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The Urban Sanitary District
OF
FINCHLEY.

REPORT

OF THE
MEDICAL OFFICER OF HEALTH,

For the Year 1895,

BY
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TO THE MEMBERS
OF THE
FINCHLEY URBAN DISTRICT COUNCIL.

GENTLEMEN,

In the Finchley District the year 1895, in a sanitary sense, was very uneventful. That is to say there was no outbreak of infectious illness such as occurred in the preceding year, and the record of such illness for the year was unprecedentedly low. It is moreover satisfactory to note that whereas the various mortality rates for different diseases in the country generally, show an increase upon the exceptionally low rates of the preceding year, the similar rates for the Finchley District are, with one exception, somewhat lower. The most unsatisfactory feature in the Report is the mortality rate from Whooping Cough, which remains at about the same abnormally high figure which it reached in the year 1894. Almost the whole of this largely-preventable mortality is among the children of the poorer classes, and I have hopes that the measures of which you have recently approved—and which will be found set forth in the Report—will have the effect of reducing this mortality in future years.

The Birth-rate was the lowest on record, and the Death-rate was very low (11'9)—even less than the low rates that have obtained since the year 1891, and with the exception of that year the lowest on record.

The remarkable freedom from infectious illness in the District during the year has presented an exceptionally good opportunity for prosecuting an increased amount of Sanitary Inspections, and the number of these made by Mr. STOCKMAN has exceeded that of any previous year.

I am, Gentlemen,

Your obedient Servant,

HENRY KENWOOD.

March, 1896.

Population.

The population of the Finchley District in 1881 was 11,045; in 1891 it had grown to 16,419. The increase of population between 1881 and 1891 amounted, therefore, to 5,374. Now if this rate of increase is assumed to have been maintained up to the middle of 1895, one arrives, by a logarithmetrical calculation, at an estimated population of 19,451. But the increase which forms the basis for such a calculation does not appear likely to have been maintained during the past four years, from the fact that fewer new houses have been erected in the District during this period. The estimation of the numbers of a population which is based upon the increase which obtained between two previous censuses, often leads to a conclusion far wide of the actual mark, and it is generally better to check the estimation by reference to the rate-books. It thus appears that in the middle of 1895 there were 3,346 inhabited houses, 1,263 of which were in the sub-district of East Finchley, 781 in North Finchley, 624 in Church End, and 483 in Whetstone. For reasons which I mentioned in my last Report, I believe the average number of occupants to each occupied house in East Finchley, North Finchley, Church End, and Whetstone was 5·7, 6·0, 6·1, and 5·2 respectively. Further, the rate-books showed 195 empty houses, and if one individual is accredited to each of these (in order to account for caretakers and their families), the population of the District works out to **18,398**—a figure which falls short by 1,053 of the logarithmetrical calculation employed by the Registrar-General; and one which I feel pretty confident is nearer the actual truth than the latter. Some error is of course inevitable in default of an annual census, and it is for many reasons preferable that such error should rather be on the side of under-estimation than of over-estimation.

The estimated POPULATION FOR EACH OF THE SUB-DISTRICTS is as follows :—

EAST FINCHLEY...	...	...	7,304
NORTH FINCHLEY	...	...	4,724
CHURCH END ...	...	...	3,945
WHETSTONE ...	...	...	2,425

THE NATURAL INCREASE OF THE POPULATION by excess of births over deaths during the year was $(466-210)=256$, as against 294 in 1894, and 255 in 1893.

NUMBER OF PEOPLE TO THE ACRE.—The area of the District amounts to 3,384 acres, and this, divided among the residents, represents only 5·4 PEOPLE TO THE ACRE.

The area of EAST FINCHLEY is 1,219 acres, and the estimate is 5·9 people to the acre.

The area of NORTH FINCHLEY is 788 acres, and the estimate is 5·9 people to the acre.

The area of CHURCH END is 1,002 acres, and the estimate is 3·9 to the acre.

The area of WHETSTONE is 373 acres, and the estimate is 6·5 to the acre.

BIRTHS—BIRTH-RATE.—During the year 1895 there were 466 BIRTHS registered in the District ; of these 248 were males, and 218 were females. The BIRTH-RATE per 1,000 per annum was 25·3, whereas that for England and Wales was 30·3, that for London generally was 30·5, and the rate for the 33 great towns was 31·3. The birth-rate is the lowest that has ever been recorded in the District (*vide* Table A⁴), a fact which favours the exceptionally low death-rate for the year, for the liability to death among infants under one year of age is exceptionally great. Allowance is made for this, however, in estimating the “CORRECTED DEATH-RATE.”

Mortality.

GENERAL MORTALITY.—There were 198 deaths registered of parishioners who were resident in the district, and 12 of parishioners who died in public institutions without the district—making a total of 210 deaths of parishioners. Of these deaths 114 were of females, and 96 were of males.

THE RECORDED GENERAL DEATH-RATE is therefore 11·4, as against 12·2 in 1894 and 12·7 in 1893. This ordinary death-rate, however, cannot be taken as a true index of the conditions affecting the healthiness of the population, nor can it be justly

compared with the rates of other districts, unless some allowance is made for the relative proportions of persons of different ages and sexes in the districts compared. For the purpose of making a just comparison, therefore, it is necessary to correct the recorded death-rate by means of a factor which is arrived at (just after census returns are available), from a comparison of the proportions of each sex at each age period in the different sanitary areas, with those proportions which exist in England and Wales taken as a standard. This so-called "factor for correction" for the Finchley District is about 1.05, and the DEATH-RATE CORRECTED FOR AGE AND SEX DISTRIBUTION would be (11.4×1.05) 11.9. The rate for England and Wales for 1895 was 18.7; that for London generally was 19.8; and that for the 33 great towns, 20.6. In Croydon the rate was 14.4, in Brighton 18.9, in Paris 21.3, and in Berlin it was 19.4. The death-rate for the Finchley District is seen by Table A⁴ to be even below the low rates that have obtained since 1891, and with the exception of that year the lowest on record. It is below the rate of any of the sanitary areas within the Metropolis.

MORTALITY ALLOTTED TO EACH OF THE SUB-DISTRICTS :—

Among the residents in EAST FINCHLEY the deaths numbered 96, and furnished a recorded rate of 13.1 per 1,000 per annum.

In NORTH FINCHLEY 47, and the rate was 9.9.

In CHURCH END 38, and the rate was 9.6.

In WHETSTONE 29, and the rate was 11.9.

INFANTILE MORTALITY.—There were 46 deaths registered of infants under 1 year of age, as against 466 births. The proportion which the deaths under 1 year of age bear to 1,000 births is therefore 98.7, as against 110 in the preceding year. The corresponding rate in England and Wales was 161; that in London generally 166; and that in the 33 great towns, 182.

The deaths under 1 year of age form 21.9 PER CENT. of the total deaths at all ages, whereas in 1894 they formed 25.7 per cent. The rate for 1895 in England and Wales was 26 per cent., for London generally 25.5 per cent., and for the 33 great towns 26.7 per cent.

SENILE MORTALITY.—Of the 210 deaths 63 were of persons over 65 years of age. The proportion of deaths occurring among those of over 65 years of age to the total deaths is therefore 30 PER CENT. There were 49 deaths of persons over 70 years of age.

THE CAUSES OF DEATH.—These are fully set forth in TABLE A, in which it will be noted that the deaths are also apportioned to different age periods. TABLE A¹ is supplementary to TABLE A, and sets forth the causes of death in each of the four Sub-districts a little more fully. TABLE A² shows the deaths during each of the four quarters of the year.

