[Report 1896] / Medical Officer of Health, Northampton County Borough.

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REPORT

ON THE

Health of Northampton,

FOR THE YEAR 1896,

BY

LEE F. COGAN, M.R.C.S.,

MEDICAL OFFICER OF HEALTH.

NORTHAMPTON:
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To the Mayor and Town Council of the County Borough of Northampton.

GENTLEMEN,

In compliance with the regulations of the Local Government Board, I beg to present you my twenty-first annual report on the health of the County Borough during the year 1896. In the first place, I must confess that I have to express, in some sense, disappointment, though not discouragement, that the results recorded are not so favourable as those of the two preceding years, so far as the mortality statistics are implicated.

We find that the Northampton death-rate for 1896 has advanced from 14·2 and 14·1 per 1,000, the rates for 1894 and 1895 respectively, to 14·9, an excess of ·8 per 1,000 in comparison with that of its predecessor.

Notwithstanding this, however, it will be conceded that an annual mortality rate of less than 15 per 1,000 of the population is indicative of a standard of healthfulness not enjoyed by a large number (if not the majority) of manufacturing districts throughout the country. In the future I have every confidence that a diminution in this rate will take place.

We may congratulate ourselves that the increment in our local death-rate of last year is not occasioned by any actual depreciation in our normal condition of health, of a permanent character, but to entirely temporary, accidental, and uncontrollable circumstances—a liability to which all populous communities (even of unimpeachable sanitary repute) are exposed.

The sole cause of the increased death-rate was the fatality amongst children provoked by measles, which occurred during the epidemic invasion of this disease in the earlier part of last year.

The recurrence for some years to come, I hope, is not to be anticipated of this dangerous and disturbing element of the health of the community; the serious effects of which are so forcibly revealed in the death columns annexed to this report. The account which is here recorded of the general operations carried out by the health department during the

year under my supervision I apprehend will be accepted as testimony that due attention has been devoted to the sanitary wants of the Borough; and the results, which have been tabulated, will, I trust, meet with your approval and satisfaction.

To the Chairman and members of the Sanitary Committee I desire to convey my grateful acknowledgments for the invariable kindness and courtesy accorded to me, and also for the careful consideration which is always given to all matters in connection with the Health Department which are referred to them.

I am, Gentlemen,

Your obedient Servant,

LEE F. COGAN,

Medical Officer of Health.

Northampton, February 19th, 1897.

SUMMARY OF STATISTICS, 1896.

POPULATION (estimated)..... 65,586

INHABITED HOUSES 12,348

RATEABLE VALUE, £208,742.

BIRTHS.

MALES.	FEMALES.	TOTAL.	BIRTH RATE.
923	876	1,799	27·4

DEATHS.

MALES.	FEMALES.	TOTAL.	DEATH RATE.
510	469	979	14·9

Zymotic Death Rate, 2·5.

Infantile Mortality, 150.6 per 1,000 Births.

DEATHS FOR THE QUARTERS.

	1895	1896		1895	1896
First Quarter	306	330	Third Quarter	224	210
Second Quarter.....	188	200	Fourth Quarter ...	195	239

REPORT.

POPULATION.—The estimated number of inhabitants of the County Borough in the middle of the year 1896, based on the assumption that the yearly increase of the population corresponded with that of the intercensal period 1881–1891, was 65,586. The number of inhabited houses in the Municipal Borough in the middle of the year 1896, as ascertained from the rate-books, was 12,348, being 174 in excess of the inhabited houses in the previous year. The natural increase of the population for the year 1896 was 820, these figures representing the excess of the births over the deaths for the year. The natural increment of the population was less by 193 than that of the preceding year 1895.

BIRTH-RATE.—The declination in our local birth-rate, which has now been conspicuous for a long series of years, and from time to time has been commented upon in these reports, was again manifested in the birth returns for the past year, the diminution still continuing. The total number of births registered in the year was 1,799, being equivalent to a birth-rate of 27·4 per 1,000 persons living, and less by 2·3 than the same rate for 1895.

The returns show that 1,499 of the births occurred in the registration district of St. Giles' and 300 in that of All Saints'; as to sex, 923 were males and 876 females. There were 69 illegitimate births, the proportion of such births to the legitimate being 3·8 per cent.

The birth-rate of England and Wales in 1896 was 29·7 per 1,000 of the population, which is lower than the rate in any other year on record excepting 1894, and 1·3 per 1,000 below the mean rate in the ten years 1886–95. (Registrar-General.)

DEATHS.—I have to record a higher death-rate for 1896 than that of 1895; but, as I have previously mentioned, this is due to the unusual high measles mortality. The death-rate was equivalent to 14·9 per 1,000 persons living, and ·8 in excess of the death-rate of 1895; yet this is by no means to be regarded as a high one, for in a period of twenty-one years on two occasions only, namely, in the years 1894 and 1895, has the mortality rate been lower than that of last year.

The average death-rate in Northampton in the decennial period 1887–1896 was 16·4 per 1,000.

Table showing the Infant Mortality Rates for the years 1878 *to* 1896, *with the Birth Rate for the same years.*

Year.	Birth Rate per 1,000 of the population.	Deaths of Children per 1,000 Births.
1878	41·3	188·4
1879	39·16	139·67
1880	38·6	149·59
1881	37·18	150·3
1882	38·0	161·8
1883	36·0	132·2
1884	35·18	186·26
1885	33·6	155·1
1886	33·9	153·5
1887	32·4	174·8
1888	33·5	146·3
1889	32·9	176·4
1890	31·7	174·7
1891	34·5	164·2
1892	30·19	145·4
1893	29·23	173·1
1894	29·03	136·1
1895	29·7	145·8
1896	27·4	150·6

NOTE.—Average birth-rate per 1,000 of 10 years, 1887–1896, 31·05.

Average death-rate of children under 1 year per 1,000 births for 10 years, 1887–1896, 158·7.

In the course of the year the deaths of 87 persons not belonging to the town were registered, and of these 62 occurred in the Infirmary, 12 in the Workhouse, 11 at St. Andrew's Hospital, 1 at Her Majesty's Prison, and 1 at a private residence.

Excluding the non-resident deaths, we find that 979 persons died in the County Borough in 1896; of this number 510 were males and 469 females. In the sub-registration district of St. Giles' there were registered 813 deaths, and in that of All Saints' 166.

The Registrar-General, in his last Quarterly Return, states that the death-rate in 1896 for England and Wales was 17·1 per 1,000, and this is lower than the rate in any previous year, excepting 1894. Of the deaths 468 were children under five years of age, and 511 persons above that age.

The table containing statistical information of the birth and death-rates of some other provincial towns I apprehend will be received with interest, as affording the opportunity of comparing them with those of our own town. These returns have been kindly furnished me by the Medical Officers of Health of the respective towns referred to in the table.

This year, unfortunately, Northampton does not occupy the prominent position in the list we could desire, owing to the adverse circumstances to which we were exposed last year in the visitation, in an unusually severe form of epidemic disease.

Irrespective, however, of this drawback and untoward incident, we compare most favourably with the majority of the towns from which I have obtained returns.

By reference to the table appended to the report containing the classification of the deaths in 1896 from various causes, and at different periods of life, it will be seen that diseases of the respiratory organs contributed by far the larger proportion of deaths, namely, 155. There were returned 26 deaths assigned to accidents or violence, and 9 to child-birth and puerperal fever, an increase of 4 in such deaths as compared with 1895. There were 49 deaths the cause being attributable to old age; these deaths show a diminution of 11 in comparison with those of 1895. Influenza caused only 8 deaths; this is the lowest mortality experienced in any year from this dangerous disorder since its epidemic outburst throughout the country some five years since. We may, therefore, I hope, anticipate its complete extinction in the near future.

Table showing the Comparative Mortality of Northampton with 23 other Towns.

