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COUNTY BOROUGH OF BURY.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR

1896

BY

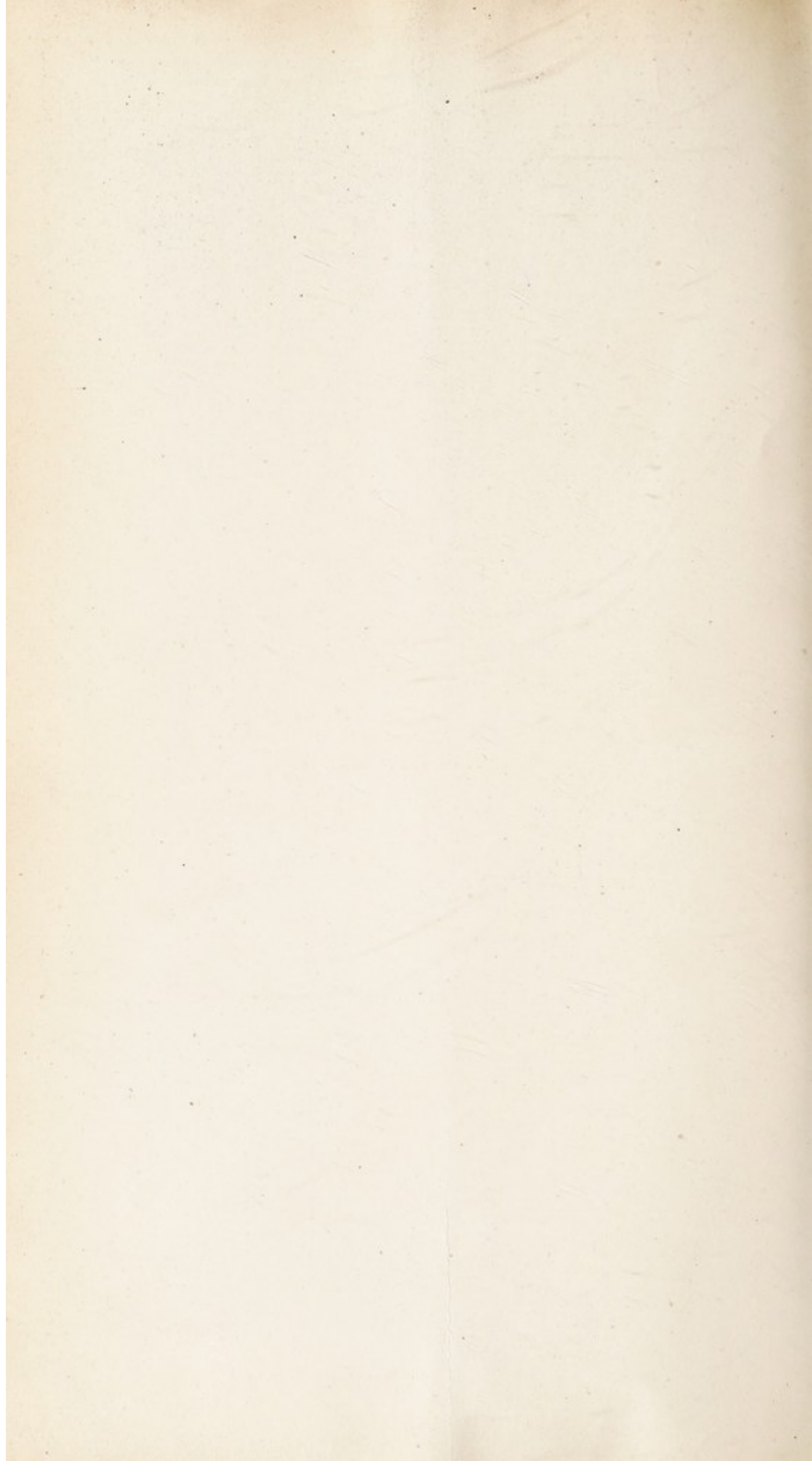
WILLIAM J. HOWARTH,

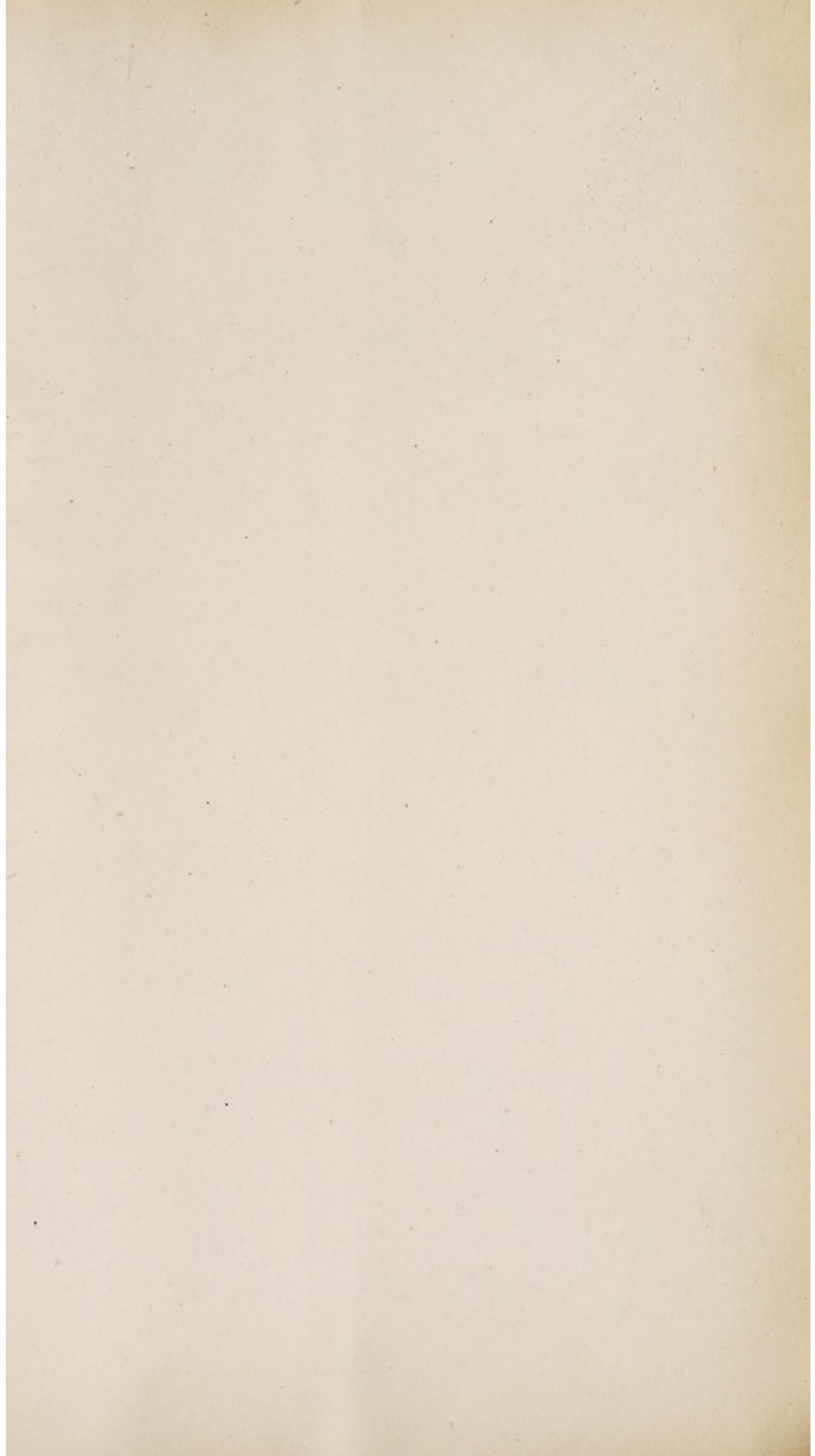
M. D., D. S. Sc., etc.

MEDICAL OFFICER OF HEALTH FOR THE BOROUGH, AND
MEDICAL SUPERINTENDENT OF THE FLORENCE NIGHTINGALE
HOSPITAL FOR INFECTIOUS DISEASES.

BURY:

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COUNTY BOROUGH OF BURY.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR

1896

BY

WILLIAM J. HOWARTH,

M. D., D. S. Sc., etc.

MEDICAL OFFICER OF HEALTH FOR THE BOROUGH, AND
MEDICAL SUPERINTENDENT OF THE FLORENCE NIGHTINGALE
HOSPITAL FOR INFECTIOUS DISEASES.

BURY;

Brunskill & Crompton, Printers, Bolton Street.

1897.

Health Committee, 1896=7.

CHAIRMAN - ALDERMAN PARKS.

DEPUTY-CHAIRMAN - COUNCILLOR MELLOR.

THE MAYOR.

ALDERMEN BARRETT AND TALBOT.

COUNCILLORS BATTERSBY, BENTLEY, COLLINGE, DAWSON,
FLETCHER, HUTCHINSON, KIRKMAN, PICKUP, PRESTON,
SMETHURST, SPENCER, SYKES, TAYLOR, THOMAS,
TIMPANY, AND WILSON.

Meetings, the 4th Wednesday in the month at 10-30 a.m.

Hospital Sub-Committee.

CHAIRMAN - ALDERMAN PARKS.

DEPUTY-CHAIRMAN - COUNCILLOR MELLOR.

THE MAYOR.

COUNCILLORS COLLINGE, DAWSON, HUTCHINSON,
AND PICKUP.

Meetings, 4th Wednesday at 10 a.m.

Population in 1891	...	...	...	...	57,212
Estimated Population at the middle of 1896	...	...	...	...	60,052
Birth Rate	...	...	...	...	24.21
Death Rate	...	...	...	...	19.81
Zymotic Death Rate	...	...	...	...	2.79
Deaths of Infants under One—per 1000 Births	...	...	...	...	176

*Public Health Department,
Parsons Lane,
February 9th, 1896.*

TO THE CHAIRMAN AND MEMBERS OF THE
HEALTH COMMITTEE.

GENTLEMEN,

I have the honour of submitting to you my First Annual Report upon the health of the County Borough of Bury, being the Report of the Medical Officer of Health for the year 1896.

Many of the subjects which are worthy of the most careful treatment I have had to pass over, either with the merest reference, or even without noticing them; the reason being, partly, that I have not yet had an opportunity of studying them in detail, and partly that the information at my disposal was not sufficiently complete. I would, however, particularly draw your attention to the following subjects:—the neglect of vaccination, the methods of disinfection, and the necessity for the improvement of the so-called tenement dwellings.

To prevent delay in presenting this report I have not touched upon the important question of excrement and refuse disposal. I am at present engaged in collecting information which will enable me to present this subject to you in its entirety.

I have to thank the Town Clerk and Borough Surveyor for considerable assistance I have received in connection with many subjects contained in this report, and the officials of the gas and rates department for the trouble they have taken in obtaining information as to the number of inhabited houses.

I am, gentlemen,

Your obedient Servant,

WILLIAM J. HOWARTH,

Medical Officer of Health.

***Geology.**—The geological formations upon which any town has grown cannot fail to make its influence felt, either for better or for worse, according to the nature of the underlying formations. In a town which is extending rapidly in all directions, questions referring rather to the price of land, accessibility of approach to the centre of the town, and the convenience of the houses to the main centres of employment, will have more weight in deciding the site than whether the foundations be upon rock, clay, or gravel. Telluric influences having been proved to play a most important part in many diseases, a fairly intimate knowledge of the geology of the district may perhaps give the key to certain outbreaks, or the extra prevalence of disease which otherwise would be shrouded in mystery. I have endeavoured to obtain reliable information upon this subject, and as far as Bury itself is concerned the following brief outline is of value :—The valleys of the Irwell and the Roach, and of the Irwell from the junction of the two streams below Blackford Bridge, to Radcliffe Bridge, including all Bury up to the rising ground on the north side, were, in recent geological times, a lake. This lake was caused by a block across the valley at Radcliffe Bridge; the blocking having resulted from a large fault in the strata. This fault caused a reversal of the dip; to the East the dip is East, and to the West the dip is West, and that curve in the strata, combined with the greater hardness of the rock, (a common enough result of a fault) resisted the denuding forces and remained for ages a block across the valley and consequently formed a lake. In the district between the two rivers there is a fair depth of gravel, and the highest land between the town and Blackford Bridge will show the greatest section of gravel. All this gravel is geologically of recent date, in fact quite modern, if the term may be so applied in contradistinction to the more ancient sand and gravel in Heady Hill, between Bury and Heywood; the strata there corresponds to that which covers a large portion of the parish of Prestwich, and is not due to river washings, having been more probably deposited under the sea.

Geological
Information.

The whole of this district rests upon the coal measures which thin out on the slopes of the hills and disappear by the uplifting of the Millstone Grit. In one or two of the quarries which are worked in the north of the town the Feather Edge coal is seen in the Millstone Grit, notably in the Hill-top Quarry. The coal basin is of considerable extent extending westward to the estuary of the Dee and into the County of Flint. On the metals of the coal measures lies the first layer of drift Boulder Clay, and on the Boulder Clay lies the gravel silt. This silt was brought down from the hills forming the watershed of the two rivers and for ages was deposited in the lake. As a more northerly direction is taken through the town the gravel on the Boulder Clay lessens and finally disappears, and when the hills are reached the clay itself is absent on the hillsides and hilltops. It is thus evident that the greater part of Bury is built upon lake deposited gravel silt.

* I am indebted to Mr. W. Pickstone, of Stand, for the greater portion of this information.

**Information relating to the County Borough of Bury, extracted
from the Census Returns of 1891.**

**Occupations of Males and Females, aged 10 years and upwards,
in the Urban Sanitary District of Bury.**

<i>Occupations.</i>	<i>Males.</i>	<i>Females.</i>	<i>Occupations.</i>	<i>Males.</i>	<i>Females.</i>
1.—Professional Class.			5.—Industrial Class.		
Civil Servants, Police, Army, Poor-Law Officials, &c.....	157	15	I.—MECHANICAL.		
Clerical Profession	60	21	Newsagents, Printers, Book- binders	161	7
Legal	79		Machine Makers, Fitters, Boiler Makers, Weaving Machine Makers, Turners, Millwrights, &c.....	963	10
Medical and Dental	42		Toolmakers, Cutlers, and File makers	23	
Subordinate Medical Service	11	1	Watch and Philosophical Instrument Makers and Dealers	37	2
Veterinary	10		House-building Trades	1190	2
Nurses		47	Furniture Makers, Dealers, and Undertakers	103	21
Teachers and School Officers	72	200	Carriage and Cycle Dealers..	112	
Students over 15 years.....	54	47	Saddlers, Harness, &c.....	25	
Engineers and Surveyors....	27		Woodcarvers, Gilders, &c. ..	7	1
Artists, Photographers, Actors Architects, Sculptors	95	28			
Literary and Scientific.....	24				
Exhibitions, Games, &c.	8				
2.—Domestic Class.			II.—LODGING, FOOD, &c.		
Indoor Servants, Cooks, Char- women, Hospital Service, &c	113	1685	Lodging and Boarding-house Keepers	9	34
3.—Commercial Class.			Hotel Keepers, Publicans, &c.	75	16
Merchants, Brokers, Agents,	46	2	Coffee and Eating-house keep- ers.....	11	4
Auctioneers, Accountants ..	32		Brewers	52	1
Commercial Travellers.....	62	0	Beersellers	61	17
Clerks	423	10	Wine and Spirit Merchants or Agents.....	7	
Insurance, Service.....	108	1	Wine and Spirit Cellarmen..	7	
Bank Officials and Clerks ..	34		Milk Sellers.....	16	2
Railway Engine Drivers, Por- ters, Clerks, &c	342	1	Butchers	175	18
Coachmen, Cabmen, Carters, Tramway Service	756	0	Fishmongers and Poulterers	24	6
Messengers, Porters, Ware- housemen, Bargemen, &c.	261	4	Bakers and Confectioners....	132	89
4.—Agricultural Class.			Grocers	259	122
Those engaged about Animals and in Gardens	432	7	Green Grocers and Fruiterers	72	11
			Other Purveyors of Food	76	19

<i>Occupations.</i>	<i>Males.</i>	<i>Females.</i>	<i>Occupations.</i>	<i>Males.</i>	<i>Females.</i>
III.—TEXTILE.			VI.—ANIMAL SUBSTANCES.		
Woolworkers and Dealers ..	345	368	Tallowchandlers, Glue Mak- ers, &c., Furriers, Tanners, Curriers, Broom-makers. .	156	3
Cotton and Cotton Goods Workers	3466	7240	VII.—TOBACCO & PIPES.		
Cotton and Calico Printers and Bleachers.....	698	131	Tobacco Manufacturers and Tobacconists	26	25
Cotton, Linen, Fustian and Tape Dealers	22	1	VIII.—MISCELLANEOUS.		
Hemp workers and Dealers..	37	1	Coalminers	120	0
Dyers, Factory Hands, Carpet Rug Manufacturers, &c. ..	158	185	Labourers (various)	1122	2
IV.—CLOTHING.			Blacksmiths	266	1
Hatters.....	515	395	Iron and Steel Manufacturers	1109	2
Tailors	166	149	Engine Drivers and Stokers ..	284	0
Milliners	5	684	Artistian, Mechanics, Appren- tices, undefined	81	1
Boot and Clog Makers.....	271	8	Coal, Coke, and Gas Workers	186	3
Hairdressers, &c.	64		Paper Manufacturers	521	378
Others	13	80	Other Industrial Occupations	847	152
V.—CHEMICALS & COMPOUNDS.			IX.—UNOCCUPIED CLASS.		
Dye, Paint, Ink, and Black- ing Manufacturers.....	35	0	Retired from business	337	148
Chemists, Druggists, and Dry- salters	107	9	Pensioners.....	13	0
			Living on own means	133	549
			Others (over 10 years).....	1967	10790

Ages of Males and Females.