It will be noted that there were 11 deaths from Influenza, as against 1 in the preceding year, due to the fact that there was a slight recrudescence of this disease in the early part of the year ; that the deaths from Phthisis numbered only 7, as against 13 in the preceding year, and that the deaths both from Cancer and Whooping Cough reached precisely the same number as those of the preceding year (11).

The mortality from Cancer has increased of late years, and not a few observers assert that a parasite is present in cancerous tissue ; but the bacteriological evidence upon which this statement rests is conflicting and unsatisfactory. It is a question, however, as to whether this dreadful disease may not ultimately prove to be preventable in a much wider sense than it is thought to be at the present day.

That Cancer shows some disposition to run in families is probably due to the fact that the TENDENCY OR SUSCEPTIBILITY for Cancer is transmitted ; and the evidence that has been collected with reference to so-called "Cancer-houses," (*i.e.*, houses in which successive occupants, not related to each other, have died from Cancer), together with the excessive prevalence of Cancer over certain areas, seem to point to the probability of some slight endemic infection being concerned in its origin.

Table A. TABLE OF DEATHS DURING THE YEAR 1895, IN THE FINCHLEY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; public institutions being shown as separate localities.	Mortality from all Causes at subjoined ages.							Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.															
	At all ages.	Undr 1 year	1 and undr 5	5 and undr 15	15 and undr 25	25 and undr 65	65 and upwds	Diphtheria.	FEVERS.			Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Influenza.	Injuries.	All other Diseases.	TOTAL.	
									Enteric or Typhoid.	Puerperal.													
1 EAST FINCHLEY	96	22	17	3	3	26	25	Under 5						11	2		6				3	16	38
								5 upwds	1	1		1			1	3	12	9	3	3	25	59	
2 CHURCH END	38	7		1		12	18	Under 5							2		3					3	8
								5 upwds		1	1					2	4	6	3		13	30	
3 NORTH FINCHLEY	47	16	5	2	2	13	9	Under 5	1				1				6				12	20	
								5 upwds		1							4	2	1	2	17	27	
4 WHETSTONE	29	1	1	3	2	9	13	Under 5									1					1	
								5 upwds				1				2	7	1	4	1	11	27	
TOTALS ..	210	46	23	9	7	60	65		2	3	1	2	1	11	5	7	43	18	11	9	97	210	
Of the subjoined numbers those of (5) are included, but those of (6) are excluded in judging of the above records of mortality.																							
(5) Deaths occurring outside the district among persons belonging thereto.	12	1	3		1	6	1	Under 5	1												1	2	4
								5 upwds								1	1				6	8	
(6) Deaths occurring within the district among persons not belonging thereto.	21				4	6	11	Under 5														0	
								5 upwds								5	2	3			11	21	

Table A¹.

SHOWING THE CAUSES OF DEATH IN EACH OF THE FOUR SUB-DISTRICTS OF
FINCHLEY DURING THE YEAR, 1895.

Causes of Death.	East Finchley.	Church End.	North Finchley.	Whet- stone.
Diphtheria	1	..	1	..
Typhoid Fever	1	1	1	..
Puerperal Fever .. ..	..	1	..	..
Measles .. ..	..	..	1	..
Whooping Cough	11	..	..	..
Diarrhœa and Dysentery ..	3	2	..	..
Erysipelas	1	..	..	1
Influenza	3	3	1	4
Phthisis ("Consumption") ..	3	2	..	2
Other Tubercular Diseases ..	4	..	2	1
Diseases of Respiratory Organs, other than Phthisis ..	18	7	10	8
Diseases of Circulatory Organs	10	6	3	1
Diseases of Digestive Organs ..	3	3	3	1
Diseases of Urinary Organs ..	4	3	4	2
Diseases of Reproductive Organs	1	..	..	1
Diseases of Nervous Organs (in- cluding Apoplexy and Con- vulsions)	6	2	5	3
Cancer	6	1	4	..
Rheumatism .. ..	..	..	..	1
Premature Birth	2	1	5	..
Senility	5	5	1	..
Wasting and Debility (including Developmental Defects) ..	6	1	4	..
Accidents (including "Over- lying")	6	..	2	1
Suicides	1	..	..	..
Child-birth .. ..	..	..	..	1
Blood Poisoning	1	..	..	2
Totals	96	38	47	29

Table A².

SHOWING THE CAUSES OF DEATH IN THE FINCHLEY DISTRICT DURING THE
FOUR QUARTERS OF THE YEAR, 1895.

Causes of Death.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals.
Diphtheria .. ..	..	..	..	2	2
Typhoid Fever.. ..	..	..	2	1	3
Puerperal Fever .. ..	..	..	1	..	1
Measles	1	..	..	..	1
Whooping Cough .. ..	..	3	5	3	11
Diarrhœa and Dysentery ..	1	..	1	3	5
Erysipelas .. ..	..	..	1	1	2
Influenza	6	4	..	1	11
Phthisis ("Consumption") ..	3	..	2	2	7
Other Tubercular Diseases ..	1	1	4	1	7
Diseases of Respiratory Organs, other than Phthisis.. ..	23	9	3	8	43
Diseases of Circulatory Organs ..	7	6	4	3	20
Diseases of Digestive Organs ..	3	2	4	1	10
Diseases of Urinary Organs ..	2	2	5	4	13
Diseases of Reproductive Organs ..	1	1	..	..	2
Diseases of Nervous Organs (in- cluding Apoplexy and Con- vulsions)	4	4	3	5	16
Cancer	4	3	3	1	11
Rheumatism	1	..	..	..	1
Premature Birth	2	1	4	1	8
Senility	5	3	..	3	11
Wasting and Debility (including Developmental Defects) ..	3	2	2	4	11
Accidents (including "Over- lying")	2	5	2	..	9
Suicides .. ..	..	..	..	1	1
Childbirth .. ..	..	..	1	..	1
Blood Poisoning	1	..	1	1	3
Totals.. ..	70	46	48	46	210

THE PUBLIC INSTITUTIONS WITHIN THE DISTRICT furnished 21 deaths, as follows :—

The Woodside Home	12
The Convent of the Good Shepherd...	9

These deaths were all of persons who came to Finchley from other Districts, and who were non-parishioners ; they have not, therefore, been reckoned with in estimating the Finchley Death-rate.

THE CAUSES OF INFANTILE MORTALITY are set forth in Table A³.

As I pointed out in my last year's Report, the great discrepancy which exists between this rate in different districts furnishes striking evidence that there are many causes at work—acting unequally in the different districts—which are preventable. It is satisfactory to note that the rate of infant mortality is low for the District.

Table A³.

THE CAUSES OF INFANTILE MORTALITY.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
Diseases of the Respiratory Organs	4	2	..	4	10
Premature Birth	2	1	5	1	9
Wasting and Debility (including Developmental Defects) ..	2	.	2	2	6
Whooping Cough .. ..	..	1	3	2	6
Tuberculosis .. ..	..	1	2	1	4
Teething (Convulsions) ..	2	1	..	..	3
Diarrhoea	1	..	..	2	3
Diseases of Digestive Organs ..	..	1	..	1	2
Diphtheria .. ..	..	..	..	1	1
Measles	1	..	..	..	1
"Overlying"	1	..	..	..	1
Totals	13	7	12	14	46

ZYMOTIC MORTALITY.—Included in the Zymotic Mortality are the Deaths from the seven principal Zymotic Diseases, viz. : small-pox, measles, scarlet fever, diphtheria, whooping cough, “fever” (including typhoid fever, typhus fever, and simple continued fever), and diarrhoea. It affords an excellent criterion of the healthiness of the District, and to the efficiency of its sanitary administration.

