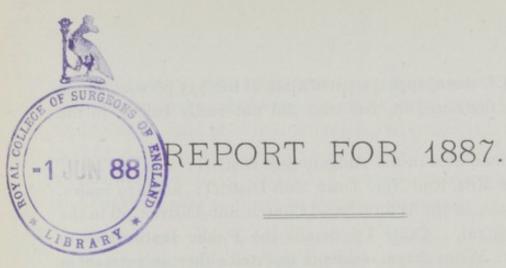
LONDON, E.,

February 21st, 1888.

GENTLEMEN,

The Registrar-General informs us that in the year 1886, remarkable low Rates prevailed. The marriage-rate was the lowest on record, being in London 16.6 persons married to 1000 inhabitants. The birth-rate in London was in the proportion of 32.3 births to 1000 inhabitants; a rate (with the exception of 1850 when it was 32.0 per 1000) which was unequalled. The death-rate was 19.9 per 1000. The rate in 1885 was 19.8 per 1000, and these constitute the lowest recorded death-rates since the present system of civil registration began. In the volume from which I quote, the same allowances are made for residents and non-residents which I have introduced into my Annual Reports, and the accuracy of the Official figures, so far as our District is concerned, is worth noting. Thus, the total number of the Residents' deaths, WHEREVER occurring, is given as 1629, which is only 5 more than the correct number, and other statistical calculations are equally accurate. In fact, were the summary published six months earlier, many of my own details would be altogether anticipated by it.

and the group of the same to the all the state of the same to the to be construent and of some a sequel that come or admit on The state of the s traction of the same and the same later and the



my proposition, I am of opinion that the great influx of foreigners into our District has ceased. The increase of population therefore, must be explained on other grounds, and I think it is due, firstly, to the natural increase of births over deaths, and secondly, to the peopling of new Dwellings which have been opened since my last report.

I estimate the population of the Whitechapel District to have been, during the year 1887, 73,485, and disposed as follows:—

In the	Spitalfields Sub-District		 20,057
,,	Mile End New Town ditto		 23,344
,,	Whitechapel Church ditto		 17,114
,,	Goodman's Fields ditto		 7,370
,,	Aldgate ditto		 5,600
		Total	 73,485

The total Births which were registered in the Whitechapel District during the 52 weeks of the year 1887, were 2572, an increase of 41 as compared with the preceding year. The Deaths during the same period were 2246, being 17 fewer than in 1886. Tables A and B\* of the appendix illustrate these statements, and indicate that 1248 boys were born to 1324 girls; whilst 1199 males and 1047 females died.

But in these latter are included many persons who, belonging to other Districts, took advantage of our Public Institutions, and thus became registered in one of our Sub-Districts. On the other hand, many of our own Residents died in Public Institutions in other Districts. I have therefore, again arranged in tabulated form those deaths which influence the District mortality statistics. In Table C\* there appears particulars of the 755 persons whose deaths were registered in, but who did not really belong to the District.

Thus 2 men died in the Aldgate Sub-District; 4 males and 1 female in the Mile End New Town Sub-District; and 439 males, and 309 females in the Whitechapel Church Sub-District, all in the London Hospital. Table D† details the Public Institutions to which the III Whitechapel residents resorted either as permanent homes or temporary refuges. These factors enable me readily to construct Table E‡ in which is demonstrated the exact state of the District loss by death, for each quarter of the year under consideration.

Instead of an increase of 168 deaths, (vide Report for 1886,) I have now to report a decrease of 22 deaths, as compared with last year, but each Sub-District does not occupy in this respect an equally happy position, for whilst the deaths are fewer this year in Mile End New Town, the Whitechapel Church, and the Goodman's Fields Sub-Districts; in the Spitalfields, and in the Aldgate Sub-Districts, they have become increased. I am forced to confess that I can offer no explanation for these relative differences, as they do not in any way correspond to the estimated variation of population in the Sub-Districts.

The natural increase of births over deaths is 970. In 1886, it was 901; in 1885, it was 917; and in 1884, it was 929.

Assuming my premises to be accurate, then the Whitechapel death-rate for the year 1887 was 21.8 per 1000, which is the lowest rate ever recorded in the District.

Tables F§ and G§ set out the correct District deaths according to age distribution, thus:—

27.5	0/0	of the total	deaths oc	curred unde	er the age of	ı year
17.4	,,	,,	,,	between	the ages of	1 and 5
4.3	,,	,,,	,,	,,	,, 5	and 20
13.4	,,	,,	,,	,,	,, 20	and 40
19.7	,,	,,	,,	,,	,, 40	and 60
15.1	,,	,,	",	,,	,, 60	and 80
2.3	,.	,,	,,	(	over the age	of 80

<sup>\*</sup> Page 19. † Page 19.

Thirty-seven persons lived to over the age of 80 years, and 3 of these survived to above 90, one of whom died in the Spitalfields Sub-District, aged 96. It is interesting to record that of these old people, 23 were women and 14 were men. Twenty-seven of the deaths were registered as Old Age, 2 were attributed to Accidents, and the remainder to Chest or Nervous diseases.

During the year, 9 deaths (males 4, females 5,) were registered as "uncertified," of which all but one were of infants. The latter were certified by Midwives in all cases as Uncertified "Premature birth" or "Convulsions." Their Deaths. ages varied from a few hours to 5 days. The Adult case was a woman, aged 45, whose death was probably caused by disease of the heart.

It will appear from a statement elsewhere, that 886 persons died during the year in the London Hospital. Only 138 of these were residents in the District. Over 55 per cent.

District Public of our residents who died away from their homes, Institutions. selected the London Hospital for treatment. In the Whitechapel Union Infirmary, 68 births, and 285 deaths were recorded, 5 of the latter belonged to other Districts. Thus 280 Residents died in the Infirmary this year, against 316 in 1886, and 292 in 1885.