Age Period.				Males.	Females.
Under 1 year	.....			668	691
1 year and under 2 years	.....			646	625
2 years	„ 3 „	.....		683	629
3	„ 4 „	.....		681	683
4	„ 5 „	.....		624	637
Total under 5 years				3302	3265
5	„ 10 „	.....		3156	3119
10	„ 15 „	.....		3100	3351
15	„ 20 „	.....		2897	3110
20	„ 25 „	.....		2511	3097
25	„ 30 „	.....		2206	2593
30	„ 35 „	.....		1949	2324
35	„ 40 „	.....		1796	2085
40	„ 45 „	.....		1463	1678
45	„ 50 „	.....		1294	1475
50	„ 55 „	.....		1005	1304
55	„ 60 „	.....		745	982
60	„ 65 „	.....		602	793
65	„ 70 „	.....		414	566
70	„ 75 „	.....		265	367
75	„ 80 „	.....		104	163
80	„ 85 „	.....		34	60
85	„ 90 „	.....		8	21
90	„ 95 „	.....		6	
95	„ 100 „	.....		2	
Total Number of Males				26,851	
„ Females					30,361
Total Number of Persons				57,212	

Condition as to Marriage.

		All Ages.	Under 15 years	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Unmarried	Males ...	16325	9558	2881	1963	1195	390	186	108	44
	Females.	18009	9735	3067	2283	1695	601	348	191	89
Married	Males ...	9565	...	16	544	2887	2746	1920	997	455
	Females.	9820	...	43	810	3110	2818	1832	903	304
Widowed	Males ...	961	...	...	4	73	123	193	242	326
	Females.	2532	...	...	4	112	344	599	681	792

Birthplace of Males and Females.

Where Born.	Males.	Females.	Where Born.	Males.	Females
Yorkshire	685	811	Monmouthshire and Wales	90	289
Lancashire	22980	25365	Islands in British Seas	17	32
London	122	128	British Colonies, &c...	66	74
Other parts of England.....	1835	2481	Foreign Countries ...	59	90
Scotland	197	189	At Sea	1	4
Ireland	799	900			

Country of Birth of Foreigners.

Males. Females			Males. Females		
United States of			France	1	1
America	14	30	Belgium	1	4
Germany	9	20	Austria	1	0
Russia.....	4	1	Switzerland	2	0
Poland	1	2	Italy	3	1
Turkey	1	0	Others.....	3	8

THE FOLLOWING TABLE OF THE INHABITED DWELLINGS IS INTERESTING,
SHOWING THE NUMBER OF ROOMS, AND THE NUMBER
OF OCCUPANTS TO EACH DWELLING.

* Tenements.

Rooms in tenement.	No. of tene- ments with less than 5 rooms.	Number of Occupants or Tenants.											
		1	2	3	4	5	6	7	8	9	10	11	12 or more
1	105	31	43	19	7	5	...	...	...	...	...	...	...
2	948	125	245	215	148	111	59	29	10	6	...	...	...
3	1377	33	201	258	266	186	180	115	70	35	23	7	3
4	6846	148	968	1273	1277	1079	820	566	350	193	111	35	26

* A tenement is defined as "any house or part of a house separately
occupied by the owner or by a tenant."

THE FOLLOWING TABLE ALSO CLEARLY SETS OUT THE POPULATION, &c.,
OF THE VARIOUS DIVISIONS OF THE URBAN DISTRICT IN
THE CENSUS YEAR OF 1891.

URBAN SANITARY DISTRICT:—AREA, HOUSES AND POPULATION IN 1891,
AND POPULATION IN 1881.

Township.	Area in Acres.	Houses in 1891.			Population in 1891.			1881.
		Inhabited.	Uninhabited.	Build'g	Males	F' males	Persons	Persons
Tottington-lower-end (part of) ...	105	327	12	...	758	794	1552	1501
Walmersley and Shuttleworth(part	895	233	75	...	515	608	1123	1284
Bury	2330	8766	703	24	19082	21956	41038	39283
Part of Bircle-c-B	96	35	13	...	312	252	564	804
„ Heap	252	160	25	...	360	404	764	763
„ Pilsworth	12	...	...	...	...	...	...	...
„ Pilkington	1	4	...	...	5	9	14	19
„ Radcliffe	106	1	...	...	4	2	6	...
„ Elton	2231	2411	197	8	5815	6336	12151	11063
Total	6028	11937	1025	32	26851	30361	57212	54717

MORTALITY STATISTICS.

Estimated Population.—For the purpose of making the annual statistics of Births, Deaths, and Marriages, comparable in each year it is necessary that some reliable method of estimating the population should be adopted, for the very basis of vital statistics is the reliability of the numbers to which the statistics refer.

Estimated
Population.

In a large manufacturing town like Bury, the influence of good or bad trade is very marked, and especially if the circumstances which affect the trade are local in action. Just previous to the last census there was great depression in the town, and several mills, employing in the aggregate hundreds of hands closed their doors. The result was an exodus of a large number of working men and their families. This effect is plainly seen by the number of empty houses which were then recorded. At the present time trade has recovered, so much so, that I have heard it stated—"it is more than a score of years since the town was so busy," and now, instead of there being a thousand empty houses, it is a very difficult matter to find one. The result of this is, that in forming an estimate of the present population more than ordinary care requires to be taken to avoid serious error.

There are several methods of estimating the population, thus, in a fixed community the simple excess of births over deaths would give the increased population, but such a condition it is impossible to obtain, emigration and immigration must be reckoned with. The Registrar General, in framing his annual estimates of population adopts a method which, under ordinary circumstances is fairly reliable, but at the present time this method under-estimates the population of Bury, owing, as I have said, to the extreme trade depression which existed in 1890 and 1891, and which has since revived. The following table shows the ward population and houses in each ward in 1891.

Population and houses in the Municipal Wards, 1891.

Ward.	Houses.			Population.		
	Inhabited.	Uninha'b'd	Building.	Persons.	Males.	Females.
Church	1701	134	2	8004	3879	4125
East	2578	235	15	12419	5813	6606
Elton	2663	201	8	13348	6398	6950
Moorside ...	2936	342	7	13816	6383	7433
Redvales ...	2059	113	...	9625	4378	5247
Total	11937	1025	32	57212	26851	30361

Method adopted
by the Registrar
General.

The Registrar General's method assumes that the rate, of growth of the population which obtained in the interval between the two most recent census enumerations has been maintained since the last census year. Upon this basis of calculation the population of Bury in the middle of 1896 would be estimated at nearly 59,000, and this I consider to fall short of the actual number. The most satisfactory method is that based upon the average number of inhabitants per house. It necessitates a yearly estimation of occupied and unoccupied houses and lockup establishments. The information I possess for this report can only be approximately correct, but I hope during the present year to be enabled to obtain absolutely correct and reliable information from a careful enumeration. From the population of 57,212 in 1891, occupying 11,937 houses, it is evident that the ratio is 4·7 persons to each house. The number of houses which were demolished between March 31st, 1891, and Midsummer, 1896, was 244, the number of new houses for which certificates were granted during the same period was 459, leaving

a balance of 215 to be added to the inhabited house list; a large number of the untenanted houses in 1891 are now in occupation, and I consider that there are now 12,777 inhabited houses within the area of the Borough. Assuming that the ratio of persons to each house is still the same, the population at the middle of the year 1896 would be $12,777 \times 4.7 = 60,052$.

Births.—During the past year there have been registered 1,454 births, 734 being boys, and 720 girls. I have no record of the number of illegitimate births, neither can I relegate the births to their Wards. Compared with previous years I find that it is the lowest number of births recorded for the past ten years, being slightly over 200 below the average, and falling short of the actual number registered in 1887 by over 400. *The birth rate is equal to 24.21 per thousand of the population.* The highest number of births registered was in the first year of the past decennium, and since then there has been an almost regular and progressive fall in the registered number of births, the only marked exception being last year when there were nearly 100 over the average, and 256 in excess of this year. This very low birthrate was evidently general throughout the country in the year 1896, for the returns of the Registrar General show that the birthrate for England and Wales was lower than any other year on record (29.7 per 1,000) excepting 1894, and that it was 1.3 per 1,000 below the mean rate in the ten years 1886-96.

Birth Statistics.

Annual Rate of Mortality.—The total number of deaths for the year 1896 was 1,245, as against 1508 in 1895, 1,140 in 1894, and 1,357 in 1893, the average for the past ten years being 1,317. The diseases contributing to this total are considered in detail later on in the report, almost the only increase above the average being noted in the deaths from zymotic diseases. The total deathrate from all causes was 20.74, as compared with 25.1 in 1895, and 19.4 in 1894. In this calculation no deduction is made for the deaths of

Rate of
Mortality.

BIRTH AND DEATH RATES FOR THE PAST TEN YEARS,

With Death Rates from certain Diseases during the same period.

YEAR.	Number of Births Registered.	Birth Rate per 1,000.	Number of Deaths Registered.	Death Rate per 1,000.	Deaths from Zymotic Diseases, including Diarrhoea.	Rate per 1,000.	Number of Deaths from Phthisis.	Rate per 1,000.	Deaths from other Respiratory Diseases.	Rate per 1,000.	Deaths under one year of age.	Rate per 1,000 Births.	Deaths under five yrs. of age.	Rate per 1,000.	Percentage of Deaths under five to total deaths.
1887	1888	32.37	1317	22.57	150	2.57	98	1.68	292	5.00	353	186	539	9.2	40
1888	1842	31.77	1294	21.6	150	2.54	101	1.71	287	4.86	267	144	487	8.2	38
1889	1770	29.50	1229	20.48	145	2.41	87	1.45	274	4.56	311	175	462	7.7	37
1890	1598	27.55	1276	22.00	97	1.67	102	1.75	341	5.87	269	167	409	7.0	32
1891	1682	29.50	1548	27.15	190	3.32	108	1.88	407	7.13	324	192	556	9.7	35
1892	1617	27.91	1262	21.93	103	1.78	75	1.30	301	5.23	285	176	416	7.2	32
1893	1488	25.53	1357	23.47	227	3.94	107	1.85	275	4.75	311	209	511	8.8	38
1894	1507	25.71	1140	19.45	97	1.65	87	1.2	186	3.25	223	147	336	5.6	29
1895	1710	28.50	1508	25.13	196	3.26	84	1.4	286	4.7	338	197	531	8.8	35
1896	1454	24.2	1245	20.7	168	2.79	76	1.2	279	4.6	251	176	447	7.4	35

persons within the Boroughs, who usually reside outside its boundaries. There have been 83 such deaths, 54 occurring in the Workhouse, 25 in the Infirmary, three in the Robinson Kay Hospital for Incurables, and one person who committed suicide. It would be hardly reasonable to deduct the whole of these deaths from the total number, as I have no record of persons usually resident in the Borough who have died outside. I should imagine that a fair estimate of such would be 28, so that deducting the deaths of non-residents occurring in the town, and allowing for the deaths of residents occurring in other districts, *the deathrate would be 19·81 per 1000 of the population.* This is the lowest rate recorded, excepting 1894, for the last seven years. It is somewhat higher than the deathrate for England and Wales, which is only 17·1 per 1,000.

Annual Rate of Mortality compared with other towns.

Rate of
Mortality in
other towns.

The following table compares the Birth Rate and certain Death Rates of Bury, with other manufacturing towns in this part of the country, and also with the returns for England and Wales.

TOWN.	Estimated Population in 1896.	Birth Rate per 1,000.	Death Rate per 1,000.	Zymotic Death Rate.	Proportion of Deaths of Infants under twelve months to 1,000 Births.
Oldham	143,442	27·2	20·3	2·7	183
Wigan	60,235	35·94	23·09	4·09	186
Bolton.....	120,380	31·5	20·7	2·55	165
Burnley	100,000	31·75	18·0	1·3	140
Bury	60,052	24·2	19·81	2·7	176
Darwen	36,652	28·1	17·1	2·2	181
Radcliffe.....	26,000	27·9	18·6	3·2	196
Rochdale	72,880	25·49	19·08	2·10	151
Middleton	24,000	25·8	19·7	1·4	205
England & Wales	30,717,355	29·7	17·1	2·8	148

From this table it is evident that the Birth Rate of Bury is exceedingly low, being 5·5 per 1000 less than the rate of England and Wales. The corrected death rate occupies a middle position among the above Lancashire towns, but it exceeds the rate for England and Wales, the 33 great towns, and the 67 other large towns, which have respectively the following death rates: 17·1, 18·9, and 17·3 per 1000. The death rate for England and Wales, less the 100 towns, was only 15·8 per 1000. The zymotic mortality occupies an almost similar position to the general death

rate, though it is less than that of the 33 great towns (2·86). The infantile mortality is also high, the rate of England and Wales, less the 100 towns being 130 per 1000 births.

Mortality at different ages. Of all deaths occurring in the Borough during 1896, 257 were those of infants under one year of age, that represents 20·6 per cent. of the total deaths, or a rate of 4·27 per 1000 of those living. In 1895 the deaths of infants under twelve months numbered 338, or 22·4 per cent. of the whole. Between the ages of 1 and 5 there were 190 deaths, so that children under 5 years of age contributed 35·9 per cent. of the whole of the deaths in 1896. Between the ages of 5 and 60 there were 482 deaths, which is equal to 38·7 per cent. of the whole whilst at ages over 60 there were 316 deaths, or 25·4 per cent. of the total.

Deaths at
different ages.

Amongst these deaths I find that the greater number below five years of age are due to zymotic diseases, in which class diarrhoea, measles, and whooping cough stand out most markedly, whilst acute chest troubles also contribute a fair proportion. After that period chest ailments, and particularly phthisis, and diseases of the heart make themselves felt in the mortality bill, and zymotic ailments are a diminishing feature.

Coroner's Inquests.* During the past year 72 inquests were held by Mr. CORONER BUTCHER, 13 of these were upon infants under twelve months, seven upon children between 1 and 5 years, whilst inquests were held upon 38 persons between the ages of 5 and 60, and 14 upon persons over that age. The verdicts resulting from these enquiries were as follows:

Inquests.

Accidental death	37
Suicides	6
Overlain in bed	1
Natural causes	26
Other causes	2

*I am indebted to Mr. S. F. BUTCHER, Coroner, for this information

Infantile Mortality.

Infantile
Mortality.

DEATHS UNDER ONE YEAR PER 1,000 BIRTHS FOR THE
LAST FIVE YEARS.

Year.	1892.	1893.	1894.	1895.	1896.				
					Bury.	England & Wales.	33 Great Towns.	67 other Towns.	England & Wales Less 100 towns.
Deaths under one Year per 1,000 births.	176	209	148	197	176	148	167	161	130

There have been 257 deaths of infants under one year of age as compared with 223 in 1895, and 338 in 1894. This represents a mortality of 176 per 1000 births, and in the above table are given comparative figures, both for recent years and for England and Wales.

There are many factors at work which contribute to this great mortality amongst infants, the most important being, prematurity and low vitality at birth; diseases of the respiratory system; diarrhoea, and diseases of the digestive system, brought about by improper feeding and insanitary surroundings; early and improvident marriages; and maternal negligence, as overlaying, and use of soothing syrups, which frequently contain narcotics. Much importance has recently been attached to the employment of married women in factories as a contributory cause of prematurity and loss of vitality, though I am inclined to think that the relationship has been somewhat exaggerated. That a considerable amount of ignorance exists amongst the poorer classes as to the proper methods of infant feeding cannot be denied, with the result that diseases of the digestive tract cause a great mortality every year amongst children. These subjects require careful consideration, but as I am unable to analyse the causes of death I will reserve a consideration of the subject until I can present it as it actually exists in Bury.

Mortality from Zymotic Diseases.

Zymotic
Diseases.

RATE OF MORTALITY FROM ZYMOTIC DISEASES FOR THE
LAST FIVE YEARS.

Year.	1892.	1893.	1894.	1895.	1896.				
					Bury.	England & Wales.	33 Great Towns.	67 other Towns.	England & Wales Less 100 Towns.
Death Rate per 1000 living.	1.78	3.94	1.65	3.26	2.79	2.18	2.86	2.51	1.60

To the seven principal Zymotic Diseases—Smallpox, Scarlet Fever, Measles, Diphtheria, Whooping Cough, Fever (Typhus, Enteric, and Continued), and Diarrhœa—are attributed 168 deaths, which is equal to a death rate of 2.79 per 1000. The above table compares previous years, and the separate diseases included as Zymotics are discussed in detail later on in the report.