In TABLE A⁴ the Zymotic rate of previous years can be compared with that of the past year (1896), and in TABLE A⁵ the Zymotic rate and the rates for each of the diseases comprising it are given, along with the similar rates of England and Wales, the 33 great towns, and London generally. As was the case last year, the comparison is very unfavourable to the Finchley District, in so far as the rate of mortality from whooping cough is concerned. The death-rate from typhoid fever is slightly above that of London, though it is below the rate for the country generally ; but with these two exceptions the comparison is very satisfactory.

The general Zymotic death-rate is lower than it has been since 1891, and with the exception of that year I believe it is the lowest on record.

Table A⁴.

THE PRINCIPAL VITAL STATISTICS OF THE FINCHLEY DISTRICT FOR THE DECENNIA 1871—80, AND 1881—90, AND FOR THE PAST 5 YEARS.

Years.	Birth-rate	Recorded Death-rate.	Death to Birth-rate *	Rate of Infantile Mortality	Zymotic Death-rate.
Mean of 1871-80	32.1	15.3	47%	118	2.13
Do. of 1881-90	32.2	12.6	39%	100	1.60
1891	29.6	11.1	38%	87	1.21
1892	27.5	12.2	43%	90	1.41
1893	26.7	12.7	47%	107	2.71
1894	28.5	12.2	43%	110	1.55
1895	25.3	11.4	45%	98.7	1.36

* The ratio which the total deaths form to the total births. A useful rate, first suggested by Dr. Turle.

Table A⁵.

COMPARISON OF THE RATES OF THE FINCHLEY DISTRICT, WITH THOSE OF
ENGLAND AND WALES, THE 33 GREAT TOWNS, AND LONDON GENERALLY,
FOR THE YEAR 1895.

	General Death- Rate.	Diseases of Lungs (except phthisis)	Phthisis rate.	Rate of Infantile Mortality.		Birth- rate.	Zymotic Death- rate.
				A*	B†		
England and Wales	18·7	...	...	161	26%	30·3	2·13
The 33 Great Towns	20·6	...	...	182	26·7%	31·3	2·84
London generally ..	19·8	4·20	1·80	166	25·5%	30·5	2·63
The Finchley District	11·9	2·33	0·38	98·7	21·9%	25·3	1·36
	Small- pox.	Measles	Scarlet Fever.	Whoop- ing Cough.	Typhd. Fever.	Diph- theria.	Diarrh. and Dysen- tery.
England and Wales	0·008	0·37	0·15	0·30	0·17	0·25	0·88
The 33 Great Towns	0·012	0·53	0·18	0·36	0·20	0·35	1·19
London generally ..	0·012	0·60	0·19	0·34	0·14	0·53	0·81
The Finchley District	0·000	0·05	0·00	0·59	0·16	0·10	0·27

* The number of deaths under 1 year of age to every 1,000 births.

† The percentage which the number of deaths under 1 year of age
form to the total number of deaths.

During the year the much-felt want of a Public Mortuary .
has been met.

INQUESTS HELD DURING THE YEAR 1895, ON DEATHS OCCURRING IN THE
FINCHLEY DISTRICT.

Sex.	Parishioner or Non-Parishioner.	Age.	Cause of Death.
Female ..	N.P.	26 years	Drowning
Female ..	P.	75 „	Syncope
Male ..	P.	4 months	Overlying
Male ..	P.	64 years	Syncope
Female ..	P.	8 months	Acute Pneumonia
Male ..	P.	13 years	Hanging
Female ..	P.	80 „	Syncope
Male ..	P.	27 „	Accident
Male ..	P.	33 „	Suicide by Cut Throat
Male ..	P.	21 „	Accident
Male ..	P.	50 „	Constriction of Intestine
Female ..	P.	90 „	Accident
Male ..	P.	22 months	Improper Feeding
Female ..	P.	28 years	Suicide

Infectious Diseases and the Measures taken to prevent their Spread.

It will be seen from Table B that 77 *notification certificates* of infectious illness were received from medical practitioners in the District, as against 171 in the year 1894.

These 77 cases represent infection in 68 different houses, each of which was subsequently disinfected where necessary. In 24 the disinfection was performed by the Sanitary Authority, and in 29 cases by householders to the satisfaction of their medical attendant. A visit was paid to each house, and it was ascertained that 7 of the 77 cases of infectious illness occurred in houses in which there "grave" sanitary defects, 27 in which the sanitary defects were "slight," and 34 in which there were no sanitary defects. In forming these conclusions I have fully considered whether any sanitary defect found was of a nature which is generally held by health officers to predispose to or directly bring about the particular disease in question.

Thus, apart from the measures which have been taken to prevent the spread of infectious illness, the notification of such illness was the means during the year of bringing about a sanitary inspection of 68 premises and the abatement of insanitary conditions in 34.

The INFECTIOUS SICKNESS RATE of the District was 4·18 to each 1000 of the population, whereas it was 9·49 in 1894. It will be seen from Table B¹ that with the sole exception of Typhoid Fever—of which the cases equalled those of the preceding year—the returns of infectious illness from the NOTIFIABLE DISEASES Small-pox, Scarlet Fever, Diphtheria, Erysipelas, Puerperal Fever, Typhoid and Typhus Fevers, and Membranous Croup, are unprecedentedly low.

Table B.—TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the Year 1895, in the FINCHLEY DISTRICT; CLASSIFIED ACCORDING TO DISEASES, AGES AND LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.					Number of such Cases Removed from their homes in the several Localities for Treatment in Isolation Hospital.		
	Census 1891.	Estimated to middle of 1895.			Scarlatina.	Diphtheria.	FEVERS.		Erysipelas.	Scarlatina.	Diphtheria.	Enteric or Typhoid Fever.
							Enteric or Typhoid.	Puerperal.				
EAST FINCHLEY		7,304		Under 5	2	4						
				5 upwds	4	3	6		7			
CHURCH END		3,945		Under 5								
				5 upwds	2	3	3	1	1			2
NORTH FINCHLEY		4,724		Under 5	1	2			2	1	1	
				5 upwds	8	5	2		2	4	2	
WHETSTONE		2,425		Under 5	4					1		
				5 upwds	6	5	1		3	4		
TOTALS ..	16,419	18,398	466	Under 5	7	6			2	2	1	
				5 upwds	20	16	12	1	13	8	2	2

“Notification of Infectious Disease” has been compulsory in the District since January 1st, 1890. Those patients who were removed to Hospital were either taken to the Local Scarlet Fever Hospital, North Finchley, or to the Sick Children’s Hospital, Great Ormond-street.

TABLE B¹.

SHOWING THE NUMBER OF CASES AND DEATHS FROM THE PRINCIPAL
INFECTIOUS DISEASES NOTIFIED FROM AMONG PARISHIONERS DURING THE
YEARS 1890-1895 (INCLUSIVE).

	Small-pox.		Scarlet Fever.		Diphtheria.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1890	...	...	53	1	31	4
1891	...	...	80	...	32	3
1892	...	...	125	2	37	6
1893	...	...	189	3	30	9
1894	9	1	57	..	66	4
1895	...	...	27	...	22	2
	Erysipelas.		Puerperal Fever.		Typhoid Fever.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1890	16	...	...	...	7	1
1891	14	...	1	...	3	1
1892	17	...	2	...	3	1
1893	38	...	1	...	14	1
1894	22	...	4	4	12	1
1895	15	2	1	1	12	3

Whooping Cough and Measles.

