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CITY OF



LINCOLN.

URBAN SANITARY AUTHORITY



ANNUAL REPORT

— OF —


THE MEDICAL OFFICER OF HEALTH,

For the Year 1919.



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CITY OF LINCOLN.

ANNUAL HEALTH REPORT FOR 1919.

BY

C. J. COLEMAN, M.D., M.A., D.P.H.

Medical Officer of Health.

MEMBERS OF THE HEALTH COMMITTEE.

ALD. H. A. COTTINGHAM (MAYOR).

ALD. M. H. FOOTMAN (Chairman). COUN. F. GRAVES

COUN. C. T. PARKER

„ W. H. KILMISTER

„ J. SMALLEY

„ J. HAGUE

„ A. RAMSAY

„ M. E. NEVILE

SANITARY STAFF (Chief Officials).

December, 1919.

Medical Officer of Health :

C. J. COLEMAN, M.D., M.A., D.P.H.

Consulting Sanitary Adviser :

CHARLES HARRISON, M.D., D.P.H.

Assistant Medical Officer of Health :

J. RAMSBOTTOM, M.B., D.P.H.

Public Analyst :

E. M. CHAPLIN, Ph.D., F.I.C.

Acting Chief Sanitary Inspector :

CHAS. STREET, C.R.S.I., C.M.I.

Assistant Sanitary Inspectors :

A. GARNER, C.R.S.I.

H. HOE, C.R.S.I.

Chief Health Visitor :

Miss E. M. DAVIES (Trained Nurse), C.R.S.I., C.M.B.

Phthisis Nurse :

Nurse A. WOOD.

Matron of the City Hospital :

Miss E. O'KANE.

HEALTH DEPARTMENT,
CORPORATION OFFICES,
LINCOLN,
July, 1920,

MR. MAYOR AND GENTLEMEN,

I have the honour to submit to you my report on the health and sanitary conditions of Lincoln during 1919.

During the past year the responsibility of the Health Officials with respect to the inspection of food supplies for the City, subject to Government control, has been fully maintained.

The reorganisation of the Health Office to cope with present demands and the future extension of Boundaries, has been discussed by the Health Committee, and is receiving further attention.

The New Maternity Home was opened last September, and is supplying a long felt need in our Public Services.

I remain, Gentlemen,

Your obedient Servant,

C. J. COLEMAN.

CITY OF LINCOLN.

STATISTICAL SUMMARY FOR 1919.

Population at Census, 1911	...	...	...	...	57,285
Estimated Population by Registrar-General to middle of 1919	...	...	...	For B.R. For D.R.	63,107 60,581
Area of Municipal Borough	...	...	...	(acres)	3,755
Average Number of persons per acre	...	...	...	...	17.4
Birth-rate per 1,000 Population, 1919	...	...	...	...	18.2
Death-rate, 1919, per 1,000	...	...	...	...	11.98
Zymotic Death-rate (exclusive of Influenza), per 1,000	...	...	...	...	.38
Infantile Mortality, per 1,000 Births	...	...	...	...	79.0
Phthisis Death-rate, per 1,000	...	...	...	...	.94
Respiratory Diseases Death-rate, per 1,000	...	...	...	...	2.4
Malignant Diseases Death-rate, per 1,000	...	...	...	...	.94

NATURAL AND SOCIOLOGICAL CONDITIONS OF THE DISTRICT.

THE AREA OF THE MUNICIPAL BOROUGH is 3,755 acres, and is divided into North and South Districts by the River Witham. The district on either side of the river, especially to the south, is flat, and the soil consists of river alluvium. To the north, the land rises to a considerable eminence, on which the Cathedral stands; this is the northern escarpment of the Lincoln Gap. To the south, the Canwick Hill forms the southern escarpment, and the valley through which the river flows towards the Wash is the gap formed by the prehistoric Trent. The geological formation of the hills to the north and south is oolitic limestone. The slope of the northern hill as it descends to the river is mostly covered with clay.

POPULATION.

Census of	1871	...	...	26,766
do.	1881	...	...	37,312
do.	1891	...	...	41,491
do.	1901	...	...	48,784
do.	1911	...	...	57,285

Estimated population by Registrar General at the middle of 1919: For Birth-rate 63,107. For Death-rate 60,581.

The estimate of the population for 1919 is made by the Registrar-General, who makes allowances for males formerly resident in the district who have since joined the Army. He also makes an estimate of the extra military population resident in the city.

He thus calculates that the Death-rate should be estimated on a population of 60,581, which represents the civilian population, but that the Birth-rate should be estimated on a higher population, which represents a total of civilian and military, and which he gives as 63,107.

Employment.