During the same period the District Medical Officers received a total of 3983 new Orders for attendance upon patients either at the Dispensary in Thomas Street, or at the patients' homes. Of these, 2340 were immediately received either into the Infirmary in Baker's Row, or into special hospitals. The diseases for which these persons required treatment, will be found particularized upon Table H\* of the Appendix. From statements kindly furnished to me, by Mr. W. Vallance, Clerk to the Whitechapel Board of Guardians, it appears that the Infirmary, during the year, has contained numbers varying each week, from 648 to 461, or a weekly average of 546.2; whilst the weekly admissions have ranged between 97 and 44, equal to an average of 62.5 per week.

The total number of District Medical Orders issued, were 482 in excess of the preceding year, whilst the admissions were 302 in excess. The Infirmary deaths were 38 fewer than in 1886.

# ANALYSIS OF THE CAUSES OF DEATH OF THE 1602 RESIDENTS.

Table I\* is arranged to indicate the number of deaths in each class of disease, and for comparison purposes, I have also added the numbers applicable to the entire Metropolis, including the District. You will perceive, that whilst in the whole of London, 17.32 per cent. of the total deaths were attributed to Zymotic diseases, the Whitechapel District can only be credited with losing 14.19 per cent. of its total deaths from this class of disease. This difference is not very dissimilar to last year's record. The remarks I have made in previous reports as to variations in the other classes, I notice to be also applicable this year to them.

Table K† epitomizes the information contained in the weekly returns, which I receive from the Metropolitan Asylums' Board Office. Its consideration demonstrates that whilst last year we contributed nearly 3 per cent. of the total number of cases admitted into that Board's Hospitals, this year only 2 per cent. of the total number belonged to the Whitechapel District. The return shows that Small-Pox is still almost absent from our District, seeing that out of a total of 128 cases in the Metropolis which were received, only 5 were charged to us. This is not strictly accurate however, because in the South District there occurred, during October, 6 cases of this disease within an area limited by several houses backing upon each other. Fortunately, they occurred in the immediate vicinity of my Surgery, and I was able to at once trace the outbreak to a seaman who had visited a brother, whom he infected before he was admitted into the Hospital. By the immediate removal of fresh cases, and by vaccination and revaccination of relatives of the patients, the disease became stamped out. I know of no evidence, which to an unbiassed mind, could bring more convincing proof of the all-powerful ability of this simple operation to prevent the spread of this dire disease, than a study of this group of cases. I am pleased, whilst on this subject, to again bear testimony to the good work performed by Mr. Sherman, the Vaccination Officer to the Union, whose report I append in Table L1.

Scarlet Fever has tried to the utmost the resources of the Asylums' Board Managers during the year, and well have they

grappled with their difficult task. The total cases dealt with by them numbered 5932, against 1661 during the preceding year. Our removals were for this year 118, as contrasted with 50 for the year 1886. Upon the subject of Scarlet Fever, on October 27th, the Managers of the Metropolitan Asylums' Board requested to be furnished with certain information regarding the outbreak in our District, to which I replied, "The chief difficulty at the outset of the investigation is the present impossibility of knowing all the cases which occur within the District, and of course, without this important factor, the exact value of a knowledge of the number of cases which have been removed to hospitals is lessened.

That many cases of Scarlet Fever remain concealed from Sanitary Authorities, either through ignorance or design, I am aware, having frequently met with cases of Scarlatinal Sequelæ, which only by accident have been brought to notice. Hence the vast importance of obtaining, by Act of Parliament, compulsory notification of all infectious diseases. The statistics at my disposal show that during the year 1884 we were apprised of 119 cases of Scarlet Fever, which occurred throughout the Whitechapel District, of which number 66·3 per cent. were removed to hospitals. In 1885, 62·5 per cent. of 40 cases were removed; and in 1886 we knew of 79 cases, of which 63·2 per cent. were removed. Up to the end of the 42nd week of the current year we were aware of 115 cases, of which 82·6 per cent. were taken charge of by the Metropolitan Asylums' Board.

Although these particulars can afford no clue to the total number of cases which have occurred in the District, it is plain that those cases known to us this year are greatly in excess of those with which we dealt in former years. It is also patent that the increasing popularity of the Asylums' Board Hospitals have induced many more persons to seek treatment in them than was formerly the case.

I further notice that our deaths from Scarlet Fever have generally been uniform in numbers during the past few years, and that the deaths in hospitals, which in 1885 equalled 25.0 per cent. of the total deaths from that disease, in 1886 equalled 54.5 per cent., or nearly double. Up to the end of the 42nd week of this year 38.8 per cent. of our total District deaths from Scarlet Fever were registered in hospitals.

The evidence I have adduced would also lead to the inference that the present epidemic is of a milder type than has been the case in some former epidemics.

My observation has convinced me that every facility should be forthcoming to effect the early removal to hospital of all Scarlet Fever patients, and that no invidious distinction should be made at any time between so-called non-pauper and pauper patients, because it is to the interest of the community as a whole that every means should be used to remove very early all persons suffering from this disease. It is only right to add that so far as I am concerned no difficulty has been encountered in this direction during the present epidemic."

Some very useful and interesting statistics as to Scarlet Fever have been adduced from an examination of nearly 18,000 cases of the disease treated in the London Fever Hospital and in the Metropolitan Asylum Hospitals during the twelve years 1874-85. From the known mortality from Scarlet Fever at different ages, and the known case-mortality in hospital cases at the same groups of ages, the number of cases of attack have been calculated; and, finally, the proportion of the population that is protected at each successive age period in each sex, is given, with the relative proportions between the cases and the unprotected population.

The main results deduced from these calculations, after due allowance for the hypothetical character of some of the assumptions, are (1) the mortality from the disease is at its maximum in the third year of life, and afterwards diminishes with age—at first slowly, and afterwards rapidly; (2) the liability to attack of the unprotected is small in the first year of life, reaches its maximum about the fifth year, and then rapidly decreases with age; (3) the chance of fatal termination of an attack is highest in infancy, then declines with age, to the twenty-fifth year of age, and afterwards slightly increases again; (4) females are more liable throughout life to an attack than males, but the attacks in males are more liable to fatal termination than the attacks in females.