The Death-rate from Whooping Cough, which was abnormally high for the year 1894 (0·61 as against 0·48 for London generally and the 33 great Towns) was equally high for this past year. In my last annual Report I expressed my opinion that something should be done to stay this in a great measure preventable mortality, and I pointed out that Whooping Cough and Measles generally together caused more deaths than Small-pox, Diphtheria, and Typhoid Fever combined, and that it was desirable that any measure taken against Whooping Cough should at the same time embrace Measles.* As you are aware, some Authorities have added Measles to the list of diseases that are compulsorily notifiable. I do not favour such a step, for in return for much greater trouble and a heavier expense I do not believe it would result in as much good as some simple action on other lines. There are many reasons adverse to the compulsory notification of Measles and Whooping Cough, unless at the same time the means of isolation can be offered, as in Scarlet Fever, etc., and I would point out that if notification of measles is unsound in theory it is also most discouraging in effect. During the past four years a small percentage of the Sanitary Authorities in England and Wales have included measles in the list of notifiable diseases, and what has been the result of the experiment? In the majority of cases the Medical Officers of Health either candidly acknowledge that they have reaped no advantage and that the measure is a useless one, or they express their doubts as to its utility; and in no instance has there been sufficient evidence adduced as would suffice to convince you that the measure has brought about a reduction in the Measles mortality. In some cases, it is true, there was a falling off in the mortality during the year following the adoption of its compulsory notification, but it must be borne in mind that in these cases the notification was adopted during a period of great epidemic prevalence, and that in the nature of things there would be a falling off in the number of cases during the following year, or perhaps two—for some time must elapse before another batch of susceptible children gets into the community.

I quote the *Lancet* of July, 1894 :—"A few medical officers of health find that the notification of measles is a valuable means for the purposes of public health, but a larger number imply that the notification of this disease has done little more than lead to a considerable expense in notification fees without any corresponding benefit."

The Council has agreed that something should be done to reduce our exceptionally high mortality from Whooping Cough, and that it is well to include Measles in our action. The whole matter is a very difficult one to have to face, but I have great confidence in some measure of good resulting from the following comparatively costless and simple scheme, which has been sanctioned by the Council and which aims at giving advice to the poorer parishioners, among whom the vast majority of fatal cases occur, and also at seeking the co-operation of school authorities. The distribution of small handbills of advice to the poorer class parishioners (say to all those in houses of a rateable value of £25 and under) has been sanctioned, and these bills are to be distributed every November and May (*i.e.*, just before the months when the disease generally shows an increase).

The handbill is as follows :—

PRECAUTIONS

AGAINST THE SPREAD OF

MEASLES & WHOOPING COUGH.

Measles and Whooping Cough are two preventable diseases which, together, kill more children than Small-pox, Typhoid Fever, and Diphtheria combined; they must not, therefore, be regarded as trivial, nor should prompt and proper care and treatment ever be dispensed with.

Measles is infectious for **THREE WEEKS** from the date of commencement of the first symptoms (*i.e.*, of severe cold in the head), and **Whooping Cough** is infectious for at least **SIX WEEKS**. During these periods the child should be kept indoors and separated as far as possible from all healthy children.

No healthy child, from a house where Measles or Whooping Cough is prevalent, should be allowed to attend School during the period named above; and it is very dangerous for parents to visit among their

neighbours while their children are suffering from Measles or Whooping Cough, or any other infectious disease, or to allow children suffering from such diseases to play with other children in the street or elsewhere, or to attend school. Most of the deaths from Measles and Whooping Cough result from an exposure to damp and cold, which leads to inflammation of the lungs.

N.B.—The Sanitary Authority will disinfect houses in which children have been suffering from either of these complaints free of charge, and with very little inconvenience to the householders.

It should be noted by parents that although children frequently appear to have recovered from Measles or Whooping Cough in a shorter period than that mentioned above, they are, nevertheless, infectious for the whole of the period indicated, and wilful exposure of them during this time renders parents liable to prosecution and a penalty of FIVE POUNDS.

HENRY KENWOOD, M.B., D.P.H.,

Medical Officer of Health.

The attendance at elementary schools is responsible for a great deal of spread, and the co-operation of school teachers in endeavouring to detect cases in their early stages and in excluding them from school attendance will be sought.

Lastly, it will be a useful means of bringing home to poorer parishioners the seriousness of measles (and it moreover furnishes an opportunity of giving verbal advice) if, when a death from this disease figures amongst our death returns, we visit the premises, disinfect, and endeavour to ascertain if the parents know of any other cases in neighbouring houses.

FINCHLEY SCARLET FEVER HOSPITAL.—The number of cases admitted during the year was only 13, and after an average stay in hospital of 42 days, all were discharged free from the complaint. In all of these cases isolation was urgently required, and was not procurable in the houses where the disease occurred; although, therefore, the hospital has been but little used it has done good service in saving many others from attack.

The small number of admissions to the hospital is due to the following circumstances :—

(a.) That there were only 27 cases notified in the District for the whole year, and that in the 16 cases not removed to hospital, efficient home isolation was procurable.

(b.) During the years 1893, 1894, scarlet fever was so exceptionally prevalent that a considerable number of children were protected by a previous attack.

Owing to the Scarlet Fever Hospital standing empty for a considerable period, 2 cases of Typhoid Fever were also admitted and treated there.

Of the 27 Cases of SCARLET FEVER, the infection appears to have been contracted at school in 6 instances.

Of the 22 cases of DIPHTHERIA, 7 appear to have originated from the defective drainage in the homes of the patients.

Vaccination.

Unhappily each year shows an increase in the country generally in the numbers of those children who escape vaccination. This growing evasion of the Vaccination Acts may partly be explained by the action of many Boards of Guardians in abstaining from prosecuting defaulters until the Royal Commission has reported. Any unnecessary further delay in the appearance of this Report will be very regrettable, as it will become more and more difficult to reinforce compulsory vaccination, if, as is almost a certainty, the Commission reports in favour of that measure.

Nearly 15 % of the children born in 1894 were unvaccinated, and doubtless the percentage is higher for 1895. It is to be hoped that the recent experience of residents at Gloucester will serve as a serious object lesson to those who lend an ear to the mis-statements of anti-vaccinators.

TYPHOID FEVER.—During the year there were registered 3 deaths from Typhoid Fever as against 1 only during the preceding year. Although it is a generally accepted fact that sewage emanations may give rise to enteric fever, it is comparatively seldom that one has such positive evidence of the direct relationship between the two as one of these cases afforded. A house in a good sanitary condition, and showing from my register a “clean bill” so far as any previous visitation of zymotic disease among any of its occupants was concerned, became insanitary by reason of a sudden stoppage of the drain and the consequent bursting of the joint with the soil-pipe. The result was that every time the upstairs water-closet was used the excremental matter escaped at this leak, accumulated under the “footings,” and after a time appeared above the cellar floor, where it was discovered standing to a height of about an inch. Before the condition could be rectified the odour was more especially complained of by one of the occupants of the house who occupied a bedroom situated over the escape, and in this particular room the odour of the sewage made itself very manifest, more especially at night time. The individual had previously enjoyed immunity from those conditions that have been shown to have their origin in such emanations, but in eighteen days he was laid up with enteric fever. It seemed highly improbable that, in this case, the patient could have contracted the disease away from the house.

The new treatment of Diphtheria by the injection of so-called “ANTI-TOXIN” is now recognised by very many practitioners to be a most valuable remedy. The superior results which have been furnished by this method on the Continent are accounted for by the fact that there the remedy has generally been applied somewhat earlier in the course of the disease and in larger doses.