TOWN.	1896.				Infant Mortality Deaths under 1 year per 1,000 Births.	Average Death Rate, 10 years, 1887 to 1896.
	Population.	Birth Rate.	Death Rate.	Zymotic Death Rate.		
Huddersfield ...	100,463	20·54	16·78	1·69	167	—
Aston Manor ...	76,702	31·5	15·4	3·5	172	16·8
Bath	52,600	—	16·98	—	139	18·6
Derby	101,770	27·8	15·9	1·8	150·0	17·1
Wolverhampton ...	86,530	34·3	19·7	3·5	185	21·15
Reading	66,739	27·46	13·69	1·68	122·2	15·45
Southampton ...	98,002	29·1	16·4	1·95	146	18·0
Coventry	58,000	29·2	16·5	1·7	149	18·3
Burton-on-Trent ...	50,056	30·20	17·08	4·81	134	17·02
West Bromwich ...	63,000	34·9	19·8	2·6	189	19·8
Oxford	52,200	22·9	14·2	2·01	150	15·2
St. Helens	81,110	38·2	20·5	3·68	173	22·0
Halifax	95,400	24·4	17·4	1·0	150	19·5
Wigan	59,867	35·9	23·0	4·0	186	23·5
Southport	47,243	21·93	14·46	0·95	129	17·3
Hanley	58,755	35·6	21·1	3·9	213	19·9
Cambridge	39,433	23·6	14·1	1·24	196	15·6
Cheltenham ...	49,000	21·2	16·8	1·7	135	16·9
Stockport	70,263 (1891)	31·09	20·6	2·9	139	—
Warrington ...	52,743 (1891)	37·5	18·6	3·0	163	—
Northampton ...	**65,586**	**27·4**	**14·9**	**2·5**	**150·6**	**16·4**
Rochdale	71,401 (1891)	25·49	19·08	2·1	151	—
Bury	57,212 (1891)	24·23	19·81	3·0	163	—
Ashton-under-Lyne	40,463 (1891)	29·2	21·4	2·1	169·6	—

CANCER AND OTHER MALIGNANT AFFECTIONS.—Cancerous diseases were on the increase last year compared with the preceding year 1894. In 51 deaths, the cause was certified as due to cancer, 16 more than in 1895. The death-rate was equal to 0·77 per 1,000, against 0·52 per 1,000 in 1895, and 0·73 per 1,000 in 1894. The average death-rate from these affections in three years, 1894, 1895, 1896, was 0·67.

PHTHISIS.—There were 81 deaths due to this cause, the death-rate being 1·23 per 1,000, against 1·11 per 1,000, so slight an increase as to be immaterial. This disease forms, however, a most significant factor in our local mortality returns, causing a yearly death-rate of more than 1 in every 1,000 of the population.

We have in recent years had the fact most forcibly demonstrated to us that phthisis is a preventible disease; and it seems to me only reasonable that those who are concerned in public health matters should avail themselves of every possible means attainable for the prevention of a disease that occasions such a vast amount of suffering and death, that this does throughout the country.

That phthisis is a communicable and infective disease is acknowledged. It is not, however, infectious in the sense that small-pox, scarlet fever, and some other zymotic disorders are. Neither does its preventive treatment imply the strict isolation necessary to be enforced for the prevention of the diffusion of infectious disorders of the ordinary class. It is not contagious, but under certain conditions it is communicable from person to person.

I have in previous reports adverted to the circumstance that precautions necessary for the prevention of the dissemination of this disease are viewed with but indifference both by Sanitary Authorities and individuals, but in a few English towns, recently, following the example of various continental places, activity has been displayed in this direction. The Authorities in several large towns have distributed handbills containing the precautionary measures to be observed against the infection of consumption.

The diffusion of knowledge of this description is, I think, calculated to exercise beneficial influences in the prevention of this most fatal disease.

I most certainly advocate a similar course being pursued in Northampton. The following are directions for the prevention of consumption compiled by the Manchester and Salford Sanitary Association, and these, with such modifications and additions as are thought advisable, I would suggest should be authorised by the Authority to be distributed in the form of handbills

amongst the inhabitants of the district. The cost I apprehend would not be serious, and the public generally are absolutely ignorant of the true nature of consumption, and consequently cannot be expected to heed those very essential details in its preventive treatment that should be strictly and invariably observed.

"It is now well known that consumption is often caused by the breathing of matter coughed up by consumptive persons, which, when it becomes dry, is blown about the air as dust.

"This dust contains the poison which is the active cause of the disease. If it is left in contact with any filth, or floating about in foul air, it is dangerous even to healthy persons; but it is especially hurtful to those with weak lungs, though the danger is diminished in houses that are clean, properly drained, and well ventilated.

"It is, therefore, the duty of all persons suffering from this disease to take care that all expectorated matter is destroyed at once, and not allowed to get dry and powdery, and to see that their houses are in good sanitary condition.

"To ensure this being done, the following Rules should be observed:—

"(1) All matters coughed up from the chest should either

"(*a*) Be spit in the fire; or

"(*b*) Should be received in a vessel lined in such a way with a piece of paper that the paper and its contents may be lifted out and burnt.

"(2) Rags which can be burnt should be used instead of pocket-handkerchiefs, and if a pocket-handkerchief is used it should be well boiled before the matter upon it has had time to become dry and powdery.

"(3) The rooms and furniture used by persons suffering from advanced consumption should be frequently cleansed by washing with soap and water, and should also from time to time be thoroughly disinfected. All unnecessary bed-hangings and curtains should be removed.

"(4) As plenty of fresh air is absolutely necessary to persons suffering from or threatened by consumption, their houses should be kept clean, and thoroughly ventilated. If this is done, it will greatly aid in the cure of the disease, and there will be little or no danger of contagion.

"The windows both of the living-rooms and bed-rooms should be kept open, more or less, according to the weather, day and night, although direct draughts should be avoided.

"If the clothing and bedding are sufficient, mere cold need not be feared; but if possible a fire should be kept burning in the room to ventilate it.

"The chimney should never be blocked up.

"(5) Consumptive persons, or persons threatened with consumption, should spend as much time as possible in the open air, and should keep away from close and crowded rooms, whether they be concert halls, meeting houses, theatres, public-houses, or the like."

INFANTILE MORTALITY.—The infant mortality rate for 1896 was 150·6 per 1,000 births, this being the proportion of children dying during the first year of life, to those born. The infant death-rate was 4·8 per 1,000 higher than the same rate of 1895. The total number of infant deaths registered in 1896 was 271.

In examining the cause of infant deaths, it is found that 65 were stated to have died of atrophy and debility, 41 from diseases of the respiratory organs, 35 convulsions, 27 diarrhœa, 18 measles, 33 premature birth, &c.

The infant death-rate of England and Wales for 1896 was 148 per 1,000 registered births.

The subjoined Table gives the Number of Deaths in each year from the seven Principal Zymotic Diseases, and the Death-rates both Zymotic and General, for the years 1887 *to* 1896, *and Annual Average for the decennial period* 1887 *to* 1896.

	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	Average for 10 years 1887 to 1896.
Small Pox	...	...	...	...	...	...	...	...	...	...	...
Measles	35	4	57	11	35	14	52	20	1	114	34·3
Scarlet Fever	38	22	15	4	1	2	3	5	4	4	9·8
Diphtheria	2	2	1	...	4	2	5	3	6	2	2·7
Whooping Cough ...	34	8	43	17	25	14	28	31	8	12	22
Typhoid Fever	7	7	4	1	5	5	5	6	7	1	4·8
Diarrhœa	62	32	55	61	36	21	62	19	67	35	45
Deaths from the seven Zymotic Diseases ..	178	75	175	94	106	58	155	84	93	168	118·6
Deaths from other causes	847	888	887	986	1027	904	915	824	820	811	890
Totals for each year ...	1025	963	1062	1080	1133	962	1070	908	913	979	1009
Death-rate from the Seven Zymotic Diseases per 1,000	3·1	1·2	2·9	1·5	1·7	0·9	2·4	1·3	1·4	2·5	1·8
Death-rate from all other causes ...	14·7	15·2	14·9	16·4	16·8	14·5	14·4	12·9	12·6	12·3	14·4
General death-rate ...	17·8	16·5	17·9	17·9	18·5	15·5	17·0	14·2	14·1	14·9	16·4

UNCERTIFIED DEATHS.—There were 31 deaths returned in which the cause of death was not certified, the deaths occurring without any medical practitioner having been called in during life.