The Registrar-General, in concluding his remarks on these important details, says: "Independently of the plain fact that a very large proportion of persons go through life without contracting this disease, it is shown that the longer an attack is deferred the

less likely is it to occur at all; and not only so, but that even supposing it to occur eventually the less likely it is to end fatally."

The value of the foregoing conclusions is thus stated by the leading Medical journal: "Such conclusions should not only strengthen the hands of medical officers of health in their endeavours to combat infectious disease by isolation, but should secure the more intelligent co-operation of the public in the same direction. If there is still a lingering doubt in some quarters as to the separation from its family of a child attacked by Scarlet Fever being worth the trouble and expense it involves, on the ground that the other children are almost certain to contract this disease at some future time, and that therefore they may as well have it at once, the above-mentioned conclusions of the Registrar-General cannot be too widely disseminated."

Before leaving this branch of my Report, I have to mention that within a short period of time there were five cases of Typhus Fever removed to hospital. Three occurred in Ely Place, and two in Osborn Court. I could not discover any cause to which I could specially attribute this sporadic outbreak, but I rejoice to say that no notification has been received of fresh cases. It is worthy of mention that so rare has this disease become that the medical gentlemen who reported these cases failed to appreciate the symptoms correctly, and they were received into the hospital as cases of "Enteric Fever."

Failing from an examination of the circumstances surrounding the above cases to identify a cause, I am driven to take advantage of the views recently advanced by Dr. Aitken, in a remarkable book, on the Origin of some Diseases by or through the physiological processes going on during life. In this work it is well argued that certain alkaloid poisons known to be produced in the body after death—and called ptomaines and leucomaines, are capable of being formed in the animal organism during life, as a result of normally elaborated, but toxic products. Thus Sir William Aitken accounts for the production of certain diseases, such as Fatigue Fever and Typhus Fever of armies and of camps, and also of Typhoid Fever when of spontaneous origin.

## Memorandum concerning the use of Disinfectants.

The subject of Disinfection is a wide one, which requires very careful consideration, more particularly as advances in science have proved the fallacy of very many preconceived theories concerning the causation and propagation of diseases. Disinfection demands the destruction not only of disease germs, but also of the spores of those germs. It is therefore imperative to differentiate between Deodorants, which merely mask mal-odours, and Disinfectants, which are absolute germicides. Whilst the former may be useful to sensitive people, the latter are truly valuable in cutting short the vitality of those subtle active principles which often spread broadcast the seeds of disease, and too frequently carry death with them. The arrows of the sanitarian must therefore be aimed at all zymotic germs, and this can best be done by the selection of suitable disinfectants. I do not allude here, of course, to natural disinfectants, as air, water, &c., but will at once state the particular manufactured articles which I consider most appropriate to the special work required to be performed by them. Thus, for the disinfection of enclosed spaces, sulphurous acid and chlorine gases should be generated in them by means of suitable apparatus. For the disinfection of clothing, and such like articles which can be removed, super-heated steam is required. For bricks, plaster, wood, and paint, I know nothing to equal a I in 2000 solution of mercuric chloride, which has also cheapness to recommend it. Chloride of lime is also valuable for this purpose. Sanitas and carbolic acid, purchased in their crude states, are the best preparations when dissolved for use in the streets and courts, and also for flushing gullies. Urinals are, perhaps, best treated by solutions of sulphate of iron. For dust-bins, and other collections of offensive rubbish, carbolic powder offers the most ready means of application, but I hope we may soon be able to eliminate these from our category. (Vide note on "Pail System.")

Table M,\* which contains a complete list of the District deaths for the year 1887, may be compared with the following table, twhereupon is shown the Metropolitan deaths for the same year. They both indicate again a large mortality from diarrhœa. In our own District, out of a total of 80 deaths from the disease,

64 were registered during the 3rd quarter of the year, and they were chiefly of infants and very young children.

The whole of the cases of Small Pox, Scarlet Fever, Typhus Fever, Enteric Fever, Diphtheria, and Measles with which our department has become acquainted during the year are recorded upon Table O.\*

Disinfection has been carried out in every case under the personal direction of your Inspectors, and the means, with which you are familiar, have been adopted to counteract any tendency towards the dissemination of disease. 147 cases of Scarlet Fever are recorded against 79, 40, and 119 respectively in the three preceding years, whilst the deaths for corresponding years were respectively 27, 22, 16, and 45. These returns indicate an improvement probably due to one or more of the following conditions—more prompt isolation, improved sanitary precautions, and a less virulent type of the disease.

Table P† contains so much of the Inspectors' work as can be thus set out. It gives me great pleasure to again mention the names of Messrs. Battram and Wrack in terms of the highest praise.

The deaths of infants under the age of one year in London equalled 25.5 per cent. of the total deaths and Infant 15.7 per cent. of the registered births, whilst in Mortality. the Whitechapel District, those infants who died under the age of one year, equalled 27.5 per cent. of the total deaths, and 17.1 per cent. of the registered births.

The deaths of children under five years of age, including the above, were, for London, equal to 42.7 per cent, of the total deaths, and 26.4 per cent. of the registered births; and for the Whitechapel District they were equal to 45.0 per cent. of the total deaths, and 28.0 per cent. of the registered births.

During the year 34 deaths of residents (18 men and 16 Extra women) were returned from Leavesden, Ban-Metropolitan stead, and Colney Hatch Asylums; 19 of the Deaths. deaths were attributed to brain diseases, 9 to diseases of the chest, and the remainder to old age.

Fifty-eight deaths were by Coroners' Juries attributed to Violent violence, they took place in the Registration Sub-Deaths. Districts, as follows:—.

Sub-District.	Males.	]	Female	s.	Total.
Spitalfields	 10		23		33
Mile End New Town	 4		3		7
Whitechapel Church	 8		2		10
Goodman's Fields	 2		0		2
Aldgate	 3		3		6

The age distribution of the above is subjoined: -

Under the age of 1 year, 15; between the ages of 1 and 5, 4; 8 between 5 and 20; 16 between 20 and 40; 9 between 40 and 60; 5 between 60 and 80; and 1 over the age of 80.