Deaths from Diseases of the Respiratory System.

Diseases of the
Respiratory
system.

Of the 1,245 deaths which were recorded during 1896, 355 of these were attributed to diseases of the respiratory system. 102 of these deaths were those of children under five years of age, and 253 those of persons over that age. Compared with previous years the number is favourable, being somewhat below the average for the last six years, as will be seen from the following table:—

DEATH RATE FROM RESPIRATORY DISEASES.

Year	1891.	1892.	1893.	1894.	1895.	1896.
Death Rate ...	9.0	6.5	6.6	4.5	6.1	5.9

Subdividing these deaths I find that 76 were due to Phthisis, 152 to Bronchitis, and 127 to Pneumonia.

Phthisis. The 76 deaths from Phthisis represent a death rate of 1.2 per 1000 as compared with 1.4 for 1895.

Phthisis.

Phthisis must be regarded to a great extent as a preventable disease, and certain factors have been at work during the last few years which have materially assisted in lowering the death rate from this disease. Chief among these is the steady progress which is taking place in sanitary matters generally, improved systems of drainage both of houses and subsoil, the minimising of the deleterious effects of crowded and insanitary areas by the provision of open spaces in congested districts, the altered conditions under which various manufacturing processes are carried on, and by generally improving the condition under which people live. Phthisis is also an infectious disease, and all persons who are afflicted with the disease should be informed of the danger which may accrue to other individuals by indiscriminately scattering infection by means of the expectoration. They should attend to the most careful destruction of the sputum by fire, and never allow it to become dry, or to be deposited in places where it may become dry, for it is chiefly when dry that pollution of the air occurs, and inhalation of infected particles results. I am unable to present any statistics which would localise the disease to particular areas in the town, or which would show the effect of occupation in the production of the disease.

The Notification of Infectious Diseases and the Preventive Methods which are adopted.

The Notification
of Infectious
Diseases.

Information as to the existence of infectious diseases is obtained from Schoolmasters, Registrars, and Medical Practitioners. As the Education Department requires a certificate from the Medical Officer of Health testifying to the absence of scholars from infectious disease for the purpose of arranging the grant, notifications of absence due to such ailments are now forwarded to me on forms supplied for that purpose. This information is invaluable in the case of such infectious diseases as are not compulsorily notifiable. The information supplied by the Registrars is obtained from

their weekly return of deaths. The most important information is of course, that supplied by the medical men ; and as a rule it is both prompt and reliable. This notification is carried out in accordance with the terms of the Provisional Order of 1882, and the diseases which require to be notified are :—" Smallpox, Cholera, Typhus, Typhoid, Scarlet, Relapsing, Continued and Puerperal Fever, Scarlatina and Diphtheria, and any such other disease as the Corporationmay from time to time order to be deemed an infectious disease."

During the year 1896, 444 cases of infectious diseases were notified as compared with 274 in 1895, 648 in 1894, and 494 in 1893. The highest and lowest weekly incidences were as follows :—

Week ending.	1896.	Fresh cases.
November 28th.....	Highest number.....	24
January 25th.....	Lowest number	nil.

The following three tables give information concerning the number of cases of each disease notified in each month, the ward distribution of these diseases, and a quarterly summary for the year :—

CASES OF INFECTIOUS DISEASES REPORTED DURING THE YEAR 1896.

	Smallpox	Scarlet Fever.	Dip'heria	Typhus Fever.	Typhoid Fever.	Continu'd Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.
January.	...	22	2	...	...	1	...	...	...
Feb'y.....	...	16	4	...	4	...	...	...	...
March...	...	19	4	...	4	...	...	...	...
April ...	...	28	1	...	...	...	...	...	...
May	...	34	...	...	2	...	...	...	...
June ...	...	36	3	...	2	...	...	...	...
July.....	...	42	3	...	2	1	...	...	...
August...	...	32	2	...	5	4	...	...	...
Sept. ...	...	26	1	...	9	...	...	1	...
October.	1	33	3	...	3	1	...	...	...
Novr. ...	...	42	2	...	5	1	...	...	...
Decem'r.	...	35	2	...	5	...	...	1	...
Totals.	1	365	27	...	41	8	...	2	...

WARD DISTRIBUTION OF INFECTIOUS DISEASES.

	Smallpox	Scarlet Fever.	Dip'heria	Typhus Fever.	Typhoid Fever.	Continu'd Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.
Moorside	...	68	5	...	16	4	...	1	...
East ...	...	44	5	...	7	2	...	1	...
Elton ...	1	115	7	...	10	1	...	...	...
Redvales	...	83	8	...	7	1	...	...	...
Church..	...	55	2	...	1	...	...	...	...
Totals.	1	365	27	...	41	8	...	2	...

NUMBER OF CASES OF INFECTIOUS DISEASES NOTIFIED IN
EACH QUARTER OF THE YEAR.

QUARTER.	Smallpox	Scarlet Fever.	Dip'heria	Typhus Fever.	Typhoid Fever.	Continu'd Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.
1st	...	57	10	...	8	1	...	...	...
2nd	...	98	4	...	4	...	...	...	...
3rd	...	100	6	...	16	5	...	1	...
4th	1	110	7	...	13	2	...	1	...
Totals..	1	365	27	...	41	8	0	2	...

From the above tables it is evident that Scarlet Fever is the greatest contributing factor to the notifiable zymotic diseases, out of 444 cases 365 are due to that disease. It appears to have been equally prevalent during the second, third, and fourth quarters of the year. The maximum prevalence of diphtheria was in the first quarter of the year instead of the last quarter, as is more usual. Typhoid and Continued Fever show their greatest prevalence during the third and fourth quarters, whilst there has fortunately been an entire absence of Typhus Fever during the past year.

It is perhaps advisable that I should somewhat carefully describe the methods which are at present adopted to prevent the spread of contagion particularly as regards disinfection, and at the same time suggest certain improvements which ought to be adopted.

After a patient has been removed to the hospital, or if treated at home, after the receipt of the post card (which is always left by the inspector on his first visit) from the medical man in charge of the case, stating that the house ought to be disinfected, an experienced man from this department proceeds to disinfect the house. The method adopted is very slipshod, and admits of many possibilities of infection being retained, whereas the process ought to be as perfect as our present knowledge of the subject admits of.

Disinfection may be considered under the following headings :—

Methods of
Disinfection.

1st—The discharges of the patient, worthless pieces of linen, papers, scraps of food, the sweepings of the room, etc.

2nd—The bed-linen and other linen used by the patient which it is desirable should not be destroyed.

3rd—The patient.

4th—The house, or part of the house.

5th—Heavy clothing, the bed, whether of flocks or feathers, and such articles as cannot be washed,

Disinfection of
useless articles.

1st—The proper disposal of useless pieces of linen, scraps of food, papers, etc., is to burn them, and make the fire in the room serve the purpose of maintaining proper ventilation, and of acting as a destructor for these articles. The discharges require more special treatment, and in cases where the evacuations of the patient are of an infective character such as in Typhoid Fever, or Cholera, it is essential that they should be so treated as to immediately destroy their infectivity, and moreover, the contents of the receptacles in the yard, whether a privy, or ashpit, or a pail is in use must also be rendered harmless, and to do this I consider that the disinfectant recommended by Dr. Thorne in a memorandum issued by the Local Government Board is undoubtedly the most perfect. This consists of an acid solution of Perchloride of Mercury artificially coloured with aniline blue, and rendered odorous with thymol.

In such cases as the above-mentioned, the ashpits are emptied and disinfected and a pail is supplied to the house for the reception of the discharges. This pail has double sides, the lid is also fitted with sides which fit into the space thus formed, the disinfectant is placed both in the pail and in the space between the two sides so that when covered with the lid no effluvia can escape, and the contents are well disinfected. Any ground about the house which runs any risk of being soiled is also disinfected.

2nd—As regards bed and other linen it is necessary when removed from the bed for washing that they should be at once steeped in some disinfectant solution before being removed from the room. For this purpose I use a solution of Sodium Hypochlorite, containing 10% available chlorine, if this is diluted to the extent of 1 in 100, i.e. 0.1 per cent. of available chlorine, a very efficient solution is produced which Dr. Klein has recently shown is able to devitalise the bacilli of Typhoid Fever, Diphtheria, and Cholera in twenty minutes, and which he states "compares most favourably with all disinfectants that I am acquainted with, exclusive

of course of mercuric chloride." This solution of Hypochlorite of Sodium I am now distributing for the purposes of general disinfection during the progress of the case.

3rd—The patient. The disinfection of the patient must of necessity be left to the direction of the medical man.

4th—The house. The method of disinfection of the house as practiced in the Borough has been to simply close up all openings into the room and burn about a pound of sulphur in it, leave the place for seven or eight hours, and then re-open and ventilate. This method I have not considered satisfactory, it simply means that sulphurous acid gas is generated in a more or less dry atmosphere. That the method of disinfecting rooms by fumigation is uncertain in its results has been known for fifteen years, for in 1881, Wolffhügel with whom Koch agreed, expressed his strong disapproval of the plan, and other observers have since shown that the maximum strength of sulphurous acid gas which it is possible to obtain in practice in a room has no germicidal effect upon the organism of Diphtheria, Typhoid Fever, or Cholera. The disinfectant action of the gas is much increased if the air of the room is first moistened by such methods as spraying the walls with water, or burning the sulphur in a metal case surrounded by water so that the metal becomes heated and causes the water to evaporate but even this increased action is hardly sufficient, for Koch found that in a closed box Anthrax bacilli were killed in half-an-hour by 1·0 per cent. sulphurous acid, but their spores, which are just as capable of propagating the disease as the bacilli, resisted 6·0 per cent. for days, and that moisture only increased the action to the extent that some of the spores were killed by exposure to 50 per cent. in 24 hours. Another point to notice in disinfection by fumigation is that the greatest danger to be apprehended is not so much from the air of the room, as from the wall, ceilings, floors, and surfaces of furniture. The air, if ventilation has been anything like efficiently maintained, will have been regularly changed, and even if no systematic disinfection of the room has been

performed, it is probable that the air will be considerably if not entirely purified, whereas organic particles and dust will be found clinging to the walls, and deposited more or less on all the flat surfaces in the room. The result of this is that the infective particles must receive more or less of a covering and this thin covering will prove to be sufficiently protective to enable some to escape destruction, that being so the remedy which suggests itself is the application in fluid form of some recognised powerful disinfectant, of known strength, to every surface of the room. This application may be made either by a brush, or by some form of spray producer, and the solution I recommend for use is one of Perchloride of Mercury, of the strength of 1 in 500 to 1 in a 1000. Of the spray producers the most efficient is probably the "Equifex," made by Messrs. Defries & Sons. By its help ordinary sized rooms can be efficiently disinfected in about two hours time. It is also desirable in some cases that the paper should be stripped from the walls, and the ceilings scraped, which at the present time is very rarely done.

5th. Disinfection of bedding, wearing apparel, etc., is best carried out by means of heat in some form or other. At the present time the method that is adopted in Bury is disinfection by hot air, the apparatus being erected at the Infectious Hospital. It is not a satisfactory apparatus even from the point of general utility, and disregarding efficiency, for in a town where over 20 cases of infectious disease may arise in a week in an inter-epidemic period, it is evident that if eight or ten hours are required to disinfect bedding, and the size of the chamber only admits of one bed being treated, without any wearing apparel, some must run the risk of being neglected. I am however pleased to state that a resolution was passed during the latter half of the year to provide a steam disinfecter. The following few remarks will sufficiently prove to you the desirability of the change, which ought to be carried out as soon as possible.

The advantages of steam disinfection over that of hot air are—increased rapidity of penetration of the heat, and the greater germicidal action of steam compared with air at the same temperature. Steam penetrates the interstices of the articles, and is condensed, in condensing it causes a vacuum, which draws more steam after it, and at the same time the heat which is latent in the steam is freed by condensation, and heats the body with which it is in contact, whereas with hot air the process is an exceedingly slow one being simply by conduction, and as the best working temperature is about 255° F, it is almost impossible to thoroughly disinfect thick articles like pillows; rather a higher temperature than 255° will singe cotton goods.

The penetrating power of hot air is shown in the following table, which was compiled from a series of experiments by Drs. Whitelegge and Ashby.

REGISTERING MAXIMUM THERMOMETER PLACED BENEATH
LAYERS OF BLANKETS.

Duration of Exposure.	2 layers.	4 layers.	6 layers.	12 layers.	18 layers.
Four hours...	220° F	206° F	190° F	162° F	139° F
Six hours ...	226° F	214° F	208° F	174° F	153° F
Eight hours ..	230° F	221° F	215° F	196° F	182° F

In comparison with the above results is the fact that between 16 layers of blankets a temperature of 212° was obtained in the case of steam in a maximum period of **17 minutes**, whilst after **8 hours** with hot air the temperature between eighteen layers was only 182° F.

As regards the germicidal effects of these two forms of heat, Koch & Parsons have shewn that the spores of certain organisms have been devitalised by steam in **minutes**, whilst they have resisted the effects of heated air for **hours**.

The above facts point out in a broad manner the main differences between steam and hot air, and the overwhelming superiority of the former.

Preventive Measures adopted in Public Elementary Schools. During the year 1896 it was not found necessary to close any schools on account of the prevalence of epidemic disease, though two schools—Pits o'th' Moor and All Saints, Elton, were thoroughly fumigated owing to an increase in the notification of cases of Scarlet Fever which were reported amongst children attending these schools. I have also personally visited and examined the scholars when it appeared probable that an unrecognised case might be attending any school.

The Florence Nightingale Hospital for Infectious Diseases.

184 Cases of infectious diseases have been treated at the Florence Nightingale Hospital for Infectious Diseases, during the year 1896. 174 of these were cases of Scarlet Fever, and 9 were cases of Enteric and Continued Fever, that is equal to 47 per cent. of all cases of Scarlet Fever notified, and 18 per cent. of the cases of Enteric and Continued Fever. Only one case of Smallpox occurred which was of course isolated. Of the cases of Scarlet Fever 5.7 per cent. proved fatal, as also did 22.2 per cent. of the Enteric cases; whilst of those treated at home 5.2 per cent. of the cases of Scarlet Fever, and 27.5 per cent. of the cases of Enteric Fever had a fatal termination. The hospital, which is partly a wooden structure, was erected in 1881, at a cost of about £3000. The materials used having previously formed the erysipelas wards at the Manchester Royal Infirmary during some alterations to that building. The land upon which it is built is of gravel and sand, and is two acres in extent. It is enclosed partly by a wooden fence, and partly by a hawthorn hedge. This hedge is most unsatisfactory for many reasons, and at a recent meeting of the Hospital Sub-Committee it was decided to continue the fence all round the grounds. The distance from the nearest road—an occupation road leading from Bolton Road past the Reservoir—is 40 yards, whilst the distance from Bolton Road to the front gate is 417 yards

The nearest dwelling is 100 yards away.

The hospital consists of three blocks, two of which are each divided into two wards, the other being the administrative block. They are all connected by a covered corridor, with open sides. The administrative portion of the building contains medical officers' room, dispensary, kitchen, scullery, two storerooms, four bedrooms, bathroom and w.c. Each ward has lavatory and washing accommodation, and each block a bathroom, linen closet, nurses' room, and a discharge room. At the end of each ward is a small observation ward, quite disconnected from the main ward. One of these is used as the matron's room, and another as the night nurse's room. A small annex has been added to one of the wards, which is now used as observation ward, and also for the isolation of other infectious ailments arising within the hospital, which it is desirable should be removed from the rest of the patients.

The total cubic capacity of the wards is 69,368 cubic feet, excluding the annex. They were originally intended to contain 50 beds, though at present only about 40 are used for patients.

The staff consists of matron, night nurse, and two assistant nurses, ward maid, caretaker, cook, laundress, and general servant.

The outbuildings in connexion with the hospital are—mortuary, washhouse, carriage shed, and the hot-air disinfecter.

I need only add that the hospital is at present receiving a considerable amount of attention from the Hospital Sub-Committee, and the various improvements which have resulted will render the institution more efficient in every way. The building has now outlived the term of years for which it was originally intended to exist, and I do not doubt that the project of rebuilding will make some progress during the present year.

Smallpox.—There was only one case of smallpox notified during the year, and this was of a very mild type in a young man who showed two good foveated vaccination marks. He was at once removed to the Florence Nightingale Hospital for Infectious Diseases, the house he left was at once thoroughly disinfected as well as all bedding and clothing which had even been remotely exposed to the risk of contagion. All persons who had been in contact with the patient were vaccinated except two, one of whom had had smallpox. The source of origin of the disease was obscure, and there were no other cases reported. Since 1894 there has been no death from smallpox in Bury.

It has been decided by the Hospital Sub-Committee that the present plan of having to make accommodation for smallpox patients in the existing fever hospital shall not be continued any longer, and this Committee purposes presenting a report to the Health Committee on the action which ought to be taken to deal with this class of disease. As regards smallpox hospitals, the following two suggestions of the Local Government Board are worthy of notice. The Board suggests that a smallpox hospital should not be allowed.