The proportion of uncertified deaths to the total mortality was 3·1.

ZYMOTIC OR SPECIFIC FEBRILE DISEASES.—These diseases were more prevalent than in the previous year. The number of deaths amounted to 168, not including those which occurred in the Borough Hospital of patients belonging to the town of Northampton.

The zymotic deaths of 1896, therefore, exceeded those of 1895 by 75.

The zymotic death-rate was equal to 2·5 per 1,000 of the population, being 1·1 per 1,000 higher than this death-rate for the previous twelve months, and exceeding by 0·7 the average annual rate (1·8) for the decennial period 1887–1896.

The zymotic death-rate of England and Wales for 1896 was 2·18 per 1,000 living, against 1·81 and 2·17 respectively in the preceding two years.

SMALL-POX.—No case of small-pox was reported during the year.

MEASLES.—The measles epidemic, which broke out in the earlier part of January of last year and continued until the end of March, was of unprecedented severity, and exercised a most material influence in augmenting the zymotic death-rate for the year.

We find that the measles mortality rate was equivalent to 1·73 per 1,000 persons living, and exceeded the death-rate of all other zymotic diseases by 0·91.

The death-rate from zymotic diseases other than measles was 0·82 only. The total number of deaths assigned to this disease was 114, and in the whole course of my experience the measles mortality has not in any year reached this amount, and only on two occasions during a period of 22 years, namely, in 1881 and 1885, did the measles mortality in any year approach the proportions of that of last year (which in this respect is a "record" year), the deaths in these two years amounting to 111 and 72 respectively.

The age distribution of the deaths was :—

Under 1 year.	Over 1 and under 2 years.	Over 2 and under 5 years.
16	46	35

5 years.	6 years.	7 years.	11 years.
5	1	1	1

Measles, as the above figures clearly indicate, is a disease in which the fatality is almost exclusively connected with child life, and the most

fatal age of those attacked is between 1 and 2 years. It is stated that the death-rate from zymotic diseases generally have continuously decreased decade by decade, but that from measles has not so diminished.

The epidemic of last year assumed dimensions altogether beyond the control of the health department, our resources being wholly unequal to the task of effectively grappling with it; but I may here observe that the closing, for several weeks, of most of the public elementary schools in the district, which was effected at my instigation, was attended, I have no hesitation in saying, by results of a beneficial character; as in this manner, in a very material degree, was the diffusion of infection restrained.

It is generally conceded that schools by congregating large numbers of children are active factors in the propagation of infectious disorders, and closing these institutions in epidemic times is a measure to be urgently advocated when the necessity for so doing presents itself.

The desirability of including measles in the schedule of diseases under the Infectious Diseases Notification Act is a question on which considerable diversity of opinion prevails.

Unquestionably early information of the existence of infectious diseases is essentially requisite for the adoption of preventive measures. But with respect to measles, it seems to me this precautionary proceeding (in which the expense incurred forms an item which cannot be disregarded) should not be resorted to except in conjunction with those allied precautionary proceedings resorted to in the preventive treatment of other diseases of the infectious class. Unless provision is made for the isolation of persons infected with this disease, which would necessitate hospital accommodation, for cases of this description, the cost of notification, in my judgment, would hardly be justifiable.

Further systematic supervision and disinfection of infected houses and materials must be carried out. This would imply the re-organization of the entire health department, and also its augmentation. It is thus evident that for the application of measures, in any sense adequate for the control of measles, in a similar manner to those adopted in the treatment of other infectious diseases, would involve an encroachment on the public funds, by no means insignificant, and requiring very serious consideration. Notwithstanding the well-known fact that the control of measles is, for various reasons, attended by difficulties, efforts should be made for overcoming the same to some extent. Measles is a disease far more dangerous to life than is commonly suspected. It will be found from the Registrar-General's returns that deaths from measles in England and Wales during the ten years 1885–94 amounted to a yearly average of 12,956.

Too generally measles is viewed by the public but very lightly; it should, therefore, be known that it is a far more serious malady than is generally realized.

The sanitary authority, acting on a suggestion made by me in a report presented in the latter part of last year, resolved to enter into negotiations with the school authorities in the district for the purpose of concluding arrangements for establishing a system of voluntary notification by all the teachers of the public elementary schools in the town, whereby a list of children absent from school owing to infectious diseases, or suspected disease of an infectious character, is to be transmitted to the Health Officer weekly; and forms have been presented to the teachers of all such schools to enable them to make the returns requested. I apprehend if this arrangement is complied with on the part of school teachers with regularity, that the Authority will be supplied with information of considerable value relative to unnotifiable diseases. It is obviously advantageous, in the interests of popular education, to prevent as far as possible outbreaks of epidemic disease, and on this account, and in the interests of the public health as a whole, the authorities of all schools supported by rate, and state aid, may most reasonably be applied to for co-operating with the Authority in the application of measures that are calculated to restrict the dissemination of diseases of an infectious type.

For this purpose application only has been made to the managers of the public elementary schools; but similar information from those having the control of Sunday and private schools is to be encouraged, and, indeed, will be accepted thankfully.

SCARLET FEVER.—This disease, unfortunately, for many years past has been more or less prevalent in the district, and only in one year (1879), for a long series of years, has the mortality been nil. It is, however, satisfactory to note that the fatality from this fever has diminished considerably since the introduction of the Compulsory Notification Act in 1889; and in comparison with many other large urban districts we are in a more favourable position, no decline in scarlet fever mortality having been experienced in their case.

In all there were 384 cases of scarlet fever notified in 1896, being 115 in excess of the number returned for the preceding year; of these 264 were treated in the Borough Hospital; the proportion of cases isolated being equivalent to 68·7 per cent., whereas the percentage of these cases in the previous year was 51·7, the increase of last year amounting to 17·0 per cent. Including 7 deaths from this fever which occurred in the Borough Hospital, the total amounted to eleven, being children under 5 years of age; the fatality

per 100 cases being equal to 2·8. In arriving at this rate in my report of last year, the deaths in the Borough Hospital were not taken into consideration, and unless this explanation is given, an apparent discrepancy between the rates for the two years may be inferred.

The scarlet fever death-rate for last year was not excessive, and its reduction in the future, I hope, may be anticipated. Last year an unusual number of cases of the more virulent forms of the disease came under my observation—by such I refer to those types of the disease of a particularly dangerous character, and whose clinical characteristics are too well recognised by medical practitioners as offering absolute resistance to treatment of every description. Scarlet fever in this form being a very deadly disorder. Taking into consideration the exertions that have been made for several years past in the town for the prevention of scarlet fever, involving expenditure of both time and money, in no manner inconsiderable in amount, it may be said that the results obtained are perhaps less successful than could be desired, and this must be admitted, though, so far as I am concerned, with some reluctance, and at the same time, regret.

But scarlet fever is one of those diseases acknowledged to be due to a specific poison in the form of a micro-organism, whose identification has, unfortunately, not yet been achieved; and if this can be attained by bacteriologists there is but little doubt that control in the prevention of this very infectious malady will be most materially aided.

TYPHOID FEVER.—In connection with this disease the history for the past year is most decidedly favourable, for whereas in 1895 the notification list contains no less than 41 cases of typhoid fever, we have only last year 17, a difference of 24 cases, a significant number in a place like Northampton, where the incidence of typhoid is normally low.

I must not omit to mention that 4 of the cases were imported ones, and 2 of the patients, unfortunately, were nurses connected with the Northampton Nursing Institution, who contracted the fever whilst nursing patients in the country, one of whom succumbed to the disease—a most unhappy event, and greatly to be deplored.

Five of the typhoid patients were removed to the Borough Hospital.

In the majority of the typhoid cases evidence of the existence of insanitation, invariably in connection with faulty drainage, was detected, and the usual steps were taken with promptitude for the rectification of the same.