The **RATIONALE** of the treatment is as follows :—Diphtheria is now believed to be due to a chemical poison (“toxin”), which is formed in the throat by a special germ, and which becoming absorbed into the system, gives rise to the peculiar symptoms of

the disease. This toxin can be collected from cultivations of the special germ by the use of appropriate methods, and if it be injected in gradually increasing doses under the skin of a horse, the animal, while showing but very trivial constitutional symptoms, in time acquires a toleration of this special poison, so that it becomes proof against Diphtheria. Now, if some of the blood be taken from such an animal, and one of its constituents (the serum) is separated, and this is injected into a diphtheretic patient, it acts as a powerful antidote, and for that reason it is termed "anti-toxin."

To suit the convenience of practitioners, and to ensure that the article could be procured pure and properly standardised, and with the least possible delay, I obtained the consent of the Council in the latter part of the year to supply "anti-toxin" at cost price, from the public offices. This provision has been appreciated by the medical practitioners in the district, and several tubes were asked for before the year closed.

As the outcome of a collective investigation into the results of this treatment in Germany, from October 1st, 1894, to April 1st, 1895, it was shown that close upon 6,000 patients had been injected with anti-toxin, out of a total of 10,312 cases, and that the death-rate was 9·6 %, while among those who had not been so treated the death-rate was 14·7 %.

Meteorology in and around London for the year 1895.

JANUARY.—The weather for the month was very cold, with frost on every day with the exception of the week ending the 20th. Snow fell in small quantities on nearly every day, with the exception of the week above referred to. N. and N.E. winds prevailed.

FEBRUARY.—The weather was very dry and extremely cold, with severe frosts on every night till the 20th. The ground was covered with snow till towards the end of the month. N. and N.E. winds prevailed.

MARCH.—The weather continued very cold until the 9th, and it was again cold from the 29th, with rain and high S.W. winds. On the 24th there was a very destructive South-westerly gale.

The great frost which began on December 30th continued, with the sole exception of the week in January, indicated above, to March 9th ; that is to say for 63 days. The frost effected great damage with gas and water pipes, and at the end of the quarter vegetation was very backward.

APRIL.—The weather was rather cold at the beginning, and there were slight frosts for a few days at about the middle of the month, but with these exceptions it was warm and dry. The rainfall was below the average. The foliage of trees was three weeks later than usual.

MAY.—The weather was very fine and dry, with more than the usual sunshine, and the day and night temperatures were both above the average.

JUNE.—For this month the weather was dry, fine, bright, and sunny. The mean daily temperature of the air was about the average till the 11th, and from the 20th to the end of the month.

JULY.—The weather was dull and wet during the first week, then dry, with occasional bright sunshine, till the 17th, and generally wet and dull from the 18th. The rainfall exceeded the average.

AUGUST.—The weather was wet and dull, and unsettled till the 14th, then generally fine and bright till the end of the month. The fall of rain was about the average.

SEPTEMBER.—The weather during this month was very warm, fine, and dry, with a remarkable hot period extending from the 24th to the 29th. The mean temperature was above the average. The rainfall was generally less than the average.

OCTOBER.—The weather was dull and wet till the 10th, then generally fine and bright to the end of the month, with a remarkably cold period, extending from the 24th to the 30th. It is a remarkable fact that such a cold period should so soon have followed upon the exceptional temperature experienced in September. West winds were very prevalent.

NOVEMBER.—The weather was mild, dull, and wet. The rainfall was above the average. The mean temperature of the month was somewhat above the average. South and West winds prevailed.

DECEMBER.—The weather was generally mild, dull, and gloomy, with frequent rain at the middle and towards the end of the month. The mean temperature of the air was slightly above the average. The rainfall exceeded the average, and very light falls of snow took place towards the latter end of the month.

METEOROLOGICAL OBSERVATIONS TAKEN DURING THE YEAR 1895, AT THE
GAS WORKS, NEW BARNET.

The Observations have been reduced to mean values by Glaisher's Barometrical and Diurnal Range Tables, and the Hygrometrical results from the sixth edition of his Hygrometrical Tables.

Month.	Temperature of Air.				Mean Temperature of Air.	Rain.		Relatively Humidity. Sat. 100.
	Highest.	Lowest.	Mean.			No. of Days it fell.	Amount Collected.	
			of all Highest.	of all Lowest.				
	Deg.	Deg.	Deg.	Deg.	Degrees.		Ins :	
January ..	52.0	9.0	37.6	26.2	32.4	14	1.88	88
February ..	46.2	1.0	36.1	18.6	27.6	3	0.17	88
March ..	63.0	17.5	51.5	32.4	41.4	14	1.64	86
April ..	67.0	24.8	58.4	36.9	46.5	9	1.16	81
May ..	86.8	31.0	68.0	40.8	53.4	3	0.40	74
June ..	84.7	31.8	73.7	44.7	58.0	4	0.30	72
July ..	83.0	38.0	73.7	50.7	60.9	11	4.03	70
August ..	83.0	38.0	72.5	50.5	60.6	17	3.40	76
September ..	84.5	32.5	74.7	45.0	59.6	2	1.00	84
October ..	74.3	16.0	54.4	35.5	44.8	11	2.66	89
November ..	63.2	24.0	51.9	38.3	45.4	17	4.42	87
December ..	58.0	17.0	43.5	32.3	38.8	14	2.18	88

Notes upon Sanitary Work performed during the Year.

During the year 1895 485 premises were inspected for conditions injurious or dangerous to health and insanitary conditions, varying in their nature from comparatively trivial to very grave, were discovered in 437 of these.

Of this number only 85 inspections were the result of personal complaints; hence the necessity to institute a fairly constant system of HOUSE TO HOUSE INSPECTION. This has been a special feature of the sanitary work for the year, and Mr Stockman has had an opportunity to make an exceptionally large number of such inspections. I am convinced that there is no more useful work in which an inspector can be employed, within the whole range of preventive measures against sickness, than in this work of house to house inspection; in most urban districts, and especially those in the environs of our largest cities, such work grows yearly more necessary, by reason of the fact that each year sees more houses, originally built for one family, becoming "tenemented" and occupied by several, with the result that the sanitary provisions are so overtaxed that they do not remain both effective and cleanly for many months at a time.

SANITARY PREMISES.—Sanitary science has at last reached a stage at which it can say definitely how house drainage should be provided so that it shall not form a source of disease. The requirements of Sanitary Authorities are not complex (in a sanitary sense), and there are few owners who do not well know what these requirements are; and to neglect them is an offence which comes very near to being a crime. Where the uncleanly habits of the inmates are responsible for not keeping the premises sweet and wholesome, and homes become death traps to the young and susceptible members of the household, then, of course, a similar reproach rests upon the heads of the parents.

During the year the London County Council have received a report by Messrs. Parry and Laws upon an investigation into the composition of the air of sewers. In this report further evidence was given of the comparative freedom of germs from this air, and

of the absence of those germs which we have associated with different diseases. It is to be hoped that this report will not be taken as offering any testimony to the innoxiousness of "sewer gas." It is an experience as old as sanitation itself that such gases cause ill health, and if they do not directly induce disease, they gradually bring about a condition of low vitality that strongly predisposes to it; man has always avoided such 'odours instinctively and intuitively. There are doubtless toxic poisonous elements (probably gaseous) which result from the putrefaction and fermentation of sewage matter, which have not been defined, and which no one is at present capable of defining; and the absence of the germs of diphtheria and typhoid from "sewer gas" does not shake the absolute faith shared by all health officers that "sewer gas" is capable of inducing those diseases.

THE SEWAGE FARM.—In my last annual report I pointed out that the Filter Beds upon the Sewage Farm stood in urgent need of considerable improvement, and I quote the report of the Sewage Farm Sub-committee which resulted from a careful investigation into the matter :—

"None of the 16 so-called Filter Beds are, or ever have been, Filtering Beds in reality, all of them having stiff soil over almost the whole of their surface. Nos. 1, 2, and 3 are those which were drained several years before the others. The drains are fifteen feet apart and an average depth of 2 feet 6 inches and the trenches over the drains were (as the Committee are informed), filled in with the natural soil. The remaining 13 beds were drained under contract about three years ago.