1st.—On any site where it would have within quarter of a mile of it as centre, either a *hospital, whether for infectious diseases or not*, or a workhouse, or any similar establishment, or a population of 150—200 persons.

2nd.—Or any site, where it would have within half a mile of it as centre, a population of 500 to 600 persons, whether in one or more institutions, or in dwellinghouses.

Vaccination.—During the past year the Royal Commission, appointed to enquire into the subject of vaccination, issued their final report. Many authorities have excused themselves for being dilatory in the enforcement of Vaccina-

tion, by pleading that they were awaiting the results of the deliberations of the Commission. The report contains the strongest arguments ever advanced in favour of the protective influence of vaccination, although I rather fear its good effects will be to some extent nullified by what is now termed the "conscience clause," of paragraph 524, in which it is suggested that probably increased vaccination would result if attempts to compel those who are honestly opposed to the practice to submit their children to the operation were to cease. The Commissioners state that they do not think it impossible to formulate a scheme which would excuse those who are *honestly* opposed to the practice. It would be interesting to learn how the discrimination would have to be made, and also how this action can be reconciled with sect. 509, in which the Commissioners say—"We are of opinion that the State ought to continue to promote the vaccination of the people."

As regards vaccination in Bury, it is a matter to be regretted that the percentage of vaccination has rapidly declined since 1890. In that year the percentage of children successfully vaccinated throughout the district of the Bury Union was 92, whilst in 1895 the percentage had fallen to 12·5. I append the figures relating to the Urban District proper, and have to acknowledge my thanks to Mr. Isherwood the Clerk to the Guardians, for placing the information at my disposal. I have also made excerpts from the Report of the Commission, feeling sure that if the true facts about Vaccination and its beneficial results are made generally known there will be an increasing desire on the part of parents to have their children vaccinated and even re-vaccinated at a suitable age.

RETURNS OF VACCINATIONS IN THE DISTRICTS OF BURY NORTH AND SOUTH,
AND TOTTINGTON (INCLUDING ELTON), FOR SIX YEARS.

Year.	Vaccination District.	Total Births.	Deduct Deaths Unvaccinated.	Net No. of Infants av'able	Successfully Vaccinated.	Percentage Vaccinated.	In default or remov'd	Insusceptible or medically postponed.
1890	Bury North...	670	85	585	570	97	14	1
	„ South...	506	45	461	435	95	26	...
	Tottington ...	955	92	863	817	94.6	31	15
1891	Bury North...	706	90	616	473	76	140	3
	„ South...	538	70	469	399	85	66	4
	Tottington ...	1041	109	932	714	76.6	218	...
1892	Bury North...	694	95	599	342	57	256	1
	„ South...	505	72	433	282	66	147	4
	Tottington ...	916	102	814	450	55.2	361	3
1893	Bury North...	634	90	544	231	42	313	...
	„ South...	478	71	407	161	39	245	1
	Tottington ...	912	106	806	349	43.3	450	7
1894	Bury North...	619	82	537	107	20	428	2
	„ South...	494	74	420	114	27	306	...
	Tottington ...	908	111	797	218	27.3	575	4
1895	Bury North...	629	101	528	59	11	465	4
	„ South...	465	86	379	55	14	321	3
	Tottington ...	947	121	826	99	11.9	726	1
6 yrs.	Bury North...	3952	543	3409	1782	52	1616	11
do.	„ South...	2987	418	2569	1446	56	1111	12
do.	Tottington ...	5679	641	5038	2647	52	2361	30

The figures for 1896 shew for the whole Union 3780 Births, of which 1873 were successfully vaccinated, being equal to 23 per cent. of the available children.

EXTRACTS FROM THE FINAL REPORT OF THE ROYAL COM-
MISSION UPON VACCINATION.

In all records of Smallpox Epidemics in pre-vaccination times, one fact firmly establishes itself, and that is: "that the mortality from the disease was mainly amongst infants, whilst one observer asserted that of children under 10 years of age 'half as many die of the Smallpox as of all other diseases.'"

It is also worthy of note that for nearly all the years of the 18th century, the mortality was never far below or much above 2 per 1000, a much higher figure than it has ever reached since.

A marked decline of Smallpox was noticeable in England during the first quarter of this century, and the question is asked was this due to the introduction of vaccination or was it due to the diminution of those foci of infection caused by the practice of inoculation which had rapidly increased in the third quarter of the 18th century, and which was practically abandoned on the introduction of vaccination? Against the latter view it is argued, that during the first quarter of the 18th century inoculation was rarely practised; it began to increase during the second, and was very prevalent during the third and fourth, so that if inoculation was the cause of the increased prevalence, if the severity of the disease is to be judged by recorded deaths, then the greatest mortality would have been during the third and fourth quarters, whereas as a matter of fact the severity of the disease was as great, if not greater, during the first and second quarters as during the third and fourth. This is also emphasised by the fact that the Small Pox as a result of inoculation **was much less fatal** than that naturally acquired. It has also been argued that the vaccination practised was really inoculation with small-pox virus, but

these theories are evidently destructive, since one holds that the diminution in the mortality is due to cessation of the practice of inoculation, the other holds that it is due to vaccination with small pox virus, which really means inoculation.

Another view is held that improved sanitary conditions have resulted in decreased mortality. Distinguish overcrowding from other insanitary conditions and it is admitted that dense populations afford facilities for spreading infection but this state of things was not materially altered from the end of the 18th to the beginning of the 19th century; as regards the influence of improvements in other insanitary conditions, lack of cleanliness, and the like, no evidence is forthcoming to show that during the first quarter of the 19th century these improvements differentiated that quarter from the last quarter, or half, of the preceding century in any way at all comparable to the extent of the differentiation in respect to small pox. The final conclusion of this part of the report is that the marked decline of small pox mortality in the first quarter of the present century affords substantial evidence in favour of the protective influence of vaccination.

In 1837, the present system of the registration of deaths came into force in England, and records since then show a marked, though irregular decrease in the mortality from small pox. Improved sanitation in urban districts is urged as the cause of this decline, but the enormous and continuous extension of movement among the population, and the increased facilities for such movement and communication would appear on *à priori* grounds to favour the increased prevalence of the disease, and at the same time this improved sanitation ought to have improved the mortality from all other diseases spreading by contagion or infection, though this does not appear to have been the case.

THE EFFECT OF VACCINATION UPON THE AGE INCIDENCE.

Statistics undoubtedly show a marked change in the age incidence of fatal small pox which it is asserted can only be attributed to the protective influence of vaccination among the very young. In the eighteenth century small pox was chiefly fatal amongst children, adults being protected by a previous attack of the disease. Now if vaccination is efficacious, and its effects exhibit the greatest potency during the first few years after the introduction of the vaccine virus, we should expect to find **the greater incidence transferred from childhood to later life, and this is actually what has occurred.** The following table shows this point most clearly.

England & Wales: Deaths from Small Pox at certain age periods, to 1000 Deaths from Small Pox at all ages.

	Under 1.	1-5.	5-10.	10-15.	15-25.	25-45.	45 upwards.
1848-54..	251	426	130	33	75	67	18
1855-59..	231	328	144	37	117	112	31
1860-64..	237	313	108	42	123	133	44
1865-69..	231	314	103	33	126	145	48
1870-74..	143	169	140	58	200	224	66
1875-79..	112	129	113	72	218	266	90
1880-84..	113	122	98	68	216	286	97
1885-89..	112	81	54	51	229	344	129
1890-94..	166	117	50	26	131	338	172

It would perhaps assist in the appreciation of the above table if I point out that up to the year 1853, vaccination was gratuitous but optional; that from that year to 1871, vaccination was compulsory, but probably not efficiently enforced; and that from 1872 to 1891, vaccination was strictly enforced.

Attempts have again been made to show that this alteration in age incidence is due to improved sanitation, but similar changes have not been observed in other diseases; again, **Why in Gloucester & Leicester, where the proportion of vaccinated to unvaccinated children is small, should the mortality of the disease among children have been so large? and why in Warrington, and Sheffield, where the rates of vaccinated to unvaccinated children is great, should the mortality among children have been so much less?**

The actual figures are as follows:—

PERCENTAGE OF THE SMALL POX DEATHS BORNE BY THOSE
BETWEEN THE AGES OF 0-10.

Warrington	22·5 per cent.
Sheffield.....	25·0 „
Gloucester	64·5 „
Leicester	71·4 or 66·6 per cent.

DOES VACCINATION PROTECT AGAINST AN ATTACK OF
SMALLPOX?

The following table has an important bearing upon this point, and it is “worth special notice that in all these cases the contrast between the attack-rate of the classes of vaccinated and unvaccinated respectively, is much more striking in the case of young children under 10 years of age than in the case of those over that age.”

	Attack Rate under 10, per 100 persons living, at the same age.		Attack rate over 10, per 100 persons living at the same age.	
	Vaccinated.	Unvaccinated	Vaccinated.	Unvaccinated
Sheffield	7.9	67.6	28.3	53.6
Warrington ...	4.4	54.5	29.9	57.6
Dewsbury	10.2	50.8	27.7	53.4
Leicester	2.5	35.3	22.2	47.6
Gloucester	8.8	46.3	32.2	50.0

In addition to the probability of an attack of smallpox after vaccination, the report considers the relation of the fatality of the vaccinated to that of the unvaccinated, and although this relationship is not the same in every town, yet the fatality of the unvaccinated was always greater. In Leicester, where it was least fatal, it was as high as 14 % *in the class of unvaccinated under 10*, whilst among the *vaccinated there was not a single death*.

THE EFFECT OF VACCINATION UPON THE TYPE OF THE DISEASE.

If the type of the disease is divided into mild and severe, the severe to include the types known as coherent and confluent, and the mild to include varioloid and discrete, the following summary of five out of the six epidemics is very convincing.

		Milder.	Severer.
Sheffield	(Vaccinated	82·8	17·2
	(Unvaccinated.....	18·5	81·5
Dewsbury ...	(Vaccinated	82·0	18·0
	(Unvaccinated.....	23·1	76·9
Leicester ...	(Vaccinated	81·4	18·6
	(Unvaccinated.....	27·2	72·8
Warrington..	(Vaccinated	78·2	21·8
	(Unvaccinated	29·4	70·6

THE NUMBER OF MARKS WHICH ARE NECESSARY.—The question as to the number of marks is considered, and the report states “that upon the whole then, the evidence appears to point to the conclusion that the greater the number of marks the greater is the protection in relation to smallpox enjoyed by the vaccinated person;” also “that whilst the distinction in this respect between those with one and those with two marks is not very great, there is a marked contrast, between those with four or even with three marks as compared with those with either one or two.”

RE-VACCINATION.—It is pointed out that amongst those classes in the country in which re-vaccination has been practised to any considerable extent, although in many cases the exceptional nature of their duties has brought them more intimately within the range of infection, such as postmen, policemen, and others, they have enjoyed an immunity from smallpox to quite an exceptional degree, and the conclusion they draw is that when any person is exposed to extra risk of infection he should be re-vaccinated, and if any long period has elapsed since the last vaccination it ought to be performed for a third or even a fourth time.

INJURIOUS EFFECTS OF VACCINATION.—The Commissioners arrive at the conclusion that although some of the dangers said to attend vaccination are real, and in the gross perhaps seem large in amount, yet compared with the number of vaccinations performed they are quite insignificant, and they are also diminishing with the better precautions of the present day, and will even further be diminished as experience teaches how. As one means of lessening risk they suggest that calf lymph only should be used if parents desire it, and further that the Local Government Board should issue an official warning pointing out the dangers which may result from using unclean linen or other materials in the early stages of vaccination, and that an earlier inspection of the case should be made than is at present the rule, with a view of obtaining earlier information of any untoward conditions which may be existent. They also advise postponement of vaccination when erysipelas, scarlet fever, measles, or chickenpox are prevalent in the district, and recommend certain precautions in the preparation and preservation of the lymph, as well as particular care of the instruments used in the operation.

CONCLUSIONS.—The Commissioners draw the following conclusions as a result of their deliberations and investigation, and it cannot be denied, as I have before remarked, that they are *over-whelmingly in favour of the protective influence of vaccination.*

1.—That it diminishes the liability to be attacked by the disease.

2.—That it modifies the character of the disease, and renders it (a) less fatal, and (b) of a milder or less severe type.

3.—That the protection it affords against the attacks of the disease is greatest during the years immediately succeeding the operation of vaccination. It is probable that vaccination may be said to cover a period of nine or ten years.

4.—That after the period of highest protective potency,

the protection against smallpox rapidly diminishes, but possibly never altogether ceases.

5.—That its power to modify the disease is greatest when its protective power is greatest, but the power to modify the disease does not diminish so rapidly as its power to protect, whilst its efficacy to modify the disease during the later periods of life is still very considerable.

6.—That re-vaccination restores what lapse of time has diminished, and so, to ensure the highest degree of protection, the operation should be repeated at intervals.

7.—That the beneficial effects of vaccination are most experienced by those in whose case it has been most thorough. It is stated that three or four places are better than one or two.

Scarlet Fever.

Scarllet Fever. RATE OF MORTALITY FROM SCARLET FEVER DURING THE LAST FIVE YEARS.

Year.	1892	1893.	1894.	1895.	1896.			
					Bury.	England & Wales.	33 great towns	67 other large towns
Death Rate per 1000 living.	1892.	0.22	0.34	0.11	0.28	0.10	0.22	0.19

During the past twelve months Scarlet Fever has been very prevalent in the town, no fewer than 365 notifications having been received at this office as compared with 160 last year. The disease has been of a very mild type, and to this fact may perhaps to some extent be ascribed its extreme prevalence, for in many cases investigation has brought to notice patients who were in the desquamation stage of the disease, but whose illness had been so slight as to have passed unrecognised, though careful questioning generally elicited the history of a slight sore throat, and feverish symptoms, which had soon passed off. These cases, through this negligence or ignorance must have assisted in forming fresh foci of the disease, and thus in spreading the disease.

The deaths which resulted from the 365 notified cases numbered 17, of which 14 were of children below five years of age, and three of persons above that age. This represents a mortality rate of 0.28 per 1000 living, which is in excess of the rate of mortality in the 33 great towns and the 67 other large towns. The disease does not appear to present any marked incidence as regards season, for the number of cases in the third quarter of the year only exceeds those in the second quarter by one, and the fourth quarter only exceeds those in the third by ten.

I have previously laid great stress upon the necessity of better disinfection processes, and perhaps to no disease do the remarks apply so forcibly as to Scarlet Fever, for the infection of the disease presents such a marked tenacity that even after a period of years, if circumstances have been favourable, it has been proved capable of transmitting the disease. In cases which are treated at home no effort is spared to encourage parents to maintain the strictest isolation, and this effort is absolutely necessary for occasionally individuals are met with who are utterly reckless as regards the results to themselves or to other people, of the indiscriminate exposure of infection. Another point in reference to Scarlet Fever to which I wish to draw your attention is that of so called "Return Cases," and by a return case is meant the recurrence of Scarlet Fever in a previously invaded house—the first sufferer having been removed to the hospital within a period of three weeks after the return of the convalescent from the hospital. Out of 174 cases of Scarlet Fever treated in the hospital during the year, other notifications were received from the same house in four instances after intervals of 19, 10, 5, and 7 days respectively, after the return home of the first case. The history of the last case is as follows: Notification received November 30th, patient removed to Hospital December 1st, discharged January 16th: Second notification received January 23rd. The first patient suffered

from a mild attack of the disease which ran its course uninterruptedly and without any complications. The day previous to the discharge I carefully examined the patient and found her, so far as I could ascertain, free from any symptom which we recognise as capable of transmitting infection. On the day of discharge her clothing was brought from home, the patient, was well bathed and dressed in a room which is only used for discharged patients, and sent home in a cab. The clothing she had worn at the hospital did not arrive home until **after** the second case was notified, and the usual hospital preparations for discharge had been in progress three or four days before I certified her fit for discharge. It is difficult in this case to see how infection could have been prevented if the discharged patient conveyed the infection to the second. The aetiological factors at work in these return cases have been the subject of investigation by the late Dr. Thompson, one of the Local Government Inspectors. Dr. Chalmers, of Glasgow and Dr. Niven, of Manchester, and the views which are held based upon these investigations, may be briefly expressed as follows:—

1. That these cases are due to negligence on the part of the hospital staff either by (a) allowing the patient to return home before desquamation is completed, or (b) defective disinfection at the hospital, of the clothing or of the patient, as by allowing infection to be carried away in the hair, or by some other mechanical means.

2. That they are due to defective disinfection of the house after removal of the patient.

3. That the fresh case is merely a coincidence.

4. That recrudescence of infected particles which might be clinging to the patients' clothing worn before removal to hospital, is brought about when these clothes are brought forth preparatory to the patients return, and is the cause of some return cases,

5. That the return of the infective character of the disease, either by a recurrence of desquamation or of some other discharge, is possible.