The same precautions were also taken for preventing the extension of infection, in this, and the other zymotic diseases, as have in previous

years been effected through the instrumentality of the sanitary department, and as the rules adhered to in these proceedings have been fully detailed in previous reports, it is not incumbent on me on this occasion to enter into a recapitulation of them.

The localities in which typhoid fever cases occurred were:—

Locality.	Cases.
Louise road	1
Scarletwell street	1
Spencer road	1
Overstone road	1
The Infirmary	2 (1 imported)
Alfred place, Castle street	3
Hazelwood road	2 (imported)
Sheep street	1
Military road	1
Commercial street	1
Great Russell street	3

There were only 3 fatal cases of typhoid fever, and 2 of these occurred at the Borough Hospital.

The deaths from typhoid fever in the years 1876 to 1896 were:—

1876...8	1887...7
1877...5	1888...7
1878...5	1889...4
1879...5	1890...1
1880...0	1891...5
1881...6	1892...5
1882...5	1893...5
1883...3	1894...6
1884...11	1895...7
1885...4	1896...3
1886...3	

The ten years' (1887–1896) annual average number of deaths from typhoid fever was 5.

DIPHTHERIA.—I have in past years in these reports, referred at some length to diphtheria, more particularly with regard to its prevention; and on this occasion I have nothing further to add in relation to the subject.

In the course of the year 10 cases were reported and 2 deaths, an improvement compared with 1895, when 16 cases were notified and 6 deaths.

The localities in which diphtheria cases existed were:—

Castle terrace	2
Albion place	2
Wood street	1
Cloutsham street	1
St. Giles' street	1
Manfield road	1
St. George's place	1
Turner street	1

In the larger proportion of the places infected with diphtheria imperfect sanitation relating to various defects in the drainage system of the dwellings was found, and in all such instances these were, at the instigation of the sanitary department, required to be amended.

MEMBRANOUS CROUP.—Membranous croup is so intimately allied to diphtheria that for all practical purposes it may really be classified in conjunction with the latter disease.

There were only six cases brought under my notice last year, and two deaths were attributed to it.

WHOOPING COUGH.—The mortality from this complaint amounts only to 12 deaths, against 31 and 8 in the two preceding years 1894 and 1895.

DIARRHŒA.—Compared with the preceding year, the "summer diarrhœa" mortality evinced a very considerable diminution, there being 35 deaths assigned to this cause, whereas in 1895 there were 67.

The death-rate was equal to 0·53 per 1,000 persons living, ·50 less than the same rate of 1895, which was 1·03 per 1,000.

It appears that the prevalence of diarrhœa in the summer quarter of last year was much below the average. The Registrar-General states that the annual diarrhœa death-rate was 0·21 per 1,000, and just half the average mortality for the fourth quarter in the previous two years.

ERYSIPELAS.—There were 74 cases of erysipelas notified, being about the same number as in 1895.

There were only 3 deaths registered in which erysipelas was certified as being the cause of death.

Streets in which Deaths from the Zymotic Diseases occurred in 1896.

MEASLES.

Bath street
Lower Harding street
Great Russell street
Spring lane
Francis street
Lower Cross street
Althorpe street
Horeshoe street
Court 1, Bath street
Compton street
Scarletwell street
Clarke's yard, Wellingborough road
Deal street
St. John's street
Little Cross street
Castle street
Lower Harding street
Upper Cross street
Court 1, Scarletwell street
Francis street
Silver street
Inkerman terrace
Bearward street
Doddridge street
Moat street
Cloutsham street
Hervey street
Regent square
Pine street
Cleveland road
Queen street
Lower Harding street
Talbot road
Crispin street
Richmond terrace
Adelaide street
Poole street
Wellingborough road
Robert street
Ethel street
Charles street
Market street
Overstone road
Russell terrace
Exeter road
Alcombe road
Ash street
Kerr street
Bridge street
Alpha street
Kettering road
Leicester street
St. Andrew's road
Somerset street
Hood street
Alliston's gardens
Priory terrace
Adnitt's place
Gregory street
Harding terrace
Gladstone terrace
Raglan street
Earl street
Quart Pot terrace
Grafton place
Herbert street
Gas street
Fort street
Thomas street
St. James' place
Woolmonger street
Court 7, Scarletwell street
Arundel street

St. Andrew's place
Upper Mounts
St. Katharine's street
Bath row
Court 1, Wellington place
Bailiff street
Grafton street
Louise road
Broad street
Chapel place
St. John's place

SCARLET FEVER.

St. Edmund's road
Wilby street
Colwyn road
York road

DIPHTHERIA.

Castle terrace
Cloutsham street

TYPHOID FEVER.

Hazelwood road

WHOOPING COUGH.

York road
Francis street
Fitzroy terrace
Alfred gardens
Bouverie street
Freehold street
Upper Harding street
Wood street
Alliston's gardens
Cooper street

DIARRHŒA.

Scarletwell street
5, Court 1, Bath street
Victoria street
Lower Priory street
Lawrence street
Bouverie street
Horsemarket
Gregory street
Swan street
Square 3, Nelson street
Vernon street
Artizan road
Military road
Grafton place
Market street
Cleveland road
Castle street
Woolmonger street
Cleveland road
Albert street
Alpha street
Silver street
Cooper street
New Town road
Whitworth road
Kettering road
Marble Arch
Broad street
Wilby street
Crispin street
Phœnix street
Chalk lane

NOTIFICATION OF INFECTIOUS DISEASES.

The following Table gives the number of cases reported during the year 1896 to the Medical Officer of Health under the Infectious Diseases (Notification) Act, 1889 and also the totals of infectious cases reported in 1895 :—

1896.	Small Pox.	Typhoid Fever.	Erysipelas.	Puerperal Fever.	Diphtheria.	Scarlet Fever.	Croup.	Total.
January	...	1	7	...	4	34	...	46
February	...	1	3	2	...	19	2	27
March	...	...	8	...	1	7	...	16
April	...	1	2	...	1	9	...	13
May	...	3	3	...	...	9	...	15
June	...	...	7	2	...	28	...	37
July	...	...	9	...	1	43	...	53
August	...	1	7	...	1	51	...	60
September	...	2	8	...	...	50	...	60
October	...	2	9	1	1	52	...	65
November	...	4	5	...	...	40	1	50
December	...	2	6	1	1	42	3	55
	...	17	74	6	10	384	6	497
1895	...	41	71	5	16	269	2	404

PREVENTION OF DISEASE.—From the tabular statement of Notification of infectious diseases it will be observed that the total number of cases reported was in excess of that of the previous year, there being 497 cases notified last year and 404 in 1895. The increase was mainly due to scarlet fever, the cases being 115 in advance of those in the preceding year. The rules of the department in the application of preventive measures in connection with infectious diseases have during the past year, as in former years, been strictly adhered to. In addition to these I have intimated to the officials of the department the desirability of more supervision being devoted to the infectious cases treated at home than has been customary on their part; and this departure will, I hope, if properly carried out, be useful in checking the dispersion of infection.

Bearing in mind the possibility of infection being conveyed by books belonging to the Public Library which have been used by infectious persons, I advised the Town Council to give their sanction to stopping the circulation of all such infected books, recommending that they should be sent to the Borough Hospital for the use of the patients, after having been disinfected. This recommendation was adopted, and is now being acted upon.

Notices have also invariably been sent to the Head Masters of all Schools where children have been attending certified to be suffering from infectious complaints. We have, as those gentlemen of the Town Council constituting the Sanitary Committee are aware, for the last year or two had recourse to the newest plan of disinfecting rooms, namely, by spraying the infected rooms with a solution of "corrosive sublimate," a system, I believe, which has been in vogue in some continental cities for a few years past, and first introduced in Paris. This, however, is a plan that as yet has not been generally adopted in this country.

In experimenting at the onset with this mode of disinfection, a syringe of ordinary construction only was used, and, this being found unsatisfactory, the Sanitary Committee authorized me to purchase one of Messrs. Defries & Co.'s spraying instruments. This apparatus has now been used for some months past by the corporation officials, and has been found satisfactory in every respect.