"The principal drains in those beds (also fifteen feet apart) are five feet deep, the trenches widening to four or five feet on the surface. These trenches are filled with gravel ballast up to within nine inches from the surface, but those nine inches or more were originally filled in to at least that depth with a mixture of the natural soil and road drift, etc., a material which is a little more pervious than the stiff clay of the natural soil.

The Superintendent (Mr Sylvester) has during the year removed a large quantity of this useless material from the Filters and it is the aim of the Council to entirely replace it so soon as possible by the hard core and burned cinder ash which is procured from the dust collected in the district.

With the Filter Beds hitherto so inefficient, it is a matter of some surprise that the effluents should have been so satisfactory, but it must be remembered that in addition to a very thorough chemical treatment of the sewage, the effluent from the settling tanks is not entirely dependent upon filter beds for its further purification, for it is subsequently exposed to considerable surface flow over grass fields before it enters the brook. It is a fact, well known to those who have had special experience in the methods of purifying sewage effluents that such surface flow, even when over a stiff clay soil, brings about an improvement in the effluent which is remarkable, in that it far exceeds that which would be conjectured on chemical and physical grounds.

During the year I have performed a very large number of analyses, with the object of ascertaining if

- (a.) We were using more lime than was necessary.
- (b.) or using more alum than was necessary.
- (c.) or whether these two substances were combined in their best proportions.

I considered that there was probably some waste of chemicals, except perhaps in those cases where the sewage came up very black and thick, and I thought that perhaps some saving could be effected in chemicals without in any way affecting the satisfactory character of the effluent; and if so the amount and causticity of the sludge would also be thereby reduced—another very positive advantage.

The recommendations of the late Dr. Tidy were that the reagents employed should be alum and lime, and that they should be added to the amount of 7 and 10 grains respectively to the gallon of sewage.

While conducting the long series of experiments embracing nearly 100 analyses, I soon found that it was useless comparing the results of work upon sewage taken on different days. I found that even though the sewage of one day be to physical tests the same (even the specific gravity being identical) with that of another day, the effect of equal amounts of chemical on the two samples may vary. It is extremely difficult to account for the discrepancies which I encountered under this head. Obviously the nature of the original refuse matter which finds its way into the sewers cannot vary much in Finchley from day to day, and the only explanation I have to offer is that the sewage was collected at different hours, and it is conceivable that the sewage may vary in nature, at DIFFERENT HOURS, throughout the same day.

In every case I worked with fresh sewage pumped up into cans, so the difference in the precipitability of the sewage was not due to stages in staleness and decomposition of such sewage. I performed experiments to this end, and found that more matter can be chemically precipitated from fresh sewage than from stale. A sample of fresh sewage, for instance, containing 180 parts per 100,000 of total solids yielded a supernatant fluid showing 86 parts per 100,000 in 6 hours from the addition of the precipitants, whereas the same sewage after 24 hours gave 93 parts, and after 48 hours, 94. The probable explanation is that the organic matter quickly decomposes and thereby breaks up into much finer particles, which may escape being carried down by the chemical precipitant, and probably the gases which are given off in increasing quantities as fermentation and putrefaction advances, by their constant bubbling up through the sewage, keep lifting up the lighter particles, and thus prevent them from settling completely.

These facts, then, point to one conclusion only, and serve to drive home two important truths, *i.e.*, (a) There is a distinct advantage—so far as the purity of the effluent is concerned—in treating the sewage as fresh as possible; (b) There is a disadvantage in allowing sewage to remain in the tanks much longer than 6 hours.

I experimented, therefore upon fresh average samples of the Finchley sewage; and the experiments were conducted in many series upon the same sewage taken at the same time from the sewer; the figures of the analyses were all submitted to the Sanitary Committee.

I first took many measured quantities of the fresh sewage and treated these with known and varying amounts of lime, and my best results were obtained when **9 GRAINS** to the gallon of lime were added to what one may classify as an average sample of sewage—that is to say less than 9 grains gave less satisfactory results, but more than 9 grains did not affect any appreciable improvement in the effluent.

Similar experiments were performed with alum, with the result that **12 GRAINS** were found the most satisfactory amount to use.

Next the 2 substances were combined in all proportions within the limits of 10 grains of one to 1 grain of the other, and after verifying results by a series of control experiments, I found that **7 GRAINS** of lime and **5** of alum gave the best results with average fresh sewage of the district.

I found that 7 grains to the gallon of lime, and 5 of alum, separate about 25 per cent. of the total solids in SOLUTION in the sewage as well as almost the whole of the solids in SUSPENSION. Alum acts by yielding a flocculent precipitate, and I find that this settles more slowly than the lime precipitate, that it is more easily disturbed after settlement, and that alum tends to form a certain amount of floating scum; these are distinct drawbacks to its use. Next I found that so far as clarification of the sewage was concerned, better results are got by 10 grains to the gallon of lime, than by 5 grains of lime and 5 of alum; *i.e.*, there is about equal clarification, but this is more quickly effected. Lime is only about half the price of an equal weight of alum, and the question naturally arises as to why the alum should be employed at all, and why its place should not be taken by an equal amount of lime.

The only advantage that can possibly accrue from the use of the alum are the following:—(1.) The effluent and sludge from pure lime treatment are strongly alkaline (too strong in fact to render either of much value to vegetation) and the alum tends to neutralise *in a slight measure* this alkalinity. (2.) With a pure lime effluent there is a tendency for a secondary decomposition to set in, with the result that it gives off offensive smells after standing—alum tends to check this decomposition and consequent evolution of smells. (3.) If too much lime is employed, some of the offensive matter that was originally in suspension gets dissolved, held in solution and not precipitated—and a less pure effluent results.

The next obvious question is whether something may not be substituted for the alum which will give a **HEAVIER PRECIPITATE** which will settle **MORE RAPIDLY**, which will **AT LEAST EQUAL THE ALUM** in its clarifying and purifying effects, and which will tend to check secondary decomposition in the effluent at least as effectually as the alum.

My experiments with carbferalum, which is a mixture of alum, proto-sulphate of iron, and carbon, furnish results but little better than those from an equivalent amount of lime; but the protosulphate of iron is employed along with lime on many farms and also at the sewage outfall works for the Metropolis, and I have carefully gone into the relative powers and merits of this iron salt and alum.

I find from many experiments that the protosulphate possesses all the advantages (as a precipitant) of the alum, with none of its disadvantages, and that the results of the employment of $2\frac{1}{2}$ grains to the gallon of this re-agent are in the main as efficient as 5 grains of alum, and that the iron excels the alum in its power of keeping the sludge and effluent sweet. It is necessary that the lime should be added first, so as to ensure marked alkalinity of the sewage.

To sum up, I find that a mixture of 5 grains to the gallon of lime, and $2\frac{1}{2}$ grains to the gallon of ferrous sulphate give better results than even Dr. Tidy's recommendation of 10 grains of lime, and 7 of alumina.

The cost of lime is ... about £1 per ton.

„ protosulphate of iron „ £2 5s. „

„ alum ... „ £2 10s. „

and the suggestion will effect a considerable saving in the outlay upon chemical precipitants.

Analyses performed during 1895.

24 samples of well water ; with the result that 8 were condemned.

A large number of effluents from the sewage farm ; all satisfactory as sewage effluents and below the limit accepted by the Thames Conservancy Commissioners.