6. That the patient becomes in some way a mechanical carrier of infection from the hospital, and that the infection may be stored up in one of the cavities aural, nasal, laryngeal, or even in the lungs.

In excluding any culpable negligence and proceeding to enquire whether something is added to the patient by hospital treatment, it is necessary to ascertain whether in cases which have been isolated at home there is any recurrence of cases which could be compared with the return cases after hospital treatment. I am unable to present figures bearing upon the subject, but I quote from Dr. Niven's report on the health of Manchester for the year 1895. He shows that in a considerable number of cases the recurrence is really due to something connected with the discharged patient; thus in periods **just preceding discharge**, viz.: from 36 to 56 days after the appearance of the rash in the first patient, there were only six cases reported, as compared with 15 cases arising in the period of 50 to 70 days after the appearance of the rash in the first patient, in cases **who had come in contact with a returned patient**. A similar result was obtained from the cases in 1894. In comparing these results with those occurring at home, he states that, "We have in 1894 amongst cases treated at home no return case, as compared with 18 amongst hospital cases. In 1895 there would be 1 as compared with 31." After carefully discussing the disparity in numbers treated, the facts that in home treatment available susceptible persons have been infected before recovery is completed, that multiple cases, apart from return cases, are greater in proportion than they are in the case of hospital cases, and that the greater proportion of cases left

at home represent those families where it is assured that only every precaution will be adopted, he says, "accepting every possible criticism there would appear still to be left a remanent influence due to hospital."

What is the practical application of these facts? As before stated it is possible that the nasal cavity or the lungs present a favourable situation for the deposition of these infective particles, and that the liability to this deposition will probably increase as the air of the wards become more charged with the infection from such causes as deficient ventilation, or any tendency to overcrowding, conditions which will hardly ever obtain in good home nursing, and it has been suggested as a remedy for the prevention of return cases, to provide a good airy discharge ward, and to undertake careful antiseptic treatment of the cavities which may retain infection. At the same time it is desirable that parents should be warned of the risk of allowing the recently discharged patient to come too soon into intimate contact with the other members of the family, as by sleeping in the same bed, and although the fact of these return cases to a certain degree lessens the help which is afforded to households affected with scarlet fever, the principle of isolation is not assailed, for the hospital still remains of the same value in removing the foci of disease.

Fevers. (Typhus, Typhoid, or Enteric, and Continued).

RATE OF MORTALITY FROM FEVER FOR THE LAST FIVE YEARS

Year.	1892.	1893.	1894.	1895.	1896.			
					Bury.	England & Wales.	33 Great Towns.	67 other Towns.
Death Rate per 1000 living.	0.15,	0.2	0.6	0.26	0.21	0.17	0.19	0.20

Typhus. During the past year no cases of Typhus Fever were reported, and since 1894 no fatal cases are recorded, though there were seven deaths from the disease in that year.

Enteric and Continued Fever. During the year 41 cases of Enteric Fever and 8 of Continued Fever were reported. Of this number 11 cases of Enteric and 2 of Continued Fever proved fatal, a case mortality of 26·5 per cent. from this class of disease, and a death rate of 0·21 per 1000.

As regards the distribution of these cases, it is a noteworthy fact that 20 of them, or 41 per cent. of the whole, were reported from Moorside Ward. During the year I shall endeavour to make myself acquainted with any circumstances which may be contributory to this result, and will note them for future consideration.

Puerperal Fever. Two cases of Puerperal Fever were reported during the year, both cases terminating fatally. There were no features calling for special comment in connection with the cases.

Measles.

RATE OF MORTALITY FROM MEASLES FOR THE LAST FIVE YEARS. Measles.

Year.	1892.	1893.	1894.	1895.	1896.				
					Bury.	England & Wales.	33 Great Towns.	67 other Towns.	England & Wales Less 100 towns.
Death Rate per 1000.	0·06	1·45	0·05	0·51	0·54	0·56	0·71	0·64	0·43

During the year 33 deaths from Measles have been recorded which is equal to a death rate of 0·54 per 1000 living. The whole of these deaths were children under five years of age.

Measles caused 28 per cent. of the deaths from Zymotic diseases, excluding diarrhoea, whilst Measles and Whooping Cough together are responsible for no less than 55 per cent. of the total deaths from this class of disease. This exceedingly great rate of mortality caused the Medical Officer of the Local Government Board to institute an enquiry into the prevalence and control of measles. This enquiry, which was conducted by Dr. Theodore Thompson, contains many points of considerable practical importance, and as a result of his investigations he draws the following conclusions :

1. In the decade 1881-90 only two Zymotic diseases : Diarrhœa and Whooping Cough showed higher death rates than Measles, whilst in the later years the Measles mortality even exceeds that of Whooping Cough.

2. The tendency of all Zymotics (except Diphtheria), has been toward a lowered death rate since 1871-80, whereas Measles has exhibited an increasing mortality.

3. In the decade 1881-90, Measles caused more deaths of persons living under five years of age than Small Pox, Scarlet Fever, Diphtheria, and Typhoid combined.

4. The greatest liability to attack is in the third, fourth, and fifth years.

5. The disease is most fatal in the second year of life.

6. Measles is pre-eminently fatal in the second, third, and fourth years of life.

In Bury measles seems to be epidemic every second or third year, the result of this being that each epidemic occurs at a time when there are a considerable number of susceptible children at an age when the disease is most fatal. The following table shows the actual number of deaths for the past ten years.

Year.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
No. of Deaths from Measles.	17	55	3	1	89	4	84	3	31	33

This epidemic tendency with its resultant loss of life is sufficient reason, to quote Dr. Thompson, "why Sanitary Authorities should bestir themselves; and it is worthy of consideration by these authorities that mere discouragement of measles to the extent of lengthening the inter-epidemic periods of the malady must materially reduce the death rate from this disease, inasmuch as in this way a larger number of the population will have been enabled in the interval to pass in safety that year of life at which the disease has hitherto caused the greatest mortality."

Diphtheria and Membranous Croup.—The deaths from Diphtheritic diseases have numbered 22, of which 10 have been attributed to Diphtheria, and 12 to Membranous Croup. The number of cases of Diphtheria notified was 27, the case mortality was thus 37 per cent, and the death rate from this class of disease was 0·54 per 1000 living. The following table compares the four previous years with the past one :—

Year.	1892	1893	1894	1895	1896
Rate per 1000 Living.	0·19	0·36	0·48	0·7	0·36

There does not appear to have been any special localisation of the disease to a particular district, the distribution of the cases having been scattered over the whole town, though Church Ward has exhibited a greater freedom than the other wards. I am not in possession of sufficient information which would give me an opportunity of analysing these cases, but I would here draw attention to the fact, that Membranous Croup has caused more deaths than Diphtheria, and that it is possible that a considerable number of these cases of Croup were examples of true Laryngeal Diphtheria. Membranous Croup is not notifiable under the terms of the Provisional Order of 1882, and I have to recommend that steps should be taken to render this disease notifiable.

Whooping Cough.

RATE OF MORTALITY FROM WHOOPING COUGH FOR THE PAST FIVE YEARS. Whooping Cough.

Year.	1892	1893	1894	1895	1896.			
					Bury.	England & Wales.	33 great towns.	67 other large towns
Death Rate per 1000 living.	0·38	0·22	0·06	0·31	0·53	0·41	0·57	0·43

The number of deaths recorded as due to this disease during the past twelve months has been above the average. The actual number was 32, which as set forth above is equal to a death rate of 0·53 per 1000 living. Of these deaths 28 were those of children under 5, and 4 those of persons above that age. I have previously drawn attention to the fact

that the deaths from this disease and Measles play no small part in swelling the mortality from Zymotic disease, when one or both assume an epidemic character.

Diarrhœa.

Diarrhœa.

RATE OF MORTALITY FROM DIARRHŒA FOR THE LAST FIVE YEARS.

Year.	1892.	1893.	1894.	1895.	1896.				
					Bury.	England & Wales.	33 Great Towns.	67 other Towns.	England & Wales Less 100 Towns.
Death Rate per 1000 living.	0·6	1·09	0·34	1·35	0·84	0·55	0·79	0·68	0·36

51 deaths have been recorded as due to diarrhœa, which represents a death rate of 0·84 per 1000 living. 33 of these deaths were those of children under five years of age.

As I have before pointed out diarrhœa is one of the chief causes of death among children of tender age, and the chief predisposing causes of this disease are as follows: insanitary surroundings, such as—soil polluted with slops, and soakage from privies and middens, air polluted by the effluvia of middens and human emanations, conditions which must exist in closed courts of back-to-back property, with deficient circulation of air. Hand-fed infants, owing to the negligence of the mothers in not thoroughly cleansing the feeding bottles, not taking proper precautions in storing the milk, and in making additions to the dietary of infants of other substances than milk. Certain meteorological conditions play an important part in the causation of this disease, for Dr. Ballard has shown that the disease is at its maximum when the earth at a depth of four feet registers a temperature of 56° F., which is usually about the end of the summer, or in the early autumn—the third quarter of the year. In Bury, the quarterly distribution of deaths from the disease was as follows: 1st 9, 2nd 2, 3rd 34, 4th 6, which shows that the deaths in the third quarter were just double those of the other three quarters together. This so-called epidemic summer diarrhœa, has its greatest incidence upon hand-fed children, for the reason that the disease is due to a micro-organism existing in the upper layers of the earth, which is capable, under certain conditions of becoming air borne and producing a viru-

lent chemical poison in the milk, with resulting diarrhœa, on its being given as food.

The Housing of the Working Classes.

In the poorer parts of the town there is a considerable amount of property which requires putting into a sanitary condition. Many of these houses are back-to-back, badly arranged in ill-ventilated courts, with defective internal fittings, and so crowded upon one another as to make the population an exceedingly dense one in such areas. Treatment of this property must be, of necessity, a slow process, the unhousing of large numbers of people being very undesirable especially when house accommodation is taxed to its utmost capacity, as I believe it is at the present time. During the year the following houses were reported upon as unfit for human habitation, notices being served in each case shortly afterwards.

Jany. 22nd, 10, 12, 14 and 16 Earl Street.

- „ 11 Butcher Lane.
- „ 1, 3, 5, and 7 Pall Mall.
- „ 9 Butcher Lane.
- „ 1, 3, 5 and 7 Hunt's Yard.
- „ 11 Spencer Court.
- „ 4 Ramsbottom Yard.
- „ 2 and 4 Badger Street.
- „ 1 and 2 Booth's Yard.
- „ 2 Robin Hood Yard.

April 22nd, 1, 2, 3, 4, 5 and 8 Parkhills Street.

July 22nd, 8, 9, 10, 11, 12, 13 and 14 Openshaw's Buildings.

- „ 1, 2, 3, 4 and 5 Openshaw's Buildings.

Nov. 25th, 1 and 2 Harrison's Court.

- „ 29 Edward Street.
- „ 38 George Street.

This brings the total number of houses treated under the Housing of the Working Classes Act to 384, of which number 84 have been pulled down, 62 have been closed,

50 single houses have been converted into 25 double houses, 141 by general repairs have been rendered habitable, and the remainder are at present under consideration.

Common Lodging Houses.

At the end of the year 1896 there were 13 Common Lodging Houses, on the register, one of which, No. 43 Union Square, was registered during the year. These houses have been regularly visited both by your Sanitary Inspectors and by myself. A determined effort has been made to improve the general sanitation of these houses and methods of conducting them, with, I think, a considerable amount of success. The great difficulty there is to contend with, lies in the fact that several of these places are very old, and not at all suited for the purposes for which they are used. Ten summonses have been issued against the keepers of different houses for breaches of the bye-laws, a fine having been inflicted in each case.

At the present time the provision of a Municipal Common Lodging House is engaging your attention, and the following facts bearing upon the subject may prove of interest.

Although the population of Bury has increased between the years 1881 and 1896 from 54,717 to over 60,000, yet the accommodation for the class of persons who frequent common lodging houses has diminished by 28 per cent., and the number of houses by 39 per cent, as shown by the following table:—

REGISTERED COMMON LODGING HOUSES.

Year.	Number of Houses.	Number of Beds.
1883	23	756
1886	20	708
1889	19	656
1896	13	542

In seeking an explanation for this I find that coincident with the decline of Common Lodging Houses, the so-called "Furnished Rooms" have increased in number, and many of the habitués of the former houses are now housed in the latter. It is a significant fact that two houses which were formerly registered as Common Lodging Houses, were voluntarily withdrawn from the register, and are now let as furnished rooms. I am of opinion that the latter is a more remunerative method of using the house, for as this class of house is not at the present time subject to any bye-laws there is greater laxity in management as regards general cleanliness and sanitary provisions, with a corresponding increase in the profits. The decrease in the number of lodgers is also marked in the following two censuses, an interval of three years having elapsed between the two.

NUMBER OF PERSONS HOUSED IN COMMON LODGING HOUSES
ON MARCH 1ST, 1893, AND OCTOBER 28TH, 1896.

Date.	Married.		Single.		Under Ten Years of age.	Total.
	Males.	Females.	Males.	Females.		
Mar. 1, 1893	26	20	357	22	10	435
Oct. 28, 1896	24	19	314	12	None.	369

Of this Lodging House population I found that about 18 per cent. were migratory, and 82 per cent. were looked upon as regular customers, the majority of whom when "in work," following some kind of occupation in the town. The greatest number of male lodgers—128, were returned as labourers and hawkers, rag pickers, and pedlars, numbered 50, 29 admittedly followed no occupation, whilst the remainder were drawn from a great variety of trades. The great majority of the women were mill hands. The highest regular weekly wage was 34 shillings per week.

Sec. 507 of the Final Report of the Commission on Vaccination refers to Common Lodging Houses as follows: "Our attention has been drawn to the circumstance that outbreaks of smallpox have not unfrequently had their

origin in the introduction of the disease to common lodging houses by tramps wandering from place to place. In view of this we make the following recommendations :—

(i) That common shelters which are not subject to the law relating to common lodging houses should be made subject to such law.

(ii) That there should be power to the local authority to require medical examination of all persons entering common lodging houses and casual wards, to see if they are suffering from Small-pox, and to offer a reward for prompt information of the presence of the disease.

(iii) That the local authority should have power to order the keeper of a common lodging house in which there has been Small-pox, to refuse fresh admission for such time as may be required by the authority.

(iv) That the local authority should be empowered to require the temporary closing of any common lodging-house in which Small-pox has occurred.

(v) That the local authority should have power to offer free lodgings to any inmate of a common lodging-house or casual ward who may reasonably be suspected of being liable to convey Small-pox.

(vi) That the Sanitary authority should give notice to all adjoining Sanitary authorities of the occurrence of Smallpox in common lodging-houses or casual wards.

(vii) That where the disease occurs the Public Vaccinator or Medical Officer of Health should attend and vaccinate the inmates of such lodging-houses or wards, except such as should be unwilling to submit themselves to the operation."

The accompanying table gives a short account of each house. It will be seen that several of the houses are satisfactory, that others are improving, and will, I think, with well-regulated supervision improve still more, whilst two or three houses are ill-adapted for use as Common Lodging Houses. It is impossible to suggest alterations which would show any material improvement in these latter places, still, the resultant evils may be much mitigated by good management.

REGISTERED COMMON LODGING HOUSES.

Address.	No. of Rooms	Registered No. of Lodgers.	Average cubic capacity of Rooms per Person	No. of Rooms below the standard of 300 cu. ft. per head.	Yard Space.	Closet Accommodation	General Remarks.
16, Union Square	7	32	317	None	Very Fair	Two good W.Cs., well provided with water.	A satisfactory house.
18, Union Street	5	23	319	1	Good	Two waste water closets which I have always found clean and in order	The house is satisfactory as a whole.
52, Union Square	6	29	323	None	Flagged yard in fair condition.	Three waste water closets and covered ashpit.	This house has improved and is now satisfactory. The dayroom and cooking arrangements good. Buckets used in the bedrooms.
26, Clerke Street	8	44	318	1	Rather small flagged Yards	8 privies and ashpits	A very fair house, it has improved recently.
28, Clerke Street	9	59	317	1	Flagged, and in good condition.	4 privies and ashpit	This house is improving, it was very dirty, but the floors are now kept well swept and washed, rooms are only fairly well ventilated.
24, Clerke Street	6	50	320	1			The objectionable privies ought to be replaced by W.C's. This house is a clean and well regulated lodging-house.
7, 9 & 11 Clerke St	14	70	337	1	Fair Yard Space	4 privies and 2 covered ashpits	New Bedding and Spring Mattresses are being provided for this house but the enclosed yard with privies is objectionable, and on this account it is impossible to make this a satisfactory house.
20, Earl Street	4	28	298	2	Small Flagged Yard surrounded by high walls.	Two pail closets and covered ashpit.	This house was not actually registered, and has since been ordered by the Committee to cease being used as a common lodging-house.
49, King Street	7	36	304	3	Yard 3 ft x 10 ft, house on one side, 11-ft. walls on other, and closet at opposite end to dayroom door.	One so called W.C., a tap is turned on and runs until the pan is cleared	W.Cs. are in course of erection and the house will be considerably improved thereby. The rooms though small are efficiently ventilated and fairly well kept.
4, 6, 8, & 10, Rochdale Road	16	68	315	6	Good	Two dilapidated privies and ashpits.	This is a very old house, and I fear very little can be done to make much improvement. The house is now kept clean except in the case of the bedding which is about to be renewed, and probably W.Cs. erected
9 & 11, Parkhills Street	7	45	312	2	Very Poor	Two privies and ashpits	This house is quite satisfactory, the bedding is clean, and the rooms well ventilated.
41, Union Square	10	39	322	1	Good	Three W.Cs. in good working order, well flushed and clean.	A very clean house but an old one, it is well kept and regulated, but its structural deficiencies handicap the management of it.
4, Turf Street	4	19	332	None	None	Two pail closets and covered ashpit.	