So far as my experience extends, I regard this method of disinfecting infected rooms in every respect preferable and more efficacious than the old method by sulphurous acid gas.

That "corrosive sublimate," is an active poison, is well known, and a very powerful destroyer of specific germs there is no doubt ; and caution has to be observed in its use, which must be impressed on those entrusted with its manipulation.

The Corporation Ambulance, at the instigation of the Sanitary Committee, has been improved by resort to one of those luxuries, so to speak, of this civilized age, namely, India-rubber tyres to the wheels There were complaints of interference with the comfort and safety of infectious patients in being conveyed to the Hospital before this improvement was decided upon from the vibrations and noise of the vehicle used for their conveyance.

The work which has to be performed by the officials of the department relating to the prevention of infectious diseases is a sphere of duty involving considerable responsibility, and requiring care in the minutest details ; and I am pleased to have this opportunity of stating that I believe they have most zealously carried out the instructions given them.

These operations occupy no inconsiderable amount of the time of these officers, and year by year tend to increase rather than diminish with the progress of the age in the science of preventive medicine.

The following is a summary of the action taken by the health department during the year for preventing the spread of disease :—

Notices sent to School Managers and Teachers, of Infectious Diseases among School Children ...	292
Premises Disinfected and Stripped on Certificate of the Medical Officer of Health	388
Houses Fumigated or Sprayed with Corrosive Sublimate after Infectious Disease	361
Infectious Clothing, Bedding, &c., Disinfected	5425
Schools Compulsorily Closed owing to Epidemic Prevalence of Infectious Disease	16
Cases Removed to Borough Hospital	267

THE BOROUGH HOSPITAL.—It is satisfactory to know that the usefulness of this institution is becoming more and more generally recognised, and the benefits it confers on our population in the prevention and treatment of infectious diseases are very manifest.

The Hospital was open throughout the entire year, and 278 patients were admitted in the course of the twelve months; of these 265 were persons residing within the limits of the Urban Sanitary District, 2 being sent there by the Kingsthorpe Urban District Council; 2 from adjoining country districts, and 6 were admitted at the request of the Northampton Board of Guardians from one of the neighbouring villages. The admissions last year exceeded in number those of any year since the opening of the Hospital, some five years since.

The cases treated in the Hospital in 1896 were :—

Disease.	Total.	Died.	Recovered.	Remaining under Treatment.
Diphtheria	1	0	1	0
Measles	1	0	1	0
Typhoid Fever	12	4	8	0
Scarlet Fever	264	7	220	44

The scarlet fever mortality was equal to a rate of 2·6 per cent. of the admissions, against a rate of 3·5 per cent. in 1895. The chief causes of dangerous attacks and fatality were renal complications or those forms of malignant scarlet fever, in which the throat, nasal, and other neighbouring parts are affected with a specific form of inflammation, accompanied by general septicæmic symptoms. A greater number of these cases came under treatment in the Hospital last year than I have witnessed for some years. It will be observed that scarlet fever forms by far the larger proportion of infectious maladies prevailing in the district for which hospital isolation has to be provided. We have, however, been enabled so far to meet the heavy demand made on our, comparatively speaking, limited resources at the Hospital for the admission of scarlet fever patients. Patients suffering with this disease in the ordinary form, convalesce at an early period, and such patients can be received into wards in which the actual space apportioned to each individual, is considerably below that which is commonly understood to be requisite in infectious wards, the patients being, generally speaking, children who have recovered from the acute stages of the disease in question. It is owing to this circumstance that the Hospital accommodation at our disposal for scarlet fever patients has hitherto been found sufficient to meet all emergencies. We have had during the last few months, from some altogether unexplainable cause, a somewhat abnormal number of instances of the re-appearance of scarlet fever in houses in which patients have been sent home from the Hospital.

These "return" cases, as they are termed, occur in spite of every possible precaution being taken for their prevention, and their occurrence forms a very serious impediment to the successful management of infectious hospitals, and conduces to adverse and unmerited criticism as to the efficient administration of the institutions from which the patients provoking the renewed infection are discharged. It is essential that this peculiar feature in the infectiveness of scarlet fever should be more generally understood than it is. We have, therefore, considered it advisable to give instructions to the friends and parents of patients on their removal from the Hospital that care should be taken to prevent their coming in contact with other children for two or three weeks after their discharge.

The following Table shows the number of patients received into the Hospital in each month during the year 1896 :—

January	23
February	12
March	10
April	9
May	11
June	22
July	29
August	34
September	40
October	38
November	27
December	23
Total	278

SANITARY WORK.

The new acts of parliament in relation to public health and allied subjects, and the more serious manner in which the public now regard sanitary matters, tend to increase the duties of all health officials. It is satisfactory, as in former years, for me to be enabled to state that the work of the sanitary department has been actively pursued, and the results obtained will, I venture to predict, compare favourably with those of preceding years.

The same vigilance, as in the past, has been adhered to by the officers of the health department for the detection and removal of all descriptions of insanitation existing in the district and brought under their cognizance.

The nature of these nuisances is defined in the reports of the Sanitary Inspectors, which are periodically presented to the sanitary committee for consideration and disposal. I have also personally submitted reports when special circumstances in the cases rendered this course requisite

The summarised statements of the actual amount of work performed by the department during the year afford additional, if not conclusive, information that in this branch of sanitation there has been unremitting attention bestowed.

NEW BUILDINGS.

The Borough Engineer (Mr. W. D. Gibbins) has kindly furnished me with the following information relating to his department :—

In the course of the year he examined and approved as satisfying the requirements of the bye-laws the plans of—

New Houses.	Factories.	New Church and School.
319	7	1
Warehouses.	**Workshops.**	**Stables.**
2	1	8

He also passed 77 plans for alterations and additions to existing buildings.

The plans submitted to the Engineer exceeded by 134 the number received in 1895.

HOUSING OF THE WORKING CLASSES ACT (1889).

Representations were made to you by me in relation to 68 houses, which I found, after inspection, to be so generally insanitary, as to justify their being condemned, as being unfit for human habitation, and certificates testifying to this were duly submitted, in accordance with the requirements of the statute, in the case of each of the houses The houses so dealt with were :—

Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, Alfred gardens, Castle street.
Nos. 1, 2, 3, 4, 5, 6, 7, 8, Court 13, Bridge street.

Nos. 1, 2, Dawson's yard, Horsemarket.
No. 29, Horsemarket.
Court 1, Kingswell street, Nos. 1, 2, 3.
Court 2, Bearward street, Nos. 1, 2, 3, 4.
Court 3, Scarletwell street, Nos. 1, 2, 3, 4, 5, 6.
Court 7, Scarletwell street, Nos. 1, 2, 3, 4, 5.
Court 2, Bath street, Nos 1, 2.
Court 1, Bath street, Nos. 4, 5.
Court 1, Bridge street, Nos. 5, 7, 9, 10, 11, 12.
Court 2, Bridge street, Nos. 2, 3, 4, 7, 8, 9.
Jeffery's gardens, Nos. 1, 2, 3, 4.
Court 2, Doddridge street, Nos. 1, 2, 3, 4, 5, 6, 7, 8.

The owners of two blocks of property, Alfred gardens and Court 3, Scarletwell street, containing 17 houses, were proceeded against under the act; the decisions of the Magistrates in the first case requiring the owner to have all necessary improvements carried out for the conversion of the condemned houses into sanitary dwellings, and rendering them fit for the occupation of human beings, in such a manner as the Sanitary Authority deemed necessary.

The houses in Alfred gardens, Castle street, have been very thoroughly repaired, and their sanitary condition being most materially improved, also the drainage system and closets reconstructed.

I think these may now be described as being respectable specimens of court dwellings.

In the case of Court 3, Scarletwell street, the Magistrates' order was similar to that given with regard to Alfred gardens, and the houses have been temporarily closed in order to admit of the necessary repairs being proceeded with. Subsequently a closing order was applied for, and granted, the repairs not having been completed.