## Cause of Death.

					Ma	ales	. Fe	mal	es.	Total.
Suffocation i	in bed (	infant	ts)			3		7		10
*Burns, Sca	lds, and	Suff	ocation	by Si	moke	8		15		23
Drowning										
Run Over						3		0		3
Falls and ac	cidenta	l inju	ries							
Poison (Alco	oholic)	Fen	nale; C	arboli	c Acid	1, 1	Fe	ma	le.	2

A total of 319 Inquests were held in the District during the year, of which number only 179 had reference to District residents.

I regret to report that we are not possessed of a Inquests. Mortuary—the only difficulty being the absence of a suitable site upon which to erect it. We are still indebted therefore to the Whitechapel Board of Guardians for their co-operation when occasion requires such aid.

The total deaths appertaining to this class of buildings in Model the District amount to 158, which is equal to an annual death rate per 1000 of nearly 18.

<sup>\*</sup>Included in these were the 17 deaths which took place at a dramatic performance at 3, Princes Street, Spitalfields, from fire and panic.

Since my last Report there have been occupied in Cartwright Street some dwellings, built for Messrs. Rothschild by Mr. J. Sparks. They are, without doubt, the best in the District. They are constructed after plans by Messrs. Wilson, Son and Aldwinch, and consist of 64 rooms arranged to accommodate families requiring either two, three, or four rooms each. The sanitary arrangements, and also the requisites for comfort, are excellently devised. The buildings comprise four stories, and all staircases and corridors are constructed of fire-proof materials. The staircase walls are lined with a dado of white glazed bricks, and all landings and passages are paved with red and buff Staffordshire tiles. The W.C.'s and slop shoots are placed in projecting wings at the rear with an intervening lobby between them and the main building. The soil pipes are all external, with fresh air inlets at the bottom and exhaust ventilation at the top, and the drainage is laid in straight lines between large ventilated man-holes. All wash-pipes also have air separation traps at foot, and are open at the top. Special and complete arrangements are made for the removal of the dust by means of external shafts with galvanized iron receivers.

In this immediate neighbourhood, approaching completion, are also some model dwellings on a much larger scale, which, if not so ornate as those I have just described, merit mention as evidence of care, from a sanitary point of view, in their design. They will consist of 367 rooms, divided into 220 tenements of three, two, and single rooms. Fireproof materials have been introduced into floors, roofs and stairs, and the walls of the landings and passages are covered with a glazed cement capable of being washed. A sink, with water supply laid on, is provided in each living room, covered in and trapped, with a lead waste discharging into the open rain-water head of the stack pipe outside the wall, which discharges into an open grating above a trap. Like the buildings of Messrs. Rothschild, wash-houses and necessary fittings are provided upon the roofs. The W.C.'s are sufficient and efficient. The drainage is connected to the sewer in approved manner, and a ventilating shaft is carried up above the parapet of each of the buildings. Each block is provided with Inspection and Receiving Chambers, having an air inlet and an iron air-tight cover, built with glazed brick bottom and sides, into which all drain pipes are

brought from their respective points, avoiding all junctions, and thus enabling any obstruction to be removed from the Inspection Chamber. All sink and rain-water pipes are properly trapped and ventilated. Each outlet of the Inspection Chamber is provided with a syphon trap having a cleansing eye, fitted with a Stanford joint cover. Dust removal and water supply are well catered for, and it is proposed by Messrs. Pink, Fryer and Co., the builders, to lay out the centre of the quadrangle, formed by the dwellings, as a shrubbery, whilst some portion will be covered with tarpaving to serve as a playground for the children. Such buildings as those I have described must exert a healthful influence upon the people who will inhabit them.

Some important correspondence has taken place during the Bell Lane year between your Board and the Metropolitan Scheme. Board of Works upon this question, but I am not aware that any definite action has been decided upon.

This year is a memorable one in the history of the Board by reason of the introduction of the 'pail' system for the removal of the Dust of the District. When the arrangements are fully complete a daily collection of house refuse will take place, thus allowing no garbage to remain reeking in dust-bins, to the risk and annoyance of the inhabitants.

These dwellings are under the control of the Police. During the year 144 deaths took place of persons previously resident in

Registered Common Lodging Houses. these houses, equal to 8.9 per cent. of the total District residents' deaths, and 50.5 per cent. of the total Infirmary deaths. Last year I called your attention to the influence of 'The Mansion House Fund' in attracting to many of the common lodging-houses persons from all parts of

the country. Many of these persons eventually were admitted into our public institutions, and they swelled the mortality returns for the year. Thus, the Lodging-house deaths for 1886 were equal to 14 per cent. more of the total Infirmary deaths than was the case in the year we are now discussing. I append the particu of these houses, which are registered to accommodate 6,136 persons:—

The following Streets contain Registered Common Lodging Houses.

Name of	Street.				No. of Houses Registered.	Deaths in In firmary and elsewhere of Lodgers.
Baker's Row					1	
Bennett's Place					I	
Brick Lane					7	II
Brushfield Street			***	***	I	
Buckle Street					I	
Bull Court					4	
Dock Street			***	***	2	
Dorset Street					13	7
Flower and Dean Stree					30	47
Garden Court					I	I
George Street	***				10	2
George Court					3	
George Yard					5	2
Grace's Alley			***		4	I
Great Garden Street			***		2	5
Great Pearl Street					1	3
Gun Street		***	***	***	5	6
Hanbury Street					5	
Heneage Street					I	10
Lambeth Street				***	I	
Leman Street	***				5	3
Little Pearl Street					1	I
Old Montague Street					I	I
Osborn Place			***		6	10
Osborn Street					I	
Paternoster Row		4.4		***	3	1
Princes Street					I	3
Tewkesbury Buildings					I	
Thrawl Street					10	20
Upper East Smithfield					2	
Well Street					2	
Wellclose Square					3	
Wentworth Street					10	6
Wheeler Street					I	
Whitechapel Road					I	3
White's Row					3	I
			T	TAL	149	144

Meteorological
Returns.

The concluding Tables in the Appendix have been compiled to record the various details under this heading.
They are collected and formulated from the Weekly Returns furnished from the office of the Registrar-General.