Houses Let in Lodgings.—A considerable number of houses in the town are let off as furnished rooms, and in the neighbourhood of South Back King Street the conditions which exist in some of these places are deplorable. The houses are overcrowded, for it is only common sense to assume that an ordinary sized house, which was originally built to accomodate one family must be, to a greater or lesser degree, overcrowded, when each room is occupied by a separate family. The houses must also be rendered exceedingly unhealthy by the dirt and filth which accumulates in the passages, and on the stairs, or on any of the surfaces which are used in common by ail the occupiers; nobody being responsible for the cleanliness of these passages, they are entirely neglected. Then there is the question of sanitary conveniences—the house has probably a privy and ashpit, though frequently two or more houses join at one, and here negligence makes itself evident in the filthy condition of the closets, the absence of doors, and the general dilapidated condition of the whole structure.

The following table is instructive, its details refer to so many of the houses as are to be found in the neighbourhood of South Back King Street. Some of the profits may also be gleaned from it.

	1893.	1896.
Total number of houses used on flat system...	37	39
„ „ rooms	95	106
„ Males living in same	72	81
„ Females „	75	81
„ Children „	38	46
	185	208
Total Rental per annum ... £901 5s. 4d.	£869 14s. 0d.	
Total gross assessment.....£347 10s. 0d.	£249 17s. 6d.	

Houses in the district I have mentioned let at about 3/6 per week. Each room is furnished (?) with a bedstead and bedding, a ricketty chair or two, something which

serves as a table, and a small assortment of mixed crockery and cooking utensils, the value of the whole in many cases not being ten shillings. These rooms are then sublet at rents varying from 3/- to 5/- each; the back kitchen, in which room the stairs generally open, and through which the upstairs tenants have to pass, is let at the lower price. The rooms having been let there appears to be no further notice taken of them except when the rent falls due. That this picture is not overdrawn you know from visits of inspection which you have recently made and to assist in the work of placing these houses in a reasonably sanitary condition, the adoptions of bye-laws for their regulation would be of inestimable value.

Local authorities are empowered to make bye-laws under sec. 90, of the Public Health Act, 1875, whilst sec. 8 of the Housing of the Working Classes Act, 1885, does away with the necessity of first appealing to the Local Government Board, as directed by the section. The objects of the bye-laws which may be thus made are:—

1. For fixing, and from time to time varying the number of persons who may occupy a house or part of a house which is let in lodgings, or occupied by members of more than one family, and for the separation of the sexes in a house so let or occupied.
2. For the registration of houses so let or occupied.
3. For the inspection of such houses.
4. For enforcing drainage and the provision of privy accommodation for such houses, and for promoting cleanliness and ventilation in such houses.
5. For cleansing and lime-washing, at stated times of the premises, and for the paving of the courts and courtyards thereof.
6. For the giving of notices and the taking of precautions in case of any infectious disease.

I strongly recommend the advisability of considering the adoption of the Model Bye-laws of the Local Govern-

ment Board relating to Houses let in Lodgings, but at the same time call attention to the fact that "there are to be found houses which though let in lodgings, or occupied by members of more than one family, are of such a character as to render it inexpedient, if not absolutely unnecessary to bring them within range of bye-laws having for their primary object the regulation of premises where neglect of sanitary requirements might otherwise ensue." This could readily be met by bringing within the scope of these bye-laws only houses below a certain rateable value, and in houses of a higher rateable value, if the rent paid by the lodger does not exceed a certain weekly minimum.

Factories and Workshops.

I have to thank Her Majesty's Inspector of Factories, Mr. C. F. Wright, of Rochdale, for supplying me with a list of the workshops in the town. There are 159 such places. The nature of the businesses conducted therein being as follows:—

Dressmakers and Mantle Makers	62
Milliners	6
Hosiery Workers	4
Tailors	16
Bootmakers	5
Clogmakers	9
Cabinet and Furniture Makers	6
Brush Makers.....	3
Saddlers	3
Tinplate Workers	8
Bakers and Confectioners	10
Various trades—including Joiners, Coopers, Marine Stores, Cotton Waste, &c.....	27
Total...	159

During the year these places will be visited for the purpose of obtaining the cubic capacity, the sanitary condition, and various other details. A register will be kept for the purpose of recording this information, as well as all visits made, and notices served, and the result of them.

MAGISTERIAL PROCEEDINGS.

The following is a record of the Magisterial proceedings for the past twelve months, with the result in each case.

No. of Case.	Date.	Complaint.	Result.
1	March 5	Exposing Infected Clothing	Fined 5s. and costs.
2	do.	do.	Fined 5s. including costs.
3	June 18	Nuisance from dilapidated and untrapped drain	Withdrawn on payment of costs. Work done.
4	do.	House being unfit for human habitation	Closing order granted and ordered to pay costs.
5	July 16.....	Smoke Nuisance.....	Dismissed.
6	do.	do.	Fined £2 and costs and ordered to abate the nuisance.
7	do.	do.	Fined £3 and costs and ordered to abate the nuisance.
8	July 20.....	do.	Fined £2 and costs and ordered to abate the nuisance.
9	July 16.....	House being unfit for human habitation	Withdrawn on payment of costs. Work done.
10	August 17 ...	Smoke Nuisance.....	Dismissed.
11	do. ...	do.	Ordered to abate and pay costs.
12	do. ...	do.	do.
13	August 31 ...	Houses being unfit for human habitation	Withdrawn on payment of costs, the property having been sold on account of the death of the owner.
14	September 17	Exposing infected clothing	Fined 10s. and costs.
15	do.	Exposing children whilst suffering from an infectious disease	do.
16	do.	Not reporting a case of scarlet fever	do.
17	September 28	Nuisance from an open ash-pit	Ordered to abate and pay costs.

Report of the Inspector of Meat.

1852 visits have been made to the 35 Registered Slaughter Houses. They have been regularly lime-washed and kept in a satisfactory condition.

3982 visits have been paid to the various Butchers' Shops and all meat exposed for sale has been regularly and carefully inspected.

Two cows suffering from Tuberculosis ; 1 pig, which had been suffocated in a railway truck ; 2 dead sheep, and 150 lbs of beef, which had gone bad through the hot weather, were condemned as unfit for human food. The whole of this flesh was destroyed in the destructor at Fernhill, except one tuberculous cow, which was boiled and used as food for the pigs. No proceedings were taken in respect of the above, as no attempt was made to sell the same for human food.

The arrival of cattle has been as follows :

3905 Cows.
280 Bulls.
1030 Calves.
10954 Sheep.
13225 Lambs.
7164 Pigs.

All the above are slightly in excess of last year.

The arrival of foreign meat was as follows :

973 Quarters of Beef.
7442 Sheep.
586 Lambs.
4 Pigs.

These figures show a considerable increase on last year. There is one registered Knacker's Yard in the Borough, and during the year this has been inspected on 66 occasions. The animals received were :

348 Cows.

386 Horses.

Since April 1st I have ascertained the diseases from which the cows taken to the Knacker's Yard have suffered, and they are as follows :

Tubercular and allied diseases, including General Tuberculosis, Garget, and certain Diseases of the Lungs and Liver, probably Tubercular.....	144
Diseases incident upon calving.....	81
Apoplexy, Accident, and certain Acute Inflam- matory conditions	33
	Total 258

JOHN SMETHURST,

MEAT INSPECTOR.

Sanitary Inspector's Office,
Parson's Lane, Bury,
February, 1897.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have to submit to you my third Annual Report of the work carried out by your Inspectors during the year ending December 31st, 1896.

During the year under review there has been an increased number of cases of Infectious disease reported as compared with the previous year, and as your Inspectors have to pay two or three visits to each case, they have not been able to devote as much time to the work of detection and abatement of nuisances as during 1895, and consequently the number of notices served has been considerably less.

Nuisances.

NOTICES SERVED.	COMPLAINTS.	HOUSES DIRECTLY AFFECTED
3	Accumulations of Filth	
4	Animals so kept as to constitute a nuisance	
2	Ashpits to Empty.	
2	Canal Boats, dilapidated.	
40	Closets Filthy.	
2	Dangerous Places.	
100	Drains dilapidated, offensive and untrapped	290
34	Drains Choked	58
7	Drains not connected with Sewer.	
11	Houses unfit for Habitation.	43
14	Houses to Cleanse and Repair.	46
2	Insufficient Closet Accommodation	
2	No Ashpit Accommodation.	
1	No Drains to Downspouts.	1
4	Overcrowding.	4
22	Privies and Ashpits wet and offensive.	
50	Privies and Ashpits out of Repair	
3	Slopstone Pipes too Short.	3
3	Slopstone Pipes dilapidated	3
6	Slopstone Pipes connected to Drains	11
4	Smoke Nuisances.	
8	Spouts and Gutters dilapidated	
5	W.Cs.' Offensive.	
30	Notices have been sent to the Borough Engineer, of Street Grids choked affecting 188 Grids.	
359		459

ABATEMENT OF CLOSET AND DRAINAGE NUISANCES.

Affected by Notices.		Repaired.		Provided New.				Slopst'e Pipes Discon- nected.	Traps Fixed.	New Pipe. Drain Land.
Privies.	Ashpits.	Privies.	Ashpits.	Modifi'd Privies.	Water Closets.	Slop Closets.	Dry Ashpits.			
118	70	74	41	2	28	4	18	11	281	1520 Yards.

Common Lodging Houses.

During the past year 1456 visits were paid to the Common Lodging Houses of the Borough, in the majority of cases the houses are conducted in a satisfactory manner, Some of the keepers have been warned in reference to the condition of the floors, bedding, &c., and a general improvement has now taken place

Canal Boats Act.

The number of visits paid to the canal during the past year has not been so great as during the previous year, but this branch of work still occupies a large amount of your Inspector's time.

The following report was presented to and approved by the Health Committee, at their meeting held on January 27th 1897.

CANAL BOATS ACTS, 1877 and 1884.

"I have to submit the following report upon the working of the above acts within the District of the Bury Urban Sanitary Authority, for the year ending 31st December, 1896.

Twenty-two different boats have been inspected on 64 occasions, 17 boats were found to comply with the Regulations made under the Acts, and five boats contravened the Regulations.

Three of the five boats mentioned above were the *Clifton*, *Farnworth*, and *Ringley*, each of Manchester; they were new boats and came on the first journey without the Certificates of Registration; they had each been measured and numbered, and on the next inspection the certificates were produced.

Two boats, *May* 209 of Leigh, and *Tom* 620, of Runcorn, were found in a dilapidated condition, and had apparently not been painted for four or five years. I at once sent notices to the owners, and have since been informed that the boats were put in dock and have not since been used.

The boats using this portion of the canal are mostly new boats, built specially for work in this district, and they are kept in very good condition.

No legal proceedings have been taken during the year.'

Explosives Act.

The only action taken under the above Act was in reference to the sale of Fireworks, and there are now 45 persons on the register for the sale of these articles.

The whole of the registered premises were visited during the months of October and November, the persons were informed of the requirements of the Act, and previous to the 5th November a letter was issued to each person on the register informing him that complaints of fireworks having been sold to children under 13 years of age contrary to the Act, had been received. Since then I believe the Act has been complied with.

Night Soil Work.

Approximate number of modified Privies	7762
do. do. Ashpits	4171
Number of do. do. emptied..	27048
Number of notices received for ashpits to be emptied.....	1171
Number of Loads removed.....	18479
Approximate number of Pail Closets	1933
do. Dry Ashpits	1303
Number of Loads removed from Dry Ashpits	2507
do. Pails emptied.....	74400
Barrels of excreta removed from pails	1456
Number of Houses in the Borough	12592
do. Slop Water Closets fixed during the year	146
do. Water Closets fixed during the year	18

Scavenging.

During the year the streets have been swept regularly and 4208 loads of sweepings and also 72 loads of snow removed therefrom.

Street watering commenced on the 20th of April, and continued at intervals until August 17th, during that period 5551 barrels or 1,582,035 gallons of water were spread on the public streets.

Public Urinals.

There are 23 public urinals, each one of which is regularly cleansed and disinfected every day, in addition to this all those that are much frequented have a supply of water constantly running, and this helps greatly to prevent any nuisance arising from them.

In October last a sub-committee recommended the following sites to the Health Committee for the erection of additional urinals—Manchester Road, near to Pack Horse Hotel, on land at present used as a stonecess; midway up Fairfield Brow on Rochdale Old Road; and at the end of Pits o'th' Moor School, Bell Lane. If these sites can be obtained urinals will be erected during the present year.

Destructor and Mortar Mill.

The material destroyed by the Destructor consists of 5,396 loads of ashpit refuse, weighing 6,879 tons, 14 cwts, and 364 tons of butcher's offal, greengrocers' refuse, &c.

The cells have been at work 6,618 hours, and have burned 26 tons, 4 cwts, 1 qr. per day, of 24 hours, which is equal to 6 tons, 11 cwt. per cell per day.

The Mortar Mill has been kept at work during the year, and has made 782 tons, 4 cwts, 3 qrs, of mortar,

valued at £199. 8s. 3d., of this quantity 568 tons, 18 cwts. have been sold to the public, and 213 tons, 6 cwts., 3 qrs. used for various Corporation works.

SUMMARY OF VISITS.

Infectious Diseases	1110
Drains dilapidated and untrapped.....	1000
Ashpits open and offensive	720
Houses to cleanse and repair	56
Other Nuisances	1460
Common Lodging Houses	1456
Houses Let in Lodgings	1352
Knacker's Yard	66
Slaughter-houses	1852
Butchers' Shops, &c.	3982

Total Number of Visits. 13,054

I am, Gentlemen,

Your obedient Servant,

JOHN TERRY, SANITARY INSPECTOR

APPENDIX A.

TABLE OF DEATHS DURING THE YEAR 1896, IN THE URBAN SANITARY DISTRICT OF BURY, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES, AND SHOWING ALSO THE POPULATION OF SUCH LOCALITIES, AND THE BIRTHS THEREIN DURING THE YEAR.

LOCALITIES.	POPULATION AT ALL AGES.		MORTALITY FROM ALL CAUSES AT SUBJOINED AGES				MORTALITY FROM SUBJOINED CAUSES DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																		
	Census, 1891.	Estimated to the middle of 1896.	Registered Births.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES				Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Croup.	Whooping Cough.	Typhus Fever.	Enteric or Typhoid Fever.	Fever cont. Simple & ill-defined.	Diarrhoea and Dysentery.	Rheumatic Fever.	Puerperal Fever.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy.	Heart Disease.	Accidents.	Other Diseases.	
				At all ages.	Under 1 year.	1 and under 5.	5 and under 60.																		60 and upwards.
Total for Borough inclusive of Public Institutions ..	57,212	60,052	1454	1245	257	190	482	316	(Under 5. . .	33	14	8	9	28	..	1	..	33	..	..	4	98	7	11	447
									{ 5 upwds. . .	..	3	2	3	4	..	19	2	18	1	2	72	181	82	34	798
BURY NORTH ..	26,182	*	600	484	102	83	190	102	(Under 5. . .	14	6	2	3	9	..	1	..	17	..	..	2	46	..	2	88
									{ 5 upwds. . .	..	..	..	2	2	..	7	..	6	1	1	26	60	34	9	136
BURY SOUTH ..	17,682	..	486	344	85	38	139	80	(Under 5. . .	9	4	2	3	10	..	..	..	10	..	..	..	23	..	3	61
									{ 5 upwds. . .	..	1	2	..	..	..	2	1	2	..	1	27	49	33	9	92
ELTON ..	13,348	..	316	235	58	60	76	50	(Under 5. . .	9	4	3	3	7	..	..	..	3	..	..	1	22	1	4	54
									{ 5 upwds. . .	..	2	..	1	1	..	1	1	4	..	..	6	36	15	3	54
BIRTLE ..	..	..	33	18	6	2	4	6	(Under 5. . .	1	..	..	..	1	..	..	..	..	..	..	..	4	..	..	2
									{ 5 upwds. . .	..	..	..	..	..	..	..	..	..	..	1	1	..	2	6	
WORKHOUSE ..	BEDS. 725	BEDS. 725	19	134	6	4	52	72	(Under 5. . .	..	..	..	..	1	..	..	..	3	..	..	1	3	..	..	2
									{ 5 upwds. . .	..	..	..	..	1	..	..	6	..	..	11	25	..	3	78	
INFIRMARY ..	50	50	..	30	..	3	21	6	(Under 5. . .	..	..	1	..	..	..	..	..	..	..	..	..	..	2	..	
									{ 5 upwds. . .	..	..	..	..	..	..	..	..	..	..	1	..	..	8	18	
ROBINSON KAY HOME ..	40	40	..	..	..	..	..	..	(Under 5. . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
									{ 5 upwds. . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

* Including that portion of Birtle within the Borough.