The staple employment of Lincoln is furnished by the large iron foundries situate near the river bank to the south of the City. According to the figures by the 1911 Census 19,928 males were engaged in various occupations, and of this number no less than 9,576 (i.e., nearly half) were engaged in engineering, machine, and miscellaneous metal trades. 1,741 were employed in various branches of the building trade. This number was greatly increased during the war.

Before the war there were no manufacturies which employed women to any large extent. Out of a total of 5,692 employed females at the last Census 2,434 (somewhat less than half) were engaged in various forms of domestic service. The total of employed females was greatly increased during the war by women doing munition work.

Vital Statistics.

DEATHS.

During the year 856 deaths were registered; these divided into sexes for each quarter are—

	M.	F.	Total.
1st quarter	185	136	321
2nd „	116	89	205
3rd „	80	62	142
4th „	104	84	188
	<hr/> 485	<hr/> 371	<hr/> 856

The total compares with previous years as follows:—

1905	...	...	962	1912	...	...	797
1906	...	...	877	1913	...	...	772
1907	...	...	807	1914	...	...	804
1908	...	...	767	1915	...	...	929
1909	...	...	775	1916	...	...	868
1910	...	...	782	1917	...	...	878
1911	...	...	874	1918	...	...	1,149
				1919	...	...	856

Eighty-three persons died in the Workhouse, 105 in the County Hospital, 20 in the City Hospital, 4 in the Lawn Asylum, 6 in the Red House Nursing Home, 36 at the 4th Northern Hospital, 1 in the Small Pox Hospital, and 1 in the Maternity Home.

The Registrar-General now sends particulars of deaths of Lincoln residents who die elsewhere, but whose deaths must be added to the total of deaths registered locally; he also gives the number of people who have died in Lincoln during the year, but who are not residents in the locality, and this number must be subtracted from the total number of local deaths. I have, therefore, added 21 deaths to the total of 856, and subtracted 151 deaths. This leaves 726 deaths of Lincoln residents for the year 1919, which forms the basis for my future analysis.

As the deaths of Lincoln residents in 1919 were 726, and the population at the middle of the year as regards death rate is estimated at 60,581, the death-rate per 1,000 of the population is 11.98.

As regards the usual Zymotic diseases the death-rate was .38 per 1,000, but if influenza is included the figure is much greater, i.e., 1.4 per 1,000. There has been no appreciable decline in the death rate from Phthisis.

	1916.	1917.	1918.	1919.
Zymotic Diseases, death rate per 1,000	.24	.12	.68	.38
Respiratory „ „ „	—	2.18	2.34	2.40
Phthisis „ „ „	.99	1.10	.95	.94
Other Tuberculous Diseases „ „	.29	.22	.11	.24
Malignant Diseases „ „	1.18	1.10	.95	.94

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1919.

CAUSES OF DEATH				Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the district.								Total Deaths whether of residents or non-residents in Institutions in the District	
				All Ages	Under 1 year	1 and under 2 y'rs.	2 and under 3 y'rs	3 and under 5 y'rs	5 and under 15 y'rs	15 and under 25 y'rs	25 and under 45 y'rs		45 and under 65 y'rs	65 and Upwards
All Causes { Certified				720	89	20	21	34	28	82	188	258	..
{ Uncertified				6	3	..	..	..	..	1	..	2	..
1 Enteric Fever				1	..	..	..	..	..	1	..	..	1
2 Small Pox .. ..				..	..	..	..	..	..	..	..	..	1
3 Measles .. ..				..	..	..	..	..	..	..	..	..	..
4 Scarlet Fever .. ..				..	..	..	..	..	..	..	..	..	1
5 Whooping Cough				6	2	3	1	..	..	..	..	..	..
6 Diphtheria and Croup				6	..	1	1	4	..	..	..	..	6
7 Influenza				63	2	2	3	2	5	18	20	11	32
8 Erysipelas .. ..				..	..	..	..	..	..	..	..	..	..
9 Phthisis (P.T.B.)				57	..	..	..	4	12	28	12	1	19
10 Tuberculous Meningitis				5	..	1	..	4	..	..	..	..	2
11 Other Tuberculous Diseases				15	4	1	2	3	2	1	2	..	5
12 Cancer, Malignant Disease				57	..	..	..	..	..	2	33	22	25
13 Rheumatic Fever				5	..	..	..	1	1	1	1	1	2
14 Meningitis				7	3	1	1	1	..	..	1	..	1
15 Organic Heart Disease				61	..	1	..	2	..	8	23	30	12
16 Bronchitis				77	11	2	2	1	..	1	18	42	9
17 Pneumonia (all forms)				57	15	4	2	..	2	6	15	13	8
18 Other Diseases of Respiratory Organs				18	1	..	..	1	..	2	11	3	2
19 Diarrhoea and Enteritis				11	7	1	1	2	..	..	..	..	..
20 Appendicitis and Typhlitis				1	..	..	..	..	..	..	..	1	4
21 Cirrhosis of Liver				2	..	..	..	..	..	1	1	..	1
21a Alcoholism .. ..				..	..	..	..	..	..	..	..	..	..
22 Nephritis and Bright's Disease				15	1	1	1	..	..	2	4	6	10
23 Puerperal Fever				1	..	..	..	..	1	..	..	..	1
24 Other Accidents and Diseases of Pregnancy and Parturition				6	..	..	..	1	1	4	..	..	2
25 Congenital Debility and Malformation, including Premature Births				35	35	..	..	..	..	..	..	..	4
26 Violent Deaths, excluding Suicides				9	..	..	1	2	1	2	1	2	4
27 Suicides				2	..	..	..	..	..	1	1	..	1
28 Other Defined Diseases				138	11	2	6	6	3	5	44	61	90
29 Diseases, Ill-defined and unknown .. ..				..	..	..	..	..	..	..	..	..	..
30 Senility				68	..	..	..	..	..	..	1	67	12
TOTALS				726	92	20	21	34	28	83	188	260	255