I have the honour to be, Gentlemen,
Your obedient Servant,
JOSEPH LOANE.

To the Board of Works for the Whitechapel District.

## APPENDIX.

TABLE A .- Births Registered in the Whitechapel District during the year.

1000	Spital- fields.	Mile End New Town	White- chapel Church.	Goodmans Fields.	Aldgate.	To Males.	Females.
First Quarter Second ,, Third ,, Fourth ,,	171 189 161 181	200 233 191 193	162 148 142 147	71 68 66 53	45 54 47 50	306 324 315 303	343 368 292 321
TOTAL	702	817	599	258	196	25	572

TABLE B .- Deaths Registered in the Whitechapel District during the year.

	Spital-		White- chapel	Goodmans	Aldgate.	TOTAL.	
	fields.	New Town	Church.	Fields.		Males.	Females
First Quarter	119	129	289	34	30	294	307
Second ,,	61	118	272	21	29	289	212
Third ,,	81	148	291	27	20	326	241
Fourth "	IOI	134	275	32	35	290	287
TOTAL	362	529	1127	114	114	2:	246

TABLE C.—The 755 Deaths of Non-Residents were thus Registered in the Sub-Districts:—

	Spitalfields.	Mile End New Town (Whitechapel Infirmary.)	Whitechapel Church. (London Hospital.)	Goodman's Fields.	Aldgate.
Males		4	439		2
Females		i	309		
TOTAL		5	748		2

Table D.-Outlying Public Institutions where Residents of the Whitechapel District Died.

Banstead Asylum	Brought over 57 Hand-in-Hand Asylum, Hackney I Jews' Hospital 3 Jews' Home, Stepney Green 2
Children's Hospital, Gt. Ormond Street	Leavesden Asylum
Carried over57	Total111

TABLE E .- CORRECT DISTRICT MORTALITY TABLE.

(Residents' Deaths wherever registered being correctly referred to their proper Sub-Districts).

	Spital- fields.	Mile End New Town	White- chapel Church.	Goodmans Fields.	Aldgate.	TOTAL.
First Quarter. Second ,, Third ,, Fourth ,,	182 116 147 166	65 58 98 65	95 87 109	42 34 37 41	33 33 26 53	437 336 395 434
TOTAL	611	286	406	154	145	1602
The same of the same		January 1				820 Males. 782 Fem'l's

TABLE F.—Showing the Ages at Death of the District Residents.

	ıst Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTAL.
Under the age of 1 yr.	107	89	145	101	442
Between I and 5		57	71	76	279
5 20	19	13	16	21	69
,, 20 ,, 40	57	42	48	69	216
,, 40 ,, 60		80	59	82	316
,, 60 ,, 80		45	49	76	243
Over the age of 80		10	7	9	37
TOTAL	437	336	395	434	1602

TABLE G.—Deaths at over 80 years of age, distributed to the Sub-Districts where they belonged.

	Spitalfields.	Mile End New Town.	Whitechapel Church.	Goodman's Fields.	Aldgate.	TOTAL.
Males	5	2	4	3		14
Females	9	6	6	2	***	23
TOTAL	14	8	10	5	less, por	37

Total Births and Deaths in London, and other particulars for Comparison.

Number	of Births	in London	during the	year.	 	 	1	133,07
,,	Deaths	.,	,,		 	 		82,18
,,		under 1 ye	ar of age .		 	 21,01	5)	35,15
.,,	***	between th	e ages of 1	and 5	 	 14,14	2)	331+3

TABLE H.-DISTRICT MEDICAL OFFICERS' ANALYSIS OF CASES.

Diseases.	ıst Quar.	2nd Quar	3rd Quar.	4th Quar.	TOTAL.	Diseases.	ıst Quar.	2nd Quar.	3rd Quar	4th Quar.	TOTAL.
All Causes	1104	887	944	1048	3983	40 Apoplexy 41 Epilepsy 42 Convulsions	 4 I	4	2 5 2	2	2 15 3
ZYMOTIC DISEASES.						43 Other diseases of brain and nervous system.	50	60	57	1	233
I Small Pox Vaccinated Unvaccinat'd No statement				1 2	1 2	44 Diseases of organs of \	8	8	8	_	20
2 Measles 3 Scarlet Fever	58	15	12 26	2 24	87 55	special sense	0	-	0	5	29
4 Typhus			2		2 1	system	6	9	22	38	75
7 Whooping cough	4		6	8	29	46 Croup	259	151	1 77	166	656 656
8 Diphtheria	2				2	48 Pneumonia	4 I 99	5 2 79	3 2 54	18	30 8 334
o Enteric fever	2		4	2	6 2	51 Dentition	4	4	12	4	24
4 Hydrophobia			33	4	48	52 Quinzy, sore throat 53 Enteritis 54 Peritonitis	7	5	18		41
6 Cow pox and effects of						55 Diseases of liver		I	9	6	16
vaccination	19	11 4	18	25 8	73	tive system	48	56	59	41	204
19 Pyæmia and Septicæmia 20 Puerperal Fever						system and ductless glands	3	6	6	4	19
21 Other Zymotic diseases			3	I	5	58 Diseases of urinary syst'm	10	12	18	16	56
23 Worms and other para- sitic diseases		1	I		2	59 Diseases, generative system	35	19	30	43	127
24 Starvation, want of ) breast-milk						60 Accidents of childbirth	7	12	11	I	31
25 Alcoholism		2	4	3	9	61 Diseases of locomotive system	99	93	83	90	365
7 Rheumatism of heart; 27 Rheumatism	200	4 118 10	 145 9	138	7 549 29	62 Diseases of integumentary system	61	41	47	51	200
30 Cancer			 I	3 4	5	VIOLENCE Accident.					
32 Tubercular Meningitis			5	1	7	63 Fracture and contusion 64 Gun shot wounds		28	28	31	123
34 Scrofula, Tuberculosis 35 Other constitutnl diseases	7 2 3	17 3 1	20 I II	26 	70 6 16	65 Cut, stab	2	 I	2 4 I	5	1 12 1
36 Premature birth						68 Drowning					
38 Congenital malformations 39 Old age	I  6		 I	4	I I I4	70 Otherwise	-	 8o	71	84	320

TABLE I,—CLASSIFICATION OF CAUSE OF DEATH.