* Returned with the Population of Bury North.

APPENDIX B.

Names of 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 treat- ment in Isolation Hospital.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Census 1891.	Estimated to middle of yr 1896			Small-pox.					Fever.					Cholera.	Small-pox.					Fever.					Cholera.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
					Scarlatina.	Diphtheria.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Scarlatina.	Diphtheria.	Typhus.		Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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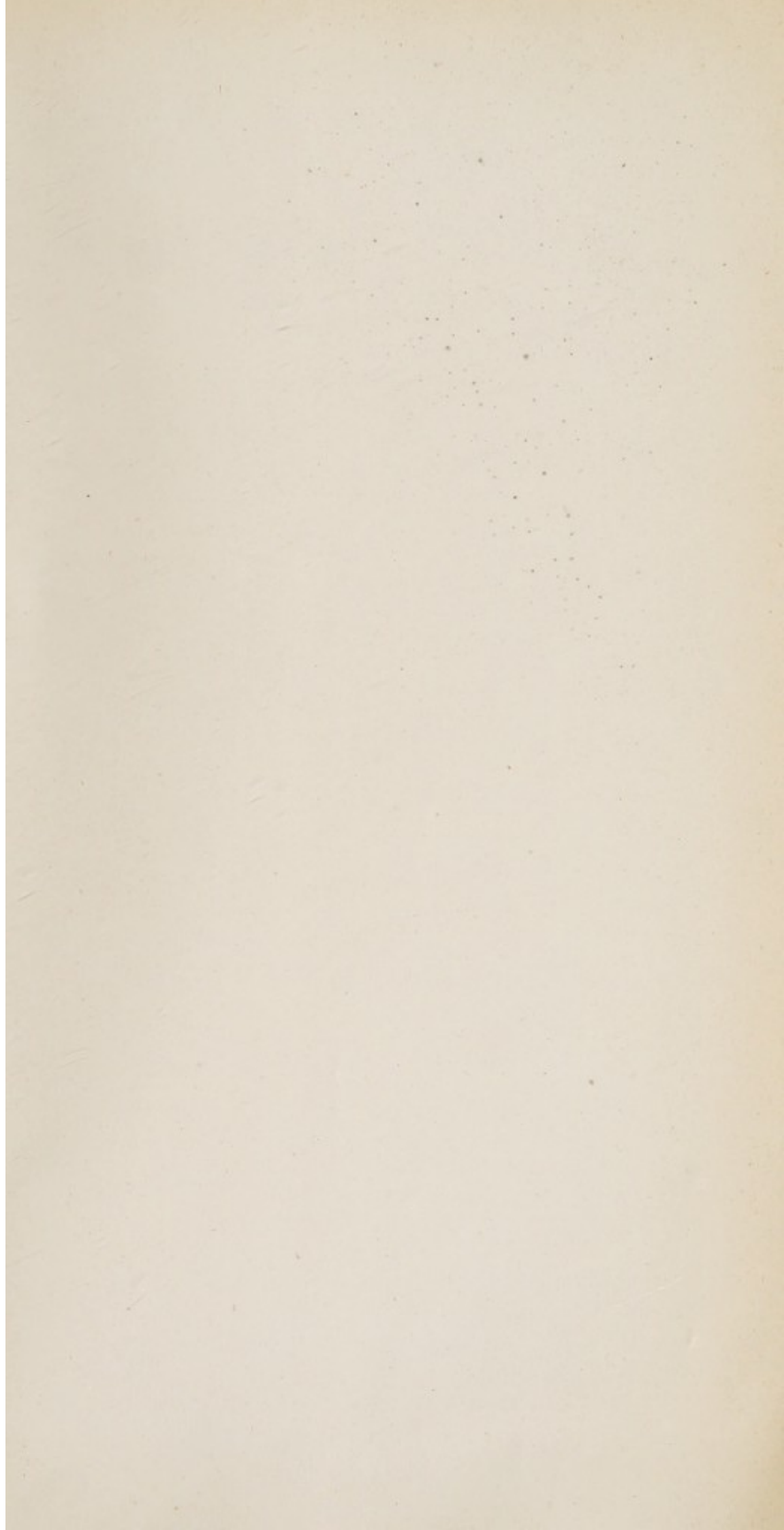


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With Compliments

J.H.

THE
ANNUAL REPORT
OF THE
SANITARY CONDITION

OF THE
BOROUGH OF BURY ST. EDMUND'S,
FOR THE YEAR 1896

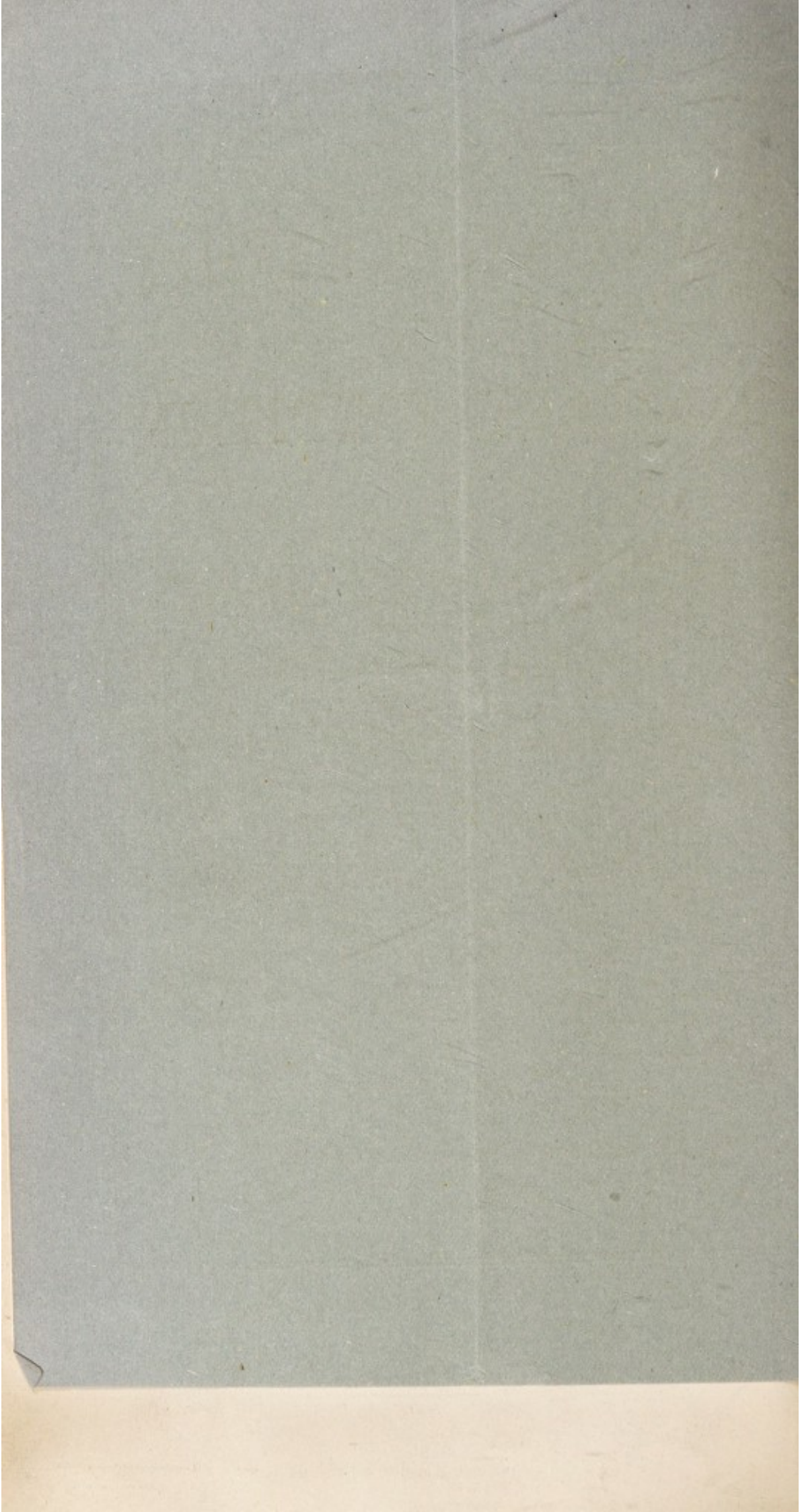
(January 1st to December 31st inclusive),

BY
JAMES HODGES,

MEDICAL OFFICER OF HEALTH.

BURY ST. EDMUND'S:

CATLING, PRINTER, LOWER BAXTER STREET.



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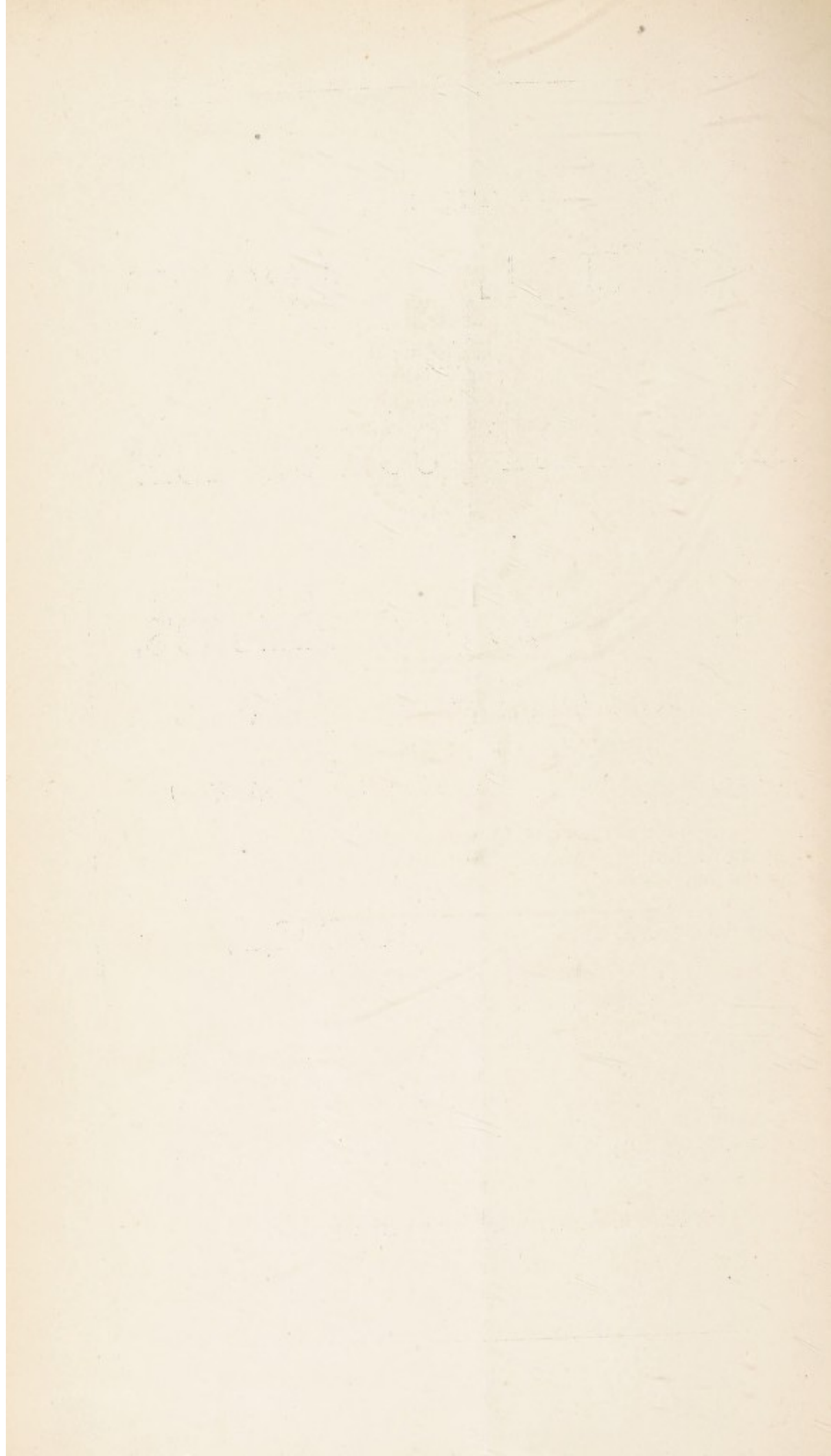
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MEDICAL OFFICER'S REPORT.

TO THE MAYOR, ALDERMEN, AND COUNCILLORS OF
THE BOROUGH OF BURY ST. EDMUND'S.

GENTLEMEN,

I have the honour to submit to you the following, as my Report on the sanitary condition of the Borough of Bury St. Edmund's, during the year 1896.

MARRIAGES.

The number of Marriages in Bury St. Edmund's during 1896 was 93, 108 being the number for the previous year. The 93 Marriages correspond to a rate of 10.96, or very nearly 11 persons married to 1,000 living; the average rate for England and Wales being 14 per 1,000, or thereabouts. Of the 93 Marriages, 67 took place in Churches, viz., 34 in St. Mary's Church, 18 in St. James' Church, and 15 in St. John's, 13 in Chapels (including one in the Roman Catholic Church), and 13 before the Registrar.

BIRTHS.

The Births registered in the Borough during the year were 420, against 426 in 1895. There were 167 Births in St. Mary's Parish (including seven in the Thingoe Union Workhouse, five of which were illegitimate, and the other two legitimate; of three of the former and

one of the latter, the mothers belonged outside the Borough). Of the 167 Births, 83 were Males and 84 Females, and, of the whole number, 20 were illegitimate. In St. James' Parish, 253 Births were registered, 134 being Males, and 119 Females; seven are returned as illegitimate, making a total of 27 illegitimate children born in the Borough during the year, 29 being the number for the year 1895. Deducting the four Births in the Thingoe Union Workhouse, the mothers of which belonged outside the town, the number of Births belonging to the Borough becomes 416, which corresponds to an annual Birth-rate of 24.52 per 1,000 of the estimated population, viz., 16,964, the rate for the year 1895 being 25.23 per 1,000.

MORTALITY.

The total number of Deaths registered in the Borough during the year 1896, from all causes, amounted to 256, which, taking the population as estimated above, corresponds to an annual rate of mortality of 15.08 per 1,000 living. Allowing, however, for the deaths of 30 strangers to the town occurring in Public Institutions, the number really belonging to the Borough becomes 226 and the death rate for the year 13.44 per 1,000 accordingly, which, as I reported at the Council meeting held in January, is the lowest rate since I have had the honour of being Medical Officer of Health.

Of the 256 Deaths, 85 occurred in St. Mary's Parish, 31 in the Suffolk General Hospital, 21 in the Thingoe Union Workhouse, 2 in the Isolation Hospital, and 117 in St. James' Parish. Of the whole number, 148 were Males, and 108 Females. As will be seen from the above, there were two deaths in the Isolation Hospital during the year, which, taking into consideration the severity of a great number of the cases admitted, must be allowed to be most satisfactory. The following are the ages at which the Deaths occurred throughout the Borough during the year, arranged according to Districts.

	St. Mary's Parish.	Suffolk General Hospital.	Thingoe Union Workhouse.	Isolation Hospital.	St. James' Parish.	Total
Deaths under 1 year	15	0	0	0	34	49
Over 1 & under 5 yrs.	3	4	0	0	4	11
„ 5 „ 15 „	3	1	2	1	2	9
„ 15 „ 25 „	3	5	0	0	10	18
„ 25 „ 65 „	27	15	5	1	37	85
„ 65 yrs. & upwards	34	6	14	0	30	84
Total	85	31	21	2	117	256

The number of Deaths during the year from the principal Zymotic Diseases, that is, those that come under the Infectious Diseases Notification Act, amounts to seven, six being the number for the previous year; of these four were due to Diphtheria, two Typhoid Fever, and one Puerperal Fever. Of the four fatal cases of Diphtheria, 3 occurred in St. Mary's Parish, at their own houses, the other belonging to St. James' Parish, at the Isolation Hospital. Of the two cases of Typhoid Fever, one belonging to St. Mary's Parish, took place in the Isolation Hospital, and the other in St. James' Parish. The single case of Puerperal Fever occurred in St. James' Parish. The seven Deaths due to the above causes are equivalent to a Zymotic Death-rate of .41 per 1,000 of the estimated population, being slightly in excess of that of last year, viz., .35 per 1,000.