The owners have voluntarily closed eight houses, which had been condemned, presumably preferring this course to the expenditure of money in making the dwellings habitable. Further action on the part of the Authority is not called for so long as the houses continue uninhabited.

The closed houses are:—

Dawson's yard, Horsemarket, Nos. 1, 2.
Court 13, Bridge street, No. 1.
Scarletwell street, Court 7, Nos. 1, 2, 3, 4, 5.

With the exception of Court 2, Doddridge street, in the case of the remaining houses the notices to owners to make them fit for occupation have been complied with. The Court in Doddridge street has only very recently been taken in hand, and consequently sufficient time has not yet elapsed for the completion of the work that is requisite, but which is now in progress.

I am sorry though to have to say that the improvements effected in many of these insanitary dwellings in some instances have not been so substantial as desirable, and in all probability in the very near future these same houses will again fall into sanitary disrepute, and a renewal of the proceedings I have referred to will be imperative.

Our operations during the past year under the Housing of the Working Classes Act for improving the condition of working-class dwellings, although by no means of extensive dimensions, yet efforts have been made for the detection of all dwellings in the district the hygienic condition of which was ascertained to be so unsatisfactory as to justify action being taken by the Sanitary Authority for their sanitary amelioration, and the expediency of this, I venture to assert, in the case of every dwelling referred to here, was in every respect unquestionable.

OVERCROWDING.—In the undermentioned dwellings nuisances from overcrowding were found, and the necessary measures were taken for ensuring the abatement of the same :—

43, Somerset street.
37, Lower Harding street.
4 and 5, Court 1, Gas street.
2, Court 2, Bath street.
7, Cleveland road.
4, Court 1, Castle street.
7, Court 13, Bridge street.
83, Scarletwell street.

HOUSES IMPROPERLY DRAINED.—In the following houses the drainage system was found, either as a whole or in part, not to be in connection with the sewers, and notices for the amendment of the same were issued, and these have been complied with :—

Swan street, Nos. 13, 15, 17, 21.
Abington square, No. 22.
Ash street, Nos. 9, 11, 13, 15, 17.

Sheep street, two houses.
Bailiff street, Nos. 37, 39, 41, 43.
Newland, No. 65.

OFFENSIVE TRADES.—In relation to offensive trades, the interference of the department was only required in two instances. In the first (a fellmonger's) the drainage system was found to be discharging its contents into the river, and thus violating the laws of the rivers pollution act. The Authority required the proprietor to reconstruct the drains and connect them with the public sewer.

The second case (tripe boiling premises), a nuisance existed arising from the generally filthy state of the premises, and non-compliance in other respects with the bye-laws. These evils were required to be amended.

INSPECTION OF FOOD.—The following articles of food were seized and condemned, and ordered to be destroyed by Magistrates, being unfit for human food :—

Pigs	3	...	Weight 1092lbs.
Sheep	1	...	„ 50lbs.
Ducks	19		
Ham	1	...	„ 12lbs.
Herrings	4750		
Mackerel	360		
Herrings (kippered) ...	40	boxes.	
Haddocks (Dried)			
Haddocks (Fresh) ...	4	barrels.	
Cod (Dried)	8	boxes.	
Codfish	14	kits.	
Cod	18	boxes.	
Shrimps	3	baskets.	

No legal proceedings were required to be taken.

SLAUGHTER-HOUSES AND BAKE-HOUSES.—The officials have by systematic inspection, endeavoured to ensure all slaughter-houses and bake-houses being kept in a satisfactory state of sanitation. In 88 instances deficiencies in this respect were reported, and the usual proceedings were taken for the amendment of the same.

There are 75 registered and licensed slaughter-houses in the town. No application for a slaughter-house license was applied for last year.

There are 106 bake-houses in the town.

The following slaughter-houses have ceased to be used as such:—6, King street; 44, Sheep street; 181, Wellingborough road; 126, Wellingborough road; 30, Lawrence street.

Last year I presented reports relative to three licensed slaughter-houses, namely: 2, Augustine street; 37, Castle street; 58, Sheep street. Here nuisances existed arising from the business carried on, and on my recommendation the Authority authorized notices being served requiring means being taken for the prevention of the evils alluded to.

These orders have been complied with.

THE FACTORY AND WORKSHOP ACT.

The Act (1895) for the amendment and extension of the laws relating to factories and workshops has now been in operation since January 1st, 1896, and, so far as Northampton is concerned, I can safely say has been followed by results of a successful character.

The workshops in the town which are under the control of the Sanitary Authority have been in many respects materially improved, with no doubt very considerable advantage, from a health point of view, to the people working in them.

From the summary of the work carried out by the Sanitary Inspector (Mr. Hogg) during the year, it will be seen that the Factory Acts in Northampton, so far as the sanitary provisions are concerned, have been actively applied.

The Inspector has performed this duty, acting under my direct supervision, and I have in a considerable number of cases visited workshops when it has been requisite, either with the purpose of facilitating the application of measures for the improvement of their general sanitary condition, or for satisfying myself that the acts of parliament for the regulation of these places were being complied with. The Factory and Workshop Act is a statute teeming with complications, and it is, therefore, very easily understood that the proprietors of factories and workshops have, as a rule, only knowledge of a very imperfect description as to their obligations in relation to the same.

I think, however, it is but fair to state that, generally speaking, those with whom I have officially come in contact evinced the desire to comply with the act in question.

Summary of Work performed in connection with Workshops and Factories in 1896.

NATURE OF NUISANCE.	Notices served.	Nuisances abated.	Notices on books Dec. 31, 1896.
Overcrowding...	28	27	1
Insufficient closet accommodation	1	1	...
Absence of closet accommodation	...	...	...
Want of separate closet accommodation for sexes	1	...	1
Closets requiring flushing apparatus	16	15	1
Offensive closets, drains, &c.	26	25	1
Offensive accummulations	2	2	...
Insufficient ventilation	6	5	1
Filthy or dilapidated workshops ordered to be cleansed and repaired	43	40	3
Workshops without supply of drinking water ...	...	...	...
Forms showing cubical measurements, not affixed	290	284	6
Total	413	399	14

FACTORIES.—The factory and workshop act, 1878, contains the following provision :—

(Sect. IV.) When it appears to an Inspector under this act that any act, neglect, or default in relation to any drain, water-closet, earth closet, privy, ash-pit, water supply, nuisance, or other matters in a factory or workshop, is punishable or remediable under the law relating to public health, but not under this act, that Inspector shall give notice, in writing, of such act, neglect, or default to the Sanitary Authority in whose district the factory or workshop is situate, and it shall be the duty of the Sanitary Authority to make such inquiry into the subject of the notice, and take such action thereon as that Authority may seem proper for the purpose of enforcing the law.

An Inspector under this act may, for the purposes of this section, take with him into a factory or workshop a Medical Officer of Health, Inspector of Nuisances, or other Officer of the Sanitary Authority.

All applications made to me by H.M. Inspector of Factories under this section received my prompt and careful attention. Notices of this description were sent to me with regard to about 20 factories. The nature of the complaints is given in the appended table, with the action taken and results obtained:—

	Notices served.	Abated.	Remaining.
Closets requiring flushing apparatus	1	1	...
Offensive closets, drains, &c.	10	10	...
Offensive accumulations	1	1	...
Insufficient ventilation	5	4	1
Requiring Limewashing	5	5	...
Drinking water supplied and used from cisterns in connection with closets	1	1	...
Total	23	22	1

SALE OF FOOD AND DRUGS ACT.

Three samples were submitted to the Borough Analyst last year, 2 of milk, and 1 of butter. They were declared to be genuine.

It has been decided by the Sanitary Committee that in the future this act should be somewhat more extensively put in operation in the district than hitherto, and therefore next year it may be expected that this report will be extended.

HOUSES WITHOUT A PROPER SUPPLY OF WATER.—In Swan street it was ascertained that seven houses were dependent on a well in the street for their supply of water, and the Analyst reported this to be polluted and unfit for drinking purposes.