	TOTAL NUMBE	R OF DEATHS.	PERCENTAGE O TOTAL I	
CLASS OF DISEASE.	London includ'g Whitechapel.	Whitechapel.	London includ'g Whitechapel	Whitechapel
Zymotic Diseases (as named in the				
Registrar-General's List)	14,236	226	17:32	14.19
Parasitic Diseases	102	I	0.15	0.00
Privation and Alcoholism	325	6	0.39	0.32
Constitutional Diseases	15,589	362	18.96	22.59
Premature Birth and Old Age	4,923	88	5'99	5'49
Diseases of Nervous System	9,223	185	11.55	11.24
" Organs of Special Sense	98	I	0.11	0.00
" Circulatory System	6,288	III	7.65	6.92
" Respiratory "	17,570	374	21.37	23'34
,, Digestive ,,	4,469	105	5'43	6.22
Lymphatic ,,	95	I	0.11	0.00
; Urinary ,,	2,099	46	2.25	2.87
,, Generative ,,	296	7	0.36	0.43
Accidents of Childbirth ,,	163	8	0.10	0.48
Diseases of Locomotive System	344	3	0.41	0.18
" Integumentary "	272	4	0.33	0.24
Violent Deaths—Accident	2,548	69	3.10	4'30
Homicide	80		0.00	0.00
Suicide	398	2	0.47	0.13
Other Causes	3,063	3	3'72	0.18

TABLE K.—CASES OF INFECTIOUS DISEASE RECDIVED INTO METROPOLITAN ASYTUMS' BOARD HOSPITALS DURING 1887.

	Quarter ending April 2nd.		Quarter e July 21		Quarter e October		Quarter e December		Total for th	ie year.	Total for preceding year.		
	From Metropolis, including Whitechapel	From White- chapel	From Metropolis, including Whitechapel	From White- chapel.									
Small Pox	10	I	15	0	7	0	28	5	60	6	128	5	
Scarlet Fever	442	8	610	II	1880	53	3000	46	5932	118	1661	50	
Enteric Fever	65	0	49	3	145	0	218	I	478	4	328	6	
Typhus Fever	19	0	3	0	8	5	4	0	34	5	4 .	I	
Other Diseases	2	I	6	0	11	I	9	0	28	2	30	2	
TOTAL	.538	10	683	14	2052	59	3259	52	6532	135	2151	64	

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### TABLE L.—VACCINATION STATISTICS.

Born in the Whi	techapel Union					230
	Union but born elsewhere					28
		Total				258
Ret	urned as "Insusceptible"			10		
Public Vaccinate	or's Statistics:					
Primary	(By Public Vaccinator					
	By Infirmary Medical Su	perinter	ndent		77	
Re-Vaccination.	By Public Vaccinator				3	184
aro i acomationi	(By Infirmary Medical Su	perinter	ndent		4	

The percentage of Primary Vaccination performed by the Public Vaccinators is almost identical with that of the preceding year. It will however be noticed that a considerable falling off is recorded in revaccination.

TABLE M.-WHITECHAPEL DISTRICT DEATHS FOR 1887...

Causes of Death.	ıst Quar.	2nd Quar.	3rd Quar.	4th Quar.	TOTAL.	Causes o Death.	ıst Quar.	2nd Quar.	3rd Quar.	4th Quar.	TOTAL.
All causes	437	336	395	434	1602	44 Diseases of organs of special sense		1			I
ZYMOTIC DISEASES. Vaccinated Unvaccin't'd						45 Diseases of circulatory system	28	24	17		III
2 Measles	27	16	6	3	52	46 Croup	8	9	4	2	23
3 Scarlet Fever	3	3	10	II	27	47 Bronchitis	79	32	25	60	196
4 Typhus		***	***			48 Pneumonia	33	21	16	35	105
5 Relapsing fever	***	***	**	***	***	49 Pleurisy		I	I	6	8
7 Whooping cough	6	3	3	18	30	50 Other respiratory dis'es	7	13	9	13	42
8 Diphtheria	I	2		3	6	51 Dentition	IO	12	12	6	40
9 Simple, continued and						52 Quinzy, sore throat					
ill-defined fever		I			I	53 Enteritis		***		***	***
Io Enteric fever		3		4	7	54 Peritonitis		2	2		4
11 Simple cholera	***	8	6.		I	55 Diseases of liver	I		2	4	7
13 Remittent fever	4		64	4	80	56 Other diseases of diges-					
14 Hydrophobia						tive system	14	15	15	10	54
16 Cow pox and effects of						57 Diseases of lymphatic syst'm& ductless glands		I			I
vaccination			***		***	by se mee ductiess grands	0000			200	
17 Venereal affections	3	3	I	4	II	58 Diseases of urinary sys'm	12	12	II	II	46
18 Erysipelas	2		3	I	6		-				
19 Pyæmia and Septicæmia 20 Puerperal fever		***	3	***	3	59 Diseases, generative sys-					
21 Other Zymotic diseases	I				I	tem	3		I	3	7
22 Thrush				I	I	60 Accidents at childbirth	2	I	2	3	8
23 Worms and other Para- sitic diseases						61 Diseases of locomotive system		1		2	3
24 Starvetine	SIT		-	-			0000		350		-
24 Starvation, want of breast milk						62 Diseases of integumen-					1
25 Alcoholism	I	***	***	I	2	tary system		I	2	1	4
26 Rheumatic fever and			3	***	4	VIOLENT DEATHS.  Accident.					
rheumatism of heart		I		3	4	63 Fracture and contusion	7	4	2	4	17
27 Rheumatism			I	2	3	64 Gun-shot wounds				*	1
28 Gout		***		***		65 Cut, stab					
29 Rickets 30 Cancer				I	1	66 Burn and scald	I	I	4	5	II
31 Tabes Mesenterica	10	10	13	8	41	67 Poison		***		***	
Ja lubercular Meningitie	-	5	18	5,	29	68 Drowning	I	I		2	4
33 THURISIS	45	36	5 40	38	10	69 Suffocation	24	***	6	4	34
or octoinia, Inberculosis	6	I	2	5	159	70 Other wise	•••	***	***	3	3
35 Other constitut'l diseas's	25	17	35	24	IOI	Homicide.					
		-		-		71 Murder & manslaughter					
36 Premature birth	II	6	5	5	27				-		
37 Atelectasis			I		I	Suicide.					
20 Old mailormains.			111	I	I	72 Gun-shot wounds					
Jy Uld age	15	18	13	13	59	73 Cut, stab		***		***	
39 Old age		-			-	74 Poison	***			I	I
40 Apoplexy	0	6	T	TO							I
40 Apoplexy	2	6	I	10	19	75 Hanging	I				
39 Old age		6 3 13	1 10	5 20	9 52	76 Hanging 77 Otherwise					