The following table of Mortality is derived from that required by the Local Government Board, copies of which are forwarded with this report to the Town Clerk and to the Clerk of the County Council. It may be considered with the previous table of Deaths according to age

DISEASES	St. Mary's Parish.		Suffolk General Hospital.		Thingoe Union Workhouse		Isolation Hospital.		St. James' Parish.	
	under 5 yrs.	over 5 yrs.	under 5 yrs.	over 5 yrs.	under 5 yrs.	over 5 yrs.	under 5 yrs.	over 5 yrs.	under 5 yrs.	over 5 yrs.
Small Pox ...	0	0	0	0	0	0	0	0	0	0
Scarlatina ...	0	0	0	0	0	0	0	0	0	0
Diphtheria ...	1	2	0	0	0	0	0	1	0	0
Membranous Croup ...	0	0	0	0	0	0	0	0	0	0
Typhus ...	0	0	0	0	0	0	0	0	0	0
Typhoid ...	0	0	0	0	0	0	0	1	0	1
Continued ...	0	0	0	0	0	0	0	0	0	0
Relapsing ...	0	0	0	0	0	0	0	0	0	0
Puerperal ...	0	0	0	0	0	0	0	0	0	1
Cholera ...	0	0	0	0	0	0	0	0	0	0
Erysipelas ...	0	0	0	0	0	0	0	0	0	0
Measles ...	0	0	0	0	0	0	0	0	1	0
Whooping-cough ...	1	0	0	0	0	0	0	0	0	0
Diarrhoea and Dysentery	2	1	0	0	0	0	0	0	1	0
Rheumatic Fever ...	0	0	0	0	0	0	0	0	0	0
Ague ...	0	0	0	0	0	0	0	0	0	0
Phthisis ...	0	10	0	2	0	5	0	0	0	10
Bronchitis, Pneumonia, and Pleurisy } ...	5	6	1	4	0	1	0	0	3	4
Heart Disease ...	0	6	0	1	0	2	0	0	0	13
Injuries ...	0	2	2	5	0	1	0	0	0	1
All other causes ...	9	40	1	15	0	12	0	0	33	49
Totals. ...	18	67	4	27	0	21	0	2	38	79

Total Deaths for the year, 256.

The 43 Deaths of children under 5 years of age, classified under the heading of "All other Diseases," may be roughly accounted for as

follows :—Convulsions, Premature Birth, Debility from Birth, and the Wasting Diseases of Infants.

Of the 116 Deaths of persons above 5 years of age, from "All other Diseases," by far the greater number were those of aged people, and none have any bearing whatever on the public health of the Borough.

INFANT MORTALITY.

There were only 49 deaths of Infants under one year of age ; 84 being the number in the year 1895. In St. Mary's Parish there were 15 ; none in any of the Public Institutions ; and 34 in St. James' Parish, which gives a percentage of 18.75 of the total number of deaths. The rate of Infant Mortality, however, is usually measured by its proportion to the number of Births occurring in the same year, namely, 420 ; and it will then be found to be 11.66 per cent, the rate for the previous year being 19.01 per cent ; so I am pleased to say that the Infant Mortality for the past year is very much lower than in 1895, and has practically dropped to its normal rate. As will be seen in the table above, there are only six deaths of Infants attributed to any special disease.

AGED PERSONS.

The Deaths of persons above the age of 65 years reached the number of 84, or 32.81 per cent. of the total Deaths for the year, so that the Deaths of Infants and old people together amount to more than half the number of the total Deaths for the year. There were three Deaths of persons 90 years and upwards, belonging to the Borough, the greatest age recorded being 94 ; 18 of 80 years and under 90 ; and 32 between 70 and 80 years, while of those dying in the Borough belonging outside 10 were 70 years and upwards, so that no less than 63 of the 84 persons who died over 65 years of age, were over 70 years. Taking the ages of the 63 who reached 70 years and upwards, I find they average as nearly as possible 79 years each.

INQUESTS.

During the year 10 Inquests have been held in the Borough, the causes of death being attributed in each case as follows :—3 due to Natural Causes ; 5 Accidental ; 1 Suicide during Temporary Insanity ; and 1 Manslaughter. There were 14 deaths registered as uncertified by a Medical Practitioner, against 20 last year, about which no Inquests were held, 11 being Infants (of which 6 were attributed to Premature Birth, and 5 Debility from Birth), 1 Marasmus (or wasting from Birth), 1 Accidental Choking, and 1 Syncope.

ZYMOTIC SICKNESS IN THE BOROUGH DURING THE YEAR.

During the year 1896, 75 cases have been certified under the Infectious Diseases Notification Act, 98 being the number for the previous year, showing a diminution of 23. Of these 13 were Scarlet Fever, 12 Diphtheria, 19 Typhoid Fever, 2 Continued Fever, and 29 Erysipelas.

I am very pleased to be able to state that during the year we have had no outbreak of Measles or Whooping Cough like we had in the year 1895, and that none of the Elementary Schools, to my knowledge, have been obliged to be closed for any cause whatever.

Scarlet Fever.—13 cases. Of the 13 cases of Scarlet Fever, 5 occurred in St. Mary's Parish, 2 in the Suffolk General Hospital, and 6 in St. James' Parish. The majority of the cases broke out in the first and last quarters of the year, there being 5 in the former and 6 in the latter, but, owing to prompt isolation, there was at no time any fear of a real epidemic. Eight out of the 13 cases were removed to the Isolation Hospital, and all were of a comparatively mild type, there being not a single death attributed to this disease during the year.

Diphtheria.—12 cases. During the year 12 cases of Diphtheria have been notified, against 29 in the previous year; of these 7 occurred in St. Mary's Parish, 1 in the Suffolk General Hospital, and 4 in St. James' Parish. The direct cause of infection in the majority of the cases could not be distinctly traced though, doubtless, two which occurred in the earliest part of the year were due to a case originating in the same house at the end of the previous year. Of the whole 12 cases, the majority were of a comparatively mild type, though I am sorry to say 4 deaths are attributed to this disease, one of which was of a very malignant nature, occurring in the Isolation Hospital.

Typhoid Fever.—19 cases. Nineteen cases of Typhoid Fever have been notified during the year, which I am sorry to say is the greatest number we have had in the Borough for some considerable time. Of the whole 19 cases, no less than seven occurred in the same family, one of which proved fatal. The original cause of infection could never be traced, but I have no doubt in my own mind that the father of the family (who had been away at work, and was the first to have the disease) contracted it away from home, and then communicated it to the rest of the family. Although these seven cases broke out in a distinct row of cottages, I am pleased to say there was no spread of the disease beyond the one cottage. Of the other cases, one was distinctly imported, having come from an infected house at a distance hoping to escape, while several were traced to impure well water supply, which I am glad

to say has been remedied, the wells having been ordered to be closed and the Town water laid on. Nine of the cases were treated in the Isolation Hospital, 5 in the Suffolk General Hospital, and the remainder in their own homes. Two cases terminated fatally.

Puerperal Fever.—1 case. During the year, there was one Death registered as due to Puerperal Fever, but it was never certified under the Infectious Diseases Notification Act.

Erysipelas.—29 cases. During the year, 29 cases of Erysipelas have been notified, 22 (including two in the Suffolk General Hospital and one in the Isolation Hospital) occurring in St. Mary's Parish ; and 7 in St. James' Parish. The whole of the cases, so far as I have been able to ascertain, were idiopathic in nature, and there were no deaths during the year attributed to this disease.

THE ISOLATION HOSPITAL.

During the year, 23 cases have been admitted into the Isolation Hospital (34 being the number in the previous year,) 8 of which were Scarlet Fever, 6 Diphtheria, and 9 Typhoid Fever, six of the last being members of the same family. It will be seen in the Local Government Board Return which accompanies this Report, that there is a case of Erysipelas under the heading as having been removed to the Hospital. This case occurred in the Institution, and so was kept there.

I am sorry to have to report that there have been two deaths in the Institution, during the year, one being due to Diphtheria, and the other to Typhoid Fever. I consider we ought again to congratulate ourselves on the usefulness of our Isolation Hospital, for although there was a considerable outbreak of Scarlet Fever in some of the neighbouring villages during the last quarter of the year, by the prompt removal of those cases that did occur and could not be properly isolated in their own homes, we have had no real outbreak in the town whatever, only 13 cases having been notified during the whole year.

I cannot speak too highly of the Nurse (Mrs. Adams), her husband, and the Assistant Nurse (Mrs. Brett), in the way they have each carried out their duties during the year. The majority of the Typhoid Fever cases admitted were of a very severe nature, and had it not been for the careful nursing and attention they received I feel sure we should have had more fatal cases than we did.

It appears, from what I have recently heard, that there is a very general idea amongst the public that every case as soon as it is admitted into the Isolation Hospital comes under my charge as Medical Officer

of Health. I wish here to most distinctly say that such is not the case. Every Patient that is admitted into the Isolation Hospital is attended by the Medical Man who sends the case in, during the whole time he or she may be in the Institution, and I have no more to do with them medically than if they were being treated in their own homes.

The following list drawn up by the Sanitary Inspector shows the ages, diseases, dates of admission, and discharge of the several Patients treated in the Hospital during the year.

Return of Patients admitted to the Sanitary Hospital during 1896.

ST. MARY'S PARISH.

Date of Admission. 1896.	Sex.	Age.	Disease.	Class of Patient.	Result.	Date of Discharge.
Jan. 19	F.	14	Diphtheria	Private	Cured	Feb. 4, 1896
Feb. 3	F.	6	Scarlet Fever	Urb. San.	Cured	" 22, "
" 25	M.	18	Diphtheria	Private	Cured	March 21, "
April 3	F.	4	Diphtheria	Urb. San.	Cured	April 18, "
May 4	F.	7	Scarlet Fever	Urb. San.	Cured	June 15, "
Sept. 16	F.	10	Scarlet Fever	Urb. San.	Cured	Oct. 24, "
Oct. 6	M.	10	Scarlet Fever	Private	Cured	" 18, "
" 24	M.	25	Typhoid Fever	Private	Cured	Nov. 25, "
" 24	F.	29	Typhoid Fever	Urb. San.	Died	Oct. 29, "
" 27	M.	8	Typhoid Fever	Urb. San.	Cured	Nov. 25, "
Nov. 3	M.	48	Typhoid Fever	Urb. San.	Cured	" 30, "
" 3	F.	6	Typhoid Fever	Urb. San.	Cured	" 30, "
" 6	M.	6	Typhoid Fever	Urb. San.	Cured	Dec. 12, "
" 13	F.	2	Typhoid Fever	Urb. San.	Cured	" 12, "
" 24	F.	15	Scarlet Fever	Private	Cured	Jan. 4, 1897
" 30	F.	19	Typhoid Fever	Urb. San.	Cured	" 20, "

Total number of cases from St. Mary's Parish—16 ; viz., Scarlet Fever, 5 ;
Diphtheria, 3 ; Typhoid Fever, 8.

ST. JAMES' PARISH.

Jan. 27	M.	6	Diphtheria	Private	Cured	Feb. 14, 1896
March 7	M.	6	Diphtheria	Urb. San.	Died	March 13, "
April 8	M.	20	Diphtheria	Private	Cured	April 28, "
Nov. 5	F.	12	Typhoid Fever	Urb. San.	Cured	Dec. 21, "
Nov. 7	M.	7	Scarlet Fever	Urb. San.	Cured	Jan. 16, 1897
Nov. 24	M.	22	Scarlet Fever	Private	Cured	Dec. 11, 1896
Dec. 17	M.	11	Scarlet Fever	Urb. San.	Still in Hospital.	

Total number of cases from St. James' Parish—7 ; viz., Scarlet Fever, 3 ;
Diphtheria, 3 ; and Typhoid Fever, 1.

THE SANITARY CONDITION OF THE TOWN.

With regard to the general Sanitary Condition of the Borough during the year 1896, I think very few words are required ; the extremely low death rate, viz., 13.44, speaking only too well for itself. There certainly has been a slight outbreak of Typhoid Fever, but, as I have mentioned, the majority of the cases were not due to any insanitary condition of the surroundings of the Patients, and in those cases where there was a suspicion of the water supply, not only that of the cottages where the cases occurred, but also of the whole district, has been examined, and, where found contaminated, the wells have been condemned and the Town water ordered to be laid on.

With regard to the extraordinary low death-rate, this I consider may be accounted for by the very mild and, at the same time, dry weather we experienced at the commencement of the year, and the comparative freedom we have experienced from infectious diseases, notably Measles and Whooping Cough, which so often prove fatal amongst young children.

I am pleased to be able to note several improvements carried out, or being carried out, in the Borough, during the year, especially the demolition of those dilapidated cottages in Southgate Street, and the erection of new ones, the mud hovels (for I can call them nothing else) in Garland Street, and the pulling down of several cottages in the Long Brackland, where I understand handsome and substantial business premises are to be erected for a wholesale firm of grocers. I sincerely trust now, that the Council has commenced to pay so much attention to some of the so-called dwellings in the Borough, they will continue to do so, and that each year will see further improvements.

I am glad to be able to note that several more properties have become connected with the main drainage, and sincerely hope that in the course of time all dead wells and privies will be entirely done away with.

The Bake Houses, 40 in number, were all inspected by myself in June, and by the Sanitary Inspector in December, and on each occasion the whole were found to be generally exceedingly clean and well kept

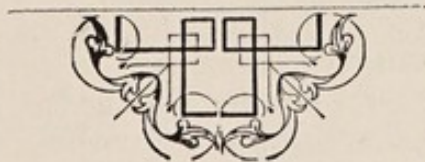
The 21 licensed Slaughter Houses were inspected at intervals during the year, and found to be clean and kept in good order.

The Cowsheds have been inspected by the Borough Surveyor and Veterinary Surgeon, who have reported them as being in a most satisfactory condition. There has been an abundant supply of good

wholesome meat and food generally, not a single case of unsound meat or fish having come under my notice.

During the year, as will be seen in the Summary adjoined, several samples of Milk have been taken from various sellers, for analysis, under the Food and Drugs Act. In every case the result proved most satisfactory.

The three Licensed Lodging Houses were inspected at intervals, by Superintendent Clarke, and reported to me as being clean and well kept, and the provisions of the Lodging House Act having been duly complied with.



SUMMARY.

The following Table contains an abstract of particulars taken from the Inspector's Books, and contains a summary in brief of the practical Sanitary Work of the year :—

ABSTRACT OF CASES

Entered in the Books of the Inspector for the year 1896.

Number of complaints received during the year	...	...	...	93
Number of houses and premises inspected	...	...	...	2050
RESULTS OF INSPECTION.				
Houses and premises cleansed, repaired, and whitewashed	...	...	...	37
Houses disinfected after infectious diseases	...	...	...	30
Number of articles of clothing and bedding disinfected at the disinfecting chamber	...	...	...	268
DEFECTIVE DRAINS, &C.				
House drains, cesspools, &c., repaired, cleansed, trapped, or ventilated	...	...	...	63
PRIVIES AND WATER CLOSETS.				
Repaired, cleansed, &c.	...	...	...	45
New privies provided	...	...	...	4
Supplied with water	...	...	...	6
MANURE BINS, ASHPITS, &C.				
Removal of accumulations of manure, animal and other refuse	...	...	...	106
WATER SUPPLY.				
Number of cases in which water has been condemned and fresh supply provided	...	...	...	13
Wells cleaned out	...	...	...	6
BAKE HOUSES.				
There are at the present time 40 Bake Houses in the Borough, which have been inspected at intervals during the year, and on the whole found clean and well kept	...	...	...	40
MILK AND FOOD SUPPLY.				
No report as to unsound Meat has reached me during the year, and I consider the Meat supply in general of excellent quality.				
Number of samples of Milk were taken from Milk sellers from carts and various parts of the town, and submitted to test, and found of good quality.	11			
FISH SUPPLY.				
During the year there has been a good supply of Fish.				
MISCELLANEOUS.				
Number of Lodging Houses registered under Clause 76 of the Public Health Act, 1875	...	...	...	3
Over-crowding reduced	...	...	...	4
Removal of Animals improperly kept	...	...	...	10
Licensed Slaughter Houses inspected at intervals	...	...	...	21

ABSTRACT OF CASES (*continued*).

MISCELLANEOUS. (<i>Continued</i>).							
Various cases of sickness, &c., brought under the notice of the Sanitary Authority, and steps taken to remove them to the Sanitary Hospital							
							23
Cases of Small-pox	...	...	...	...	...	...	0
Scarlet Fever	...	...	...	...	...	...	8
Typhoid Fever	...	...	...	...	...	...	9
Diphtheria	...	...	...	...	...	...	6
Cholera	...	...	...	...	...	...	0
Membranous Croup	...	...	...	...	...	...	0
Erysipelas	...	...	...	...	...	...	0
Typhus Fever	...	...	...	...	...	...	0
Puerperal Fever	...	...	...	...	...	...	0
Legal proceedings	...	...	...	...	...	...	0
ROBERT KERRAGE, <i>Inspector of Nuisances for the Borough of Bury St. Edmund's.</i>							

I have the honour to remain, Gentlemen,

Your obedient Servant,

JAMES HODGES, M.R.C.S., L.S.A., A.K.C., London,

Fellow of the Incorporated Society of Medical Officers of Health.

Bury St. Edmund's,

January 30th, 1897.