The owners were acquainted with the Analyst's decision, and without delay closed the well, and laid on the town water to the houses, and thus further action on the part of the Sanitary Authority was obviated.

DAIRIES AND COW SHEDS.—These places were regularly inspected in the course of the year. There are 186 dairies and cow sheds on the register. Fifteen new milk shops have been registered during the year.

Twenty-six cow sheds were found to be in an unsatisfactory state of sanitation, being either filthy and requiring cleansing and limewashing, or overcrowded and insufficiently ventilated.

I have found that generally speaking the cow sheds in the district are overcrowded, and bye-laws ought to be passed for the regulation and management of these places.

Summary of Work done in the Sanitary Department during the Year 1896.

NUISANCES.	Cases Reported.	Cases Remedied.	Cases Unremedied.
Houses filthy and unwholesome so as to be injurious to health ordered to be cleansed and whitewashed	271	231	40
Houses having defective drainage so as to be injurious to health	996	891	105
Houses not drained into sewer	17	17	...
Overcrowded houses	9	9	...
Houses to be cleansed, disinfected, and whitewashed, in which infectious diseases had occurred	388	384	4
Animals kept so as to be a nuisance	43	39	4
Houses without a proper supply of water ...	16	11	5
Smoke nuisances	5	5	...
Slaughter-houses, Cow Sheds, and Bake-houses requiring whitewashing and cleansing	110	110	..
Offensive trades	2	2	...
Polluted wells	1	1	...
Insufficient closet accommodation	2	2	...
Houses unfit for habitation	68	53	15
Prosecutions	2	1	1
Miscellaneous nuisances requiring the attention of the Inspectors of Nuisances...	384	360	24
Total	2314	2116	198

Cases of Sickness visited with reference to sanitary condition of premises, and disinfection where zymotic diseases occurred.

Scarlet Fever (sickness)	384
„ (deaths)	4
Diphtheria (sickness)	10
„ (deaths)	2
Typhoid Fever (sickness)	17
„ (deaths)	1
Puerperal Fever (sickness)	6
„ (deaths)	4
Erysipelas (sickness)	74
„ (deaths)	3
Membranous Croup (sickness) ...	6
„ (deaths) ...	2
Measles (deaths)	114

DRAIN TESTING.—Watts's smoke machine has been used in 308 instances for testing the efficiency of drains Of this number 267 were reported to be defective, and 41 were found to be without any apparent imperfection.

In the case of all drains ascertained by this method to be in an unsatisfactory state, notices were served for the amendment of the imperfections.

PROSECUTIONS.—Excepting the two summonses that were issued against owners of property under the Housing of the Working Classes Act, no legal proceedings of any description were instituted by the Sanitary Authority during the year.

DISINFECTING STATION.

Articles disinfected during the year 1896 :—

January	285
February	300
March	264
April	165
May	299
June	346
July	400
August	535
September	617
October	836
November	764
December	614
	5425

The work carried on at the public disinfecting station shows a very material increase compared with 1895.

The infected articles were conveyed from 385 different houses in the town and disinfected, and subsequently restored to the owners, free of cost, by the officials of the Corporation, to whom this duty is delegated.

I have on several occasions ventured to impress on the Town Council the advisability of replacing the obsolete form of disinfector now in use at the station with one of the modern steam appliances, which are altogether preferable and more effective in the destruction of infection than the antiquated apparatus which we have to rely on, and which has been in use many years, and no doubt in its time has answered the purposes for which it was intended.

SANITARY STATE OF THE DISTRICT.—Generally speaking, it may be inferred that the sanitary state of the town at the termination of the year was satisfactory. Those of us, however, who are acquainted with many of the back streets, and courts and alleys, in the older parts of Northampton occupied by the poorer portion of the population, know too well that the houses here are woefully deficient in those requirements of sanitation essential to health and well-being.

Many of the dwellings to which these remarks are applicable are absolutely bad in a sanitary sense, not only from defective construction, but also from the too palpable unhealthy conditions by which they are encompassed—evils for whose eradication remedial measures short of demolition can only be uselessly and ineffectively designed. It is some source of satisfaction to know that specimens of these notoriously unhealthy haunts are each year disappearing, the owners of this insanitary property preferring to pull it down, or close the houses, rather than incur the expenditure in carrying out the improvements required by the Authority. The discretion of this procedure is no doubt unquestionable.

SEWERS.—I have had occasion in these reports repeatedly to draw attention to the offensiveness of the street sewers, and I regret that the necessity still exists requiring my reverting to the subject. This is a nuisance not peculiar to Northampton, for it is one which has to be contended with in many, if not most, sewered towns, with a drainage system on similar principles to our own. It seems to me that at certain seasons of the year a mitigation of this evil is to be effected by more

efficient scavenging and flushing of the sewers. They must at all times evolve odours that are, to a certain degree, offensive, but if the contents of the sewers are, from whatever cause, permitted to undergo putrefaction, as a result of stagnation, the evil is intensified, and constitutes an intolerable nuisance, and one, in my opinion, calculated to exercise dangerous influences on the health of those subject to its exposure.

The question of "ventilation" in relation to sewers is too complex and formidable to attempt to discuss on this occasion, except to say that the propriety of ventilating them in the middle of the roadway in narrow thoroughfares is one to which I would suggest attention should be given.

THE TOWN REFUSE.—In my last annual report reference was made to the system of disposing of the town refuse now being adopted; but, as the minutes of the proceedings of the Sanitary Committee, which have been submitted to the Council, shew that this important matter is receiving attention, further allusion to it at this juncture may be dispensed with. I would, however, ask to be permitted to say that the practice of filling up ground with the offensive material of which town refuse is composed in spaces in close proximity to populous districts, more particularly when there exists a prospect of its ultimate use for building purposes, is one, on sanitary grounds, to be discountenanced. Further, it should be known that building on ground of this nature is prohibited by the provisions of the public health amendment Act, 1890 (section 25).

NORTHAMPTON URBAN SANITARY DISTRICT.

Deaths registered at Several Groups of Ages, from different causes, during the year 1896.

NOTE.—The deaths in Public Institutions of Non-residents are excluded.

DISEASES.	Under one year.	AGES. 1 to 5	5 to 15	15 to 25	25 to 60	60 to 70	70 to 80	80 to 90	90 & up-w'rds	TOTAL. Under 5.	Above 5.	TOTAL.
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...
Measles	18	89	7	...	...	...	...	...	...	107	7	114
Scarlet Fever	...	4		...	...	...	...	...	...	4	...	4
Diphtheria	1	1		...	...	...	...	...	...	2	...	2
Whooping Cough	5	7	...	...	...	...	...	...	...	12	..	12
FEVER Typhus	...	...	...	...	...	...	.	...	...	...	...	...
FEVER Typhoid	...	...	...	...	1	...	...	...	...	...	1	1
FEVER S. continued	...	...	...	...	...	..	...	...	...	...	...	...
Diarrhœa	27	4	...	...	2	2	...	...	...	31	4	35
Rheumatic Fever	...	...	...	3	1	...	...	...	...	..	4	4
Erysipelas	...	..	...	...	1	1	1	...	..	...	3	3
Croup	...	2	...	..	...	...	...	...	...	2	...	2
Pyæmia and Septicæmia ...	...	...	1	..	1	...	...	...	...	...	2	2
Dropsy...	...	...	...	...	...	...	...	...	...	...	...	...
Cancer and other Malignant Affections	...	...	1	1	27	14	5	3	..	...	51	51
Scrofulous Diseases	1	4	1	1	...	...	...	...	...	5	2	7
Phthisis	4	6	3	20	46	2	...	...	...	10	71	81
Diseases of Nervous System...	9	13	6	3	19	23	14	4	...	22	69	91
Convulsions	35	8	2	...	...	...	...	...	...	43	2	45
Diseases of Organs of Circulation	...	1	2	3	22	20	12	...	1	1	60	61
Diseases of Respiratory Organs	41	41	6	4	23	23	17	23	1	82	77	159
Diseases of Organs of Digestion	8	2	...	4	11	5	3	8	..	10	31	41
Diseases of Urinary Organs ...	1	...	1	...	14	9	3	3	...	1	30	31
Puerperal Fever	...	..	...	1	2	1	...	...	...	...	4	4
Diseases of Uterus and Ovaries	...	...	...	...	1	...	...	...	...	...	1	1
Childbirth	...	...	...	1	4	...	...	...	...	...	5	5
Premature Birth	33	1	..	...	...	...	...	...	...	34	...	34
Atrophy and Debility	65	2	..	...	...	...	...	...	...	67	..	67
Old Age	...	...	...	...		2	20	26	1	...	49	49
Accidents or Violence... ...	...	4	2	1	14	2	...	2	1	4	22	26
Diseases not named above ...	3	1	1	2	3	3	...	...	...	4	9	13
Ill-defined	9	1	...	1	1	2	1	...	...	10	5	15
Syphilis	5	...	...	...	2	...	...	...	...	5	2	7
Teething	6	6	...	...	...	...	...	...	...	12	...	12
Totals	271	197	33	45	195	109	76	49	4	468	511	979