Causes of Death.	ıst Quar.	2nd Quar.	3rd Quar.	4th Quar.	TOTAL.	Causes of Death.	ıst Quar.	2nd Quar.	3rd Quar.	4th Quar.	Transaction
All Causes	21726	18877	20577	21001	82181	45 Diseases of circulatory system	845	1474	1257	1712	65
ZYMOTIC DISEASES.  1 Small Vaccinated Unvaccinated No statement 2 Measles	 I 859	I 2 1227	 I 480	3 328	7 2894	47 Bronchitis 48 Pneumonia 1 49 Pleurisy	141 1017 1399 87 528	131 2030 1218 88 318	119 1082 738 57 236	206 3190 1441 91 453	一日 日 日
3 Scarlet fever 4 Typhus , 5 Relapsing fever 6 Influenza 7 Whooping Cough 8 Diphtheria 9 Simple, continued and	7	192 2  834 193	420 5  1 823 244	655, 4  4 828 328	1438 18  5 2928 961	52 Quinzy, sore throat 53 Enteritis 54 Peritonitis 55 Diseases of liver 56 Other diseases of	168 34 89 72 357	176 22 98 89 331	155 19 240 83 415	124 32 82 94 359	*** *** ***
ill-defined fever  10 Enteric fever  11 Simple cholera  12 Diarrhæa, Dysentery  13 Remittent fever	12 125 2 176 4	15 69 9 209	12 161 94 3200 5	9 251 1 188	48 606 106 3773	57 Diseases of lymphatic system and ductless glands	27	20	24	24	
14 Hydrophobia 15 Glanders	 I	1 2	I	4	14 2 4		577	499	452	571	20
16 Cow pox and effects of vaccination 17 Venereal affections	3 154	1 93	3 146	2 105	9 498	59 Diseases, generative system	60	84	72	80	100
18 Erysipelas 19 Pyæmia & Septicæmia 20 Puerperal fever	72 29 76	63 38	79 33 67	127 55	34I 155	60 Accidents of childbirth 61 Diseases of locomotive	35	38	43	47	-
21 Other zymotic diseases	30	75 27	21	22	328	system	73	97	79	95	1
22 Thrush 23 Worms and other parasitic diseases	3	15	38	16	80	62 Diseases of integumen tary system	66	62	67	77	-
24 Starvation, want of breast-milk 25 Alcoholism	15 56	13 61	35 67	14 64	77 248	64 Gun shot wounds	262	270 I	247 I	246 2 6	50
26 Rheumatic fever and rheumatism of heart 27 Rheumatism	121 29 45 43	75 28 31 57	70 28 32 42	152 30 49 38	418 115 157 180	67 Poison 68 Drowning	124 17 52 207 35	2 64 14 87 133 29	3 50 21 130 110 58	89 12 57 189 28	3 6 1
30 Cancer 31 Tabes Mesenterica 32 Tubercular meningitis 33 Phthisis		676 264 330 1898 214	752 618 323 1789 283	740 263 267 1960 223	2874 1406 1245 7740 912	Homicide. 71 Murder & mansl'ghter Suicide.	27	17	10	26	
35 Other constitutnl. dis's 36 Premature birth 37 Atelectasis 38 Congnitl. malformatns.	516 29 98	465 29 80	508 39 69	486 41 104	542 1975 138 351	72 Gun shot wounds 73 Cut, stab 74 Poison 75 Drowning 76 Hanging	18 22 21 14 19	23 23 30 26	11 20 13 24 20	13 19 14 8 10	
39 Old Age            40 Apoplexy            41 Epilepsy            42 Convulsions           43 Other diseases of brain	565 100 552	575 506 88 549	522 402 65 681	92 597	2459 2037 345 2379	### Execution.  78 Hanging	777		1 1278		60
and nervous system  44 Diseases of organs of	1235	1176	1039	1012	4462	0.01	711	651	995	704	30
special sense	20	24	31	23	98	81 Uncertified deaths	279	188	216	188	-