In every case where analysis showed the samples to be bad, successful action was taken to remedy matters.

LIST OF DAIRIES AND MILK SHOPS IN THE FINCHLEY DISTRICT.

Name.	Address.	Dairy.	Milk Shop
Allison	22, Hamilton Road .. ..	..	1
Austin	Furzby Farm, Nether Street	1	..
Copps, Geo.	Fredericks Place	1	..
Copps, Mrs.	Friern Barnet Lane	1	..
Coldthorpe	High Road, East Finchley .. ..	..	1
Cress	High Road, East Finchley .. ..	..	1
Cress	High Road, East Finchley	1	..
Express Dairy Co. ..	Regent's Park Road	1	..
Express Dairy Co. ..	Kenwood Farm, Hampstead	1	..
Gunning	East End Road	1	..
Hunt, Mrs.	Market Place	1	1
Jersey Farm Co. ..	High Road, North Finchley .. ..	..	1
Jersey Farm Co. ..	Court House Farm, Nether St.	1	..
Lane	The Broadway, Church End .. ..	..	1
Lane	High Street, North Finchley .. ..	..	1
Nix	Queen's Terrace, Church End .. ..	..	1
Nix	College Field, Church End	1	..
Pidgeon	Long Lane	1	..
Tooley	Ballards Lane	1	..
Wilkinson	High Street, North Finchley	1	1
Totals		13	9

LIST OF SLAUGHTER HOUSES IN THE DISTRICT OF FINCHLEY.

Name.	Address.	Slaughter House.
Coldham...	Market Place	1
Foskett	Red Lion Hill	1
Griffin	High Street, North Finchley ...	1
Galpin, W.	Albert Place, Church End ...	1
Galpin, J.	Market Place	1
Pulham	Wellington House, E. Finchley	1
Randall	Church End, Finchley...	1
Timewell	Hendon Lane	1
Tinsley	High Street, North Finchley ...	1
Wright	High Road, Whetstone ...	1
Watson	High Road, North Finchley ...	1
Ware	High Road, North Finchley ...	1
Whiteley... ..	East End Road, Church End ...	1
Total		13

LIST OF BAKEHOUSES IN THE DISTRICT OF FINCHLEY.

Name.	Address.	Bakehouse.
Burgess	High Road, East Finchley ...	1
Clifton	Queen's Terrace, Church End	1
Cook, Mrs.	High Street, North Finchley ...	1
Cook, A. F.	Friern Barnet Lane, Whetstone	1
Coldham... ..	Market Place	1
Cooper	High Street, North Finchley ...	1
Gibson	High Street, North Finchley ...	1
Green	High Street, North Finchley ...	1
Harper	High Road, Whetstone ...	1
Hayes	Albert Place, Church End ..	1
Janes	Market Place	1
Priest	High Road, East Finchley ...	1
Ramsey	Bull's Lane, East Finchley ...	1
Smith	High Road, Whetstone ...	1
Stiff	Bull's Lane, East Finchley ...	1
Total		15

All the BAKEHOUSES, DAIRIES, COWSHEDS AND SLAUGHTER-HOUSES of the district have been periodically inspected, and in my opinion they are generally kept in a very satisfactory condition. In the few instances where work was required to be done, it has been carried out with efficiency and with all reasonable dispatch. A full list of these is appended to the Report.

The following Adoptive Acts are in force in the district :—

The Infectious Diseases (Notification) Act, 1889.

„ „ (Prevention) „ 1890.

The Public Health Amendment „ 1890.

The following Bye-laws are in force :—

The cleansing of footways and pavements ; the removal of house refuse ; and the cleansing of earth closets, privies, ash pits, and cesspools.

The prevention of nuisances arising from snow, filth, dust, ashes, and rubbish, and the keeping of animals on any premises so as to be injurious to health.

Common lodging houses.

New streets and buildings.

Slaughter houses.

Houses let in lodgings.

Offensive trades.

**Return of Sanitary Works executed in the District during
the Years below referred to.**

	1889	1890	1891	1892	1893	1894	1895
Cesspools cleansed	8	3	4	4	11	15	5
Cesspools abolished	6	9	19	11	9	8	2
Closets cleansed, repaired, and amended	20	18	14	78	45	38	52
Water Supply to W.C.'s laid on and amended	128	119	130	257	173	147	246
New W.C.'s constructed	12	22	20	16	20	24	5
Sinks and Bath wastes disconnected ..	74	32	19	48	39	28	11
Water Supply (Domestic) amended ..	4	3	11	58	12	46	22
Water Supply to Houses under Section 62	10	21	12	28	24	16	18
Drains tested	15	25	55	70	194	147	138
Defective Drains examined and repaired	22	18	43	105	68	27	29
Defective Drains abolished and new constructed	112	51	41	103	63	40	30
Drains Ventilated and Ventilators amended	52	92	60	75	62	97	91
Dust Bins provided and repaired ..	5	13	79	110	85	88	247
Foul ditches cleansed	4	4	3	5	4	3	5
Heaps of Manure removed	9	3	3	3	4	4	6
Pig Styes abolished	5	2	0	0	5	10	4
Samples of Water taken for analysis ..	15	17	10	17	20	16	24
Sundry nuisances abolished ..	43	49	39	41	95	101	60
Premises disinfected by Sanitary Department (No. of Rooms) ..	110	58	50	104	168	96	34
No. of Inspections made	299	282	295	319	476	460	485

F. C. STOCKMAN,
Sanitary Inspector.

**Return of Sanitary Work Executed in the District for the
Year ending December 31st, 1895.**

	No. of Houses.
Cesspools Cleansed	5
Cesspools Abolished	2
Drains tested	138
Defective Drains Examined and Repaired	29
Defective Drains abolished and New Constructed	30
Drains Ventilated and Ventilators Repaired	91
Drains Unblocked	12
Closets Cleansed, Repaired, Altered, and amended	52
New Water Closets Constructed	5
Water to w.c.'s Laid on or Amended	246
Sinks and Bath Wastes Disconnected	11
Bell Traps, etc., Removed and Proper Gullies fixed	93
Water Supply (Domestic) Amended	22
New Lids and Repairs to Cisterns	47
Water Laid on to Houses under Section 62	18
Samples of Water taken for Analysis.. .. .	24
Dust Bins Provided and Repaired	217
Foul Ditches Cleansed	5
Heaps of Manure Removed	6
Pig Styres Abolished	4
Walls and Ceilings Cleansed	45
Rain Water Pipes Disconnected	105
Cellars Cleansed Out	1
Premises Disinfected by Council, No. of Rooms	34
Bedding and Clothes Disinfected by Council, No. of Houses.. .. .	3
Roofs Repaired	21
Sundry Nuisances Abated	60
Number of Complaints Received	85
Number of Houses inspected	485
Houses Reported on by Inspector to Council	437
<i>No. of Notices Served—</i>	
Section 36, New Drain	7
Section 36, Sufficient w.c. and Ashpit	331
Section 46, Cleanse and Wash Walls	3
Section 47, Cesspools	3
Section 47, Water in Cellars	1
Section 49, To Remove Manure	8
Section 62, Water Supply	36
Section 94, Abatement of Nuisance	51
Section 94, Accumulation of Deposit	3
Section 94, Keeping Animals	9
Section 94, Unhealthy Premises	255
Housing of Working Classes	8

715

All the Dairies, Milk Shops, Bakehouses, and Slaughter Houses have been inspected periodically.

F. C. STOCKMAN,

Sanitary Inspector.

Constant Supply of Water.