LOCAL GOVERNMENT BOARD FORM.

(A) TABLE OF DEATHS during the year 1896, in the Northampton Urban Sanitary District, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these statistics; public institutions being shown as separate localities. (*See note 4 on back of sheet.*) (*Columns for Population & Births are in Table B.*)	Mortality from all causes, at subjoined ages.							Mortality from subjoined causes distinguishing Deaths of Children under Five Years of Age.																				
												Fevers.																
	At all ages.	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards		Smallpox	Scarlatina	Diphtheria	Membranous Croup	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Measles	Whooping Cough	Diarrhœa & Dysentery	Rheumatic Fever	Phthisis	Bronchitis, Pneumonia, and Pleurisy	Heart Disease		Injuries	All other Diseases	Total
(*a*)	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Northampton County Borough	892	268	194	32	41	204	3	Under 5	...	4	2	...	...	...	...	...	...	...	...	107	12	31	...	10	82	55	...	3	156	462
								5 upwds.	...	...	...	...	...	1	...	...	4	...	2	7	...	4	4	63	68	...	...	15	262	430
Northampton Infirmary...	35	2	3	1	3	17	9	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	2	5
								5 upwds.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	3	...	2	...	7	17	30
Northampton Workhouse	51	1	...	...	1	18	31	Under 5	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	1	1
								5 upwds.	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	5	7	4	...	...	34	50
St. Andrew's Hospital (Indoors)	1	...	...	...	...	...	1	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
								5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Totals	979	271	197	33	45	239	194	Under 5	...	4	2	...	...	...	...	..	...	...	...	107	12	31	...	10	84	55	...	4	159	468
								5 upwds.	...	...	...	...	...	1	...	...	4	.	3	7	...	4	4	71	75	6	...	22	314	511

The subjoined numbers have also to be taken into account in judging of the above records of mortality. See note 5 on back.

Deaths occurring outside the district among persons belonging thereto.	9	...	...	9	...	...	...	Under 5	..	2	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...	2
								5 upwds.	...	5	...	...	...	2	...	...	...	...	...	...	..	...	...	...	...	...	...	7	7
Deaths occurring within the district among persons not belonging thereto.	87	1	5	6	11	44	20	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	4	6
								5 upwds.	...	...	...	...	...	2	...	..	...		...	...	...	1	3	6	5	11	...	13	40	81

(B) TABLE OF POPULATION, BIRTHS, and of NEW CASES of INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1896 in the Northampton Urban Sanitary District, classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES adopted for the purpose of these statistics; public institutions being shown as separate localities (*See Note 2 on back of sheet.*)	POPULATION AT ALL AGES.		Registered Births	Aged under 5 or over 5	NEW CASES OF SICKNESS in each Locality coming to the knowledge of the Medical Officer of Health.													NUMBER OF SUCH CASES removed from their homes in the several localities for treatment in Isolation Hospital.												
									Fevers.													Fevers.									
	CENSUS, 1891	Estimated to middle of 1896			Smallpox	Scarlatina	Diphtheria	Membranous Croup	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas			Smallpox	Scarlatina	Diphtheria	Membranous Croup	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Measles	
a	*b*	*c*	*d*	*e*	1	2	3	4	5	6	7	8	9	10	11	12	13		2	3	4	5	6	7	8	9	10	11	12	13
Northampton County Borough	61,016	65,586	1799	Under 5	...	63	5	4	...	4	...	...	...	...	4	...	..	...	55	1	...	...	...	...	...	...	...	...	1	
				5 upwds.	...	313	5	2	..	10	...	...	...	...	65	...	...	...	209	...	...	...	5							
Northampton Infirmary	...	..	...	Under 5	...	2	...	...	...	..	...	...	...	...	...	...	...													
				5 upwds.	...	6		...	...	3	...	..	..	...	5	...	...													
TOTALS	61,016	65,586	1799	Under 5	...	65	5	4	...	7	...	...	..	...	4	...	...	...	55	1	...	..	...	...	...	...	...	...	1	
				5 upwds.	...	319	5	2	...	10	..	...	...	...	76	...	...	...	209	...	...	...	5							

State here whether "Notification of Infectious Disease" is compulsory in the District. Yes.—Since when? December, 1889. Besides the above-mentioned Diseases, insert in the columns with blank headings the names of any that are notifiable in the District, and fill the columns accordingly. State here the name of the Isolation Hospital used by the sick of the District. Mark (H) the Locality in which such Hospital is situated; and if not within the District, state where it is situated. Kingsthorpe, about two miles from Northampton.

NOTES ON TABLES A AND B.

NOTE 1. *Medical Officers of Health of "Combined Districts" must make a separate Return for the District of each District Council.*

2. *Medical Officers of Health acting for a portion only of the District of a District Council should write, in the heading of the Table, the designation of the Division for which they act.*

3. *The words "Urban," "Rural," or "Metropolitan," must be inserted in the appropriate space in the heading, according as the District is Urban or Rural, or is within the Metropolitan Area.*

4. The "*Localities*" adopted for the purpose of these statistics should be areas of known population, such as parishes, groups of parishes, townships, or wards.

As stated at the head of the first column in each Table, *Public Institutions* should be regarded as separate localities, and the deaths in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received, are Public Institutions for the purposes of these statistics.

5. *The deaths which have to be classified in this Table* (A), and summed up in the horizontal line of "Totals," are the whole of those *registered* as having actually occurred in the several localities comprised within the Division or District. But the registered number of deaths frequently requires correction before it can give an exact view of the mortality of a Division or District; and the two lowest horizontal lines are provided for the purpose of enabling Medical Officers of Health to indicate, to the best of their ability, what the extent of such corrections should be. Details concerning the corrective figures, *e.g.*, the institutions that have been considered, or the particular localities to which corrections apply, may appear in the text of the Report or in supplementary Tables.

Area and Population of the District or Division to which this Return relates.

Area in Acres		1,520
Population (1891)		61,016
,, (estimated to middle of 1896)		65,586
Death Rates.	General, 14.9	per 1,000 Population, estimated to the middle of 1896.
	Infant (under 1 year of age) ..... 150·6	per 1,000 Births Registered.

In recording the facts under the various headings of Tables A and B, attention has been given to the notes endorsed on the Tables.

LEE FYM COGAN,

February 19th, 1897. MEDICAL OFFICER OF HEALTH.

NOTES ON TABLE **B**.

(*See also Notes on back of Table A.*)

NOTE 1. The present *Table B* is concerned with population, births, and sickness (not with mortality) in the District or Division to which the Table relates.

2. As stated in the heading of Col. (*a*), *Public Institutions* should be regarded as separate localities, and the new cases of sickness in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received, are Public Institutions for the purpose of these statistics.

3. *Comments on any unequal incidence of notifiable disease upon the several localities, and considerations as to the local incidence of consumption and other prevalent diseases, should be made in the text of the Report*