### TABLE O .- PRINCIPAL ZYMOTIC DISEASES DEALT WITH DURING THE YEAR.

NAME OF PLACE.	Small Pox.	ScarletFever	TyphusFeve	EntericFever	Diphtheria.	Measles.	NAME OF PLACE,	Small Pox.	ScarletFever	TyphusFever	EntericFever	Diphtheria.	Measles.	NAME OF PLACE.	Small Pox.	Scarlet Fever	TyphusFever	EntericFever	Diphtheria.	Moneles.
Artillery street		0					Daniel and													
Backchurch lane		2 I							54	3	3	I	2	Brought over Peabody's buildings.	4	100	5	6	2	1
Baker's row (includ'g		1					Emery's place		I	***				Commercial street.				I		
Infirmary))	***	6	***		***	***	Fashion street		2	***	***	***		Pelham street		4				
ath gardens		I							3				***	Pereira street		I				
Bell court	***	I	***				Freeman street	***	I	***				Queen's Head court		3				
Bell lane	***	4		***					2	***	***	***		Queen st., Mile End		-				
Brady street	***	I									I			New Town		1				١.
Brick lane	***	3	***	***					3				***	Queen's place				I		1.
Brunswick buildings.		2	***			***	Great Pearl street	***			I		***	Red Lion court		I				
Buck's row	***	I	***	***		***	Great Prescot street.		I					Regal place		I				1
Bull-stake court				I	***				2					Royal Mint street		I				
Burr street	***	I	***	***	I		Green street		I					Rupert street	I					
Buxton street		2	***		***		TT 1/ 3/		3	***	44.4		***	Shepherd buildings		2				
artwright street	***	3		I			Hanbury street		I					Spelman street		I		***		
hamber street		***				I	Harrod's alley		I					St. George's House		2		I		-
hicksand street		I			***		YY		2		***			Tenter street, Com-		-				
Charlotte court		3					TT-1		I	***				mercial street		3				
Charlotte street		2	- 110		***		Lambeth street	3	2				2	Tenter street South						
church lane		I					Leman street		3	***		***		Tewkesbury build'gs.		I		I		1
Church st., Minories		I					Little Alie street		I				***	Thomas street		2				
College buildings	***	I	***			***	Little Pearl street				I			Tower of London		3				
Commercial road		_ I.	***				T alasmonth buildings		4					Underwood street		3		2		
Commercial street	**	3					Mansell street			***	***		I	Upper East Smith-		2		-	***	
Cox square		I	***	***	***		Mr		I			I	I	field		I				
Prispin street	***	4	***	***			Old Montague street.		I	***				Wellclose square		2				
ock street		I	***	***			Osborn court			2				Wentworth street	I	5				п
Oorset street		I					(B Block	I	2					Whitechapel High st.		2				ı
Duke street		I	***	***		***	Peabody's E ,,		2					Whitechapel road		4				
uncan street		I				I	buildings, G		2					Wilk street		2				
unk street		2					Glasshouse I		I					Winthrop street		I				1
asington buildings		I		I			etroot V		I					Wood street		ī				
Elizabeth place		1					0		2											1
Forward		54		3	I	2	Forward	4	100	5	6	2	6	TOTAL	6	147	5	12	2	-

## TABLE P.—SANITARY AND OTHER WORK PERFORMED BY THE INSPECTORS.

Classification of Work.		Quarter ending April 2nd.	Quarter ending July 2nd.	Quarter ending Oct. 1st.	Quarter ending December 31st.	Totals for the
Jumbers of Inspections of Houses as shewn in the Official Returns		2298	2587	2242	2471	9598
Houses specially visited		205	210	818	481	1723
		820	876	3272	1052	6020
reliminary Notices served, such Notices embracing 1412 premises		349	230	290	203	1072
ompulsory Orders issued, embracing 713 premises		97	107	54	54	312
ummonses heard at Police Court under Sanitary Act		3	4	2	2 2	312 II
", Adulteration of Food and Drugs A	ets	3		ī		
70.1.1		-	4	I	5	13
		т Т				I
			7	I	I	10
ouses in which rooms or passages have been whitewashed		118	I	I	4	6
entilation of houses improved			185	187	109	599
ooms disinfected with sulphurous acid gas, after the occurrence	of		1			I
cases of infectious diseases rticles consisting of beds, bedding, clothing, &c., removed to t	he	37	41	118	62	258
stone-yard, and there disinfected		789	1372	3784	2164	8109
ticles burnt by consent		21	24	85	36	166
ards of houses paved, or the paving repaired		35	65	54	37	IQI
rains in houses improved		63	80	45	55	243
angerous structures notified to the Metropolitan Board of Works		4		***		4
oofs of houses repaired		7				7
losets limewashed, cleansed and repaired		99	167	144	80	490
losets provided with a flushing apparatus and water supply		28	159	75	65	327
efective water fittings to closets repaired		13	15	45	6	79
ater supply to houses improved		8	13	16		37
uisances arising from dung and other offensive matter removed		39	28	20	26	113
rea-gratings, cellar-flaps, &c., repaired		3	3	5	4	15
ouses closed by Magistrate's order, or by consent, as unfit for hums	an			State	4	
igite to com houses in the Dietria		2		***		2
claughter houses in the District	***	2	4	18	19	43
hakahausas in the District		4	II	13	13	41
net him provided or impressed	***	9	5	4	4	22
	***	5		58		63
prespools abolished		44	37	41	37	159
esspools abolished	***	2	1	***		3
radas' nuicanasa abalishad	***	I	***	***	I	2
		I		***	***	I
rostructions in the streets abated	***	4	***	***		4

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TABLE Q-METEOROLOGICAL STATISTICS.

	No. of Hours of Bright Su		Mean of Degree of Humidity (saturation repre-	Mean Reading of Barometer	Mean of Horizontal movement of Air	Mean Temper- ature	Rainfall (in inches).	Rain or Snow (Number of days
The same of	Greenwich.	Lewes.	sented by 100).	(in inches).	(miles per hour).	(Fahrenheit).		fall).
ist Quarter	194'3	212.2	84.1	29.93	11.8	37°5	3.55	29
and ,,	520.4	583·o	74'7	29.89	11.0	52°1	4.49	31
3rd .,	565.1	586-2	70.2	29.80	10.4	60°8	5.85	35
4th ,,	121'4	170.1	85.3	29.70	11.7	41°1	6.25	47
TOTAL OR }	1401'2	1551.8	78.6	29.83	11'4	47°8	19.81	142

TABLE R.—METEOROLOGICAL STATISTICS.—Highest and Lowest Records.

		No. of Hours of Registered Bright Sunshine in London.	Humidity of Atmosphere.	Reading of the Earometer (in inches).	Horizontal movement of Air (miles per hour).	Temperature (Fahrenheit).	Rainfall (in inches).	Ozone.
ıst Qr.	Highest							3rd week 5.7 9th ,, 0.5
2nd ,,	Highest							9th ,, 7 <sup>-4</sup> 5th ,, 0 <sup>-6</sup>
3rd ,,	4							4th ,,
4th ,, -	Highest							5th week 5'2 2nd, 12th & 13th wk. Nil.