The great sanitary advantage which is generally claimed for the constant system is that the drinking water can be drawn direct from the mains, and that the dangers incidental to storage of the water upon the premises are removed. Since, however, it is held by the Water Companies that a storage cistern remains necessary, even with the constant system, in order to ensure a reserve supply when accidents or repairs to the main necessitate the cutting-off of the water, this great argument in favour of the adoption of the system disappears. It is perfectly clear that if means cannot be provided to ensure the CONSTANCY of the "constant" supply, that a storage cistern will have to be provided ; but the retention of old cisterns insufficiently covered, fixed in bad positions and almost inaccessible for the purposes of inspection and periodical cleansing, should not be suffered to mar the full benefits accruing from the adoption of the constant system. Such cisterns should be discarded, and others substituted of a pattern that dirt and vermin *cannot* pollute the water, and no deposit can separate and accumulate ; but but under ordinary circumstances the drinking water should be taken directly from the rising main by a draw-off tap.

The fact that a sufficient quantity of water will generally be obtainable under the constant system will in itself be a great gain to the district, a considerable amount of the property of which has become "tenemented," and is at present insufficiently supplied. I have had several complaints from the parishioners on this point, the storage capacity of the cistern being too small to meet the increased requirements of premises now occupied by two or three families.

The Factory and Workshops Act, 1878-1895.

The powers of the Sanitary Authority under these Acts are of such great importance to the health of the toiling masses that it may be well to briefly set forth what these powers are for the information of those who have not had the opportunity of studying it. The duties of the Sanitary

Authorities, in London, with reference to Factories, Workshops, and Laundries are set forth in the Factory and Workshops Acts, 1878 to 1895, and in the Public Health (London) Act, 1891.

The definition of "workshop" and "factory" is contained in the "principal Act" of 1878, and the distinction between the two terms rests mainly upon the fact that in the case of the latter some steam, water, or other mechanical power must be used in the process carried on.

By the Factory and Workshops Act of 1891, it became the duty of the Sanitary Authority in London to deal with overcrowding, and to enforce cleanliness, lime washing, sufficient ventilation, and freedom from effluvia in workshops; and such matters were to be dealt with, when necessary, as nuisances under the Public Health (London) Act, 1891, section 2; and by section 38 of this Act it is the duty of the Sanitary Authority to enforce suitable and sufficient provision in the way of sanitary conveniences and separate accommodation for each sex, where both sexes are employed. With regard to Bakehouses the Public Health (London) Act, 1891, requires:—

That the walls and ceilings of the Bakehouses must be painted in oil or varnished every seven years, and washed with hot water and soap every six months, or be lime-washed every six months.

Special restrictions are to be enforced with respect of any place on a level with the Bakehouse which is used as a sleeping place.

No water-closet may be within or communicate directly with a Bakehouse, nor may any drain have an opening within the Bakehouse.

It is the duty of the Sanitary Authority to give effect to the provisions of the order of the Secretary of State (November, 1892) with reference to out-workers. The order requires the

occupier of premises of which wearing apparel and certain other material given out to be made up, to keep a list of out-workers. These lists are to be periodically inspected, and the places where the out-workers reside are to be visited.

The new Factory Act (1895) is an important advance upon previous Factory Legislation, although in the opinion of Health Officers it stands in need of amendment in one or two particulars.

The chief sanitary clauses of the new Act are the following :—

- (1) A factory or workshop shall be deemed to be overcrowded unless its cubic capacity afford at least 250 cubic feet per each person employed, or during any period of overtime, 400 cubic feet of space to every such person. (Sect. 1.)
- (2) In every factory or workshop a notice specifying the number of persons who may be employed in each room of the factory or workshop shall be kept constantly so affixed and in such position as to be easily read by the persons employed therein.

Presumably it will be the duty of the Sanitary Authority to see that this section is conformed to.

- (3) Where notice of neglect, act, or default is given by the Factory Inspector to a Sanitary Authority, the Sanitary Authority must inform the Factory Inspector of the steps taken in consequence of the notice. (Sect. 3.)
- (4) If no steps be taken by the Sanitary Authority within one month for punishing or remedying the act, neglect, or default, the Factory Inspector may take the like proceedings, and recover the cost from the Sanitary Authority. (Sect. 3.)

- (5) If any occupier of a factory, or workshop, or laundry, or of any place from which any work is given out, or any contractor employed by any such occupier, causes or allows wearing apparel to be made, cleaned, or repaired in any dwelling-house or building occupied therewith, whilst any inmate of the dwelling-house is suffering from scarlet fever or small-pox, then, unless he proves that he was not aware of the existence of the illness in the dwelling-house, and could not reasonably have been expected to become aware of it, he shall be liable to a fine not exceeding ten pounds. (Sect. 6.)
- (6) So far as regards sanitary provisions, affixing of notices, etc., the Factory Act shall have effect as if every laundry in which steam, water, or other mechanical power is used in aid of the laundry process, were a factory, and every other laundry were a workshop.
- (7) In case of every laundry worked by steam, water, or other mechanical power—
- (a) A fan, or other means of a proper construction shall be provided, maintained, and used for regulating the temperature in every ironing-room, and for carrying away the steam in every washhouse in the laundry.
- (b) All stoves for heating irons shall be sufficiently separated from any ironing-room, and gas irons emitting any noxious fumes, shall not be used ; and
- (c) The floors shall be kept in a good condition, and drained in such manner as will allow the water to flow off freely

N.B.—Laundries in which the only persons employed are—

- (1) Members of the same family dwelling there, or in which not more than two persons dwelling elsewhere are employed ; and (2) Inmates of prisons, reformatories, industrial schools, or charitable institutions, are exempted from the foregoing regulations. (Sect. 22.)
- (8) All the inside walls of every bakehouse and all its ceilings, passages, and staircases, shall be either painted with three coats of paint or varnish, once in seven years, and if so painted shall be washed with hot water and soap once at least in every six months ; or, instead of being painted, such bakehouse may be limewashed once in six months.
- (9) No underground place, not so used at the commencement of this Act shall be used as a bakehouse. (Sec. 27.)
- (10) In every factory, or workshop, where lead, arsenic, or any other poisonous substance is used, suitable washing conveniences shall be provided for the use of the persons employed in any department where such substances are used.
- (11) In every factory and workshop adequate measures shall be taken for securing and maintaining a reasonable temperature in each room in which any person is employed. (Sect. 32.)
- (12) The Act also imposes upon every medical practitioner, attending or called in to visit a patient whom he believes to be suffering from lead, phosphorous, or arsenical poisoning or anthrax, the duty of notifying the same to the Chief Inspector of Factories in London.

- (13) It is difficult for a Sanitary Authority to become acquainted of the existence of many work-places, and Section 41 provides that every occupier shall, during 1896, serve a notice to the Factory Inspector, giving particulars, and such notice shall be forwarded forthwith to the Sanitary Authority of the district in which the workshop is situate.

Although it is not ordered by the Act, it would be a most important and valuable step if the Factory Inspector would forward to each Authority a list of out-workers resident within its jurisdiction.

Undoubtedly the most important provisions in Factory Legislation are those which prescribe a limit to the overcrowding hitherto so common in work-rooms, and those which enforce efficient ventilation. The natural aversion to fresh air in their work-room, which appears to be in the experience of all health officers a dominant trait with the workers, will be difficult to overcome, unless it is insisted upon that provision shall always be made for *permanent* ventilation. If all Factories and Workshops could be efficiently ventilated at all times, and at the same time kept at a reasonable temperature—facts which I regard as physical impossibilities in some work-rooms, unless they be reconstructed—then a large section of the community would be spared a considerable amount of preventable illness, would become more healthy and vigorous, and soon repay by work more quickly and better performed, the outlay which would have to be faced by the bulk of employers.