INFANTILE MORTALITY.

Ninety-two deaths occurred in Infants under one year of age, giving a mortality of 79 per 1,000 births. Forty deaths occurred within a month of birth.

Premature Birth, Atrophy, Malformation and Debility were responsible for 35 deaths, and form the largest factor in the mortality.

Pneumonia and Bronchitis were responsible for 26 deaths.

As regards Zymotic Diseases, two deaths were due to Whooping Cough.

Diarrhoea and Gastro-Enteritis caused seven deaths.

Attempts to reduce Infant Mortality were never more important than in the present crisis, as the future welfare of the nation will depend upon the vitality and numbers of the coming generation.

INFANTILE DEATH INQUIRIES.

Number of deaths investigated, 80 :—

Breast fed	...	...	...	...	...	18
Artificially fed	...	...	...	...	...	34
Breast and artificial food	...	...	...	...	...	4
Died shortly after birth	...	...	...	...	...	24
						—
Total ...						80
						—

HOUSING CONDITIONS NOT FAVOURABLE TO INFANT HYGIENE.

Houses with unsuitable food storage accommodation	...	...	...	...	...	25
„ with no through ventilation	...	...	...	...	...	8
„ dirty and ill-kept	...	...	...	...	...	6
„ overcrowded	...	...	...	...	...	3
„ with two families	...	...	...	...	...	1
						—
Total ...						43
						—

INFANT MORTALITY TABLE.

1919. Nett Deaths from stated causes at various Ages under 1 year of age.

CAUSES OF DEATH.				Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year
All causes	{ Certified ..	..	..	22	7	5	4	38	13	15	12	11	89
	{ Uncertified ..	..	..	2	..	..	..	2	..	1	..	..	3
Small-pox .. ..				..	..	..	..	..	..	..	..	..	..
Chicken-pox .. ..				..	..	..	..	..	..	..	..	..	..
Measles .. ..				..	..	..	..	..	..	..	..	..	..
Scarlet Fever .. ..				..	..	..	..	..	..	..	..	..	..
Whooping Cough .. ..				..	..	..	..	..	1	1	..	..	2
Diphtheria and Croup .. ..				..	..	..	..	..	..	..	..	..	..
Erysipelas .. ..				..	..	..	..	..	..	..	..	..	..
Tubercular Meningitis .. ..				..	..	..	..	..	..	..	..	..	..
{ Abdominal Tuberculosis .. ..				..	..	..	..	..	..	..	1	1	2
{ Other Tuberculous Diseases .. ..				..	..	..	..	..	1	1	..	..	2
{ Meningitis (not Tuberculous) .. ..				..	..	..	..	..	1	1	..	1	3
Convulsions				2	..	..	1	3	..	2	..	1	6
Laryngitis .. ..				..	..	..	..	..	..	..	1	..	1
Bronchitis .. ..				..	..	2	1	3	4	..	3	1	11
Pneumonia (all forms)				1	..	..	1	2	2	4	3	4	15
{ Diarrhoea .. ..				..	..	..	..	..	..	2	..	..	2
{ Enteritis .. ..				..	..	..	..	..	..	2	2	..	4
Gastritis .. ..				..	..	..	..	..	..	..	1	..	1
Syphilis .. ..				..	..	..	..	..	1	..	..	..	1
Rickets .. ..				..	..	..	..	..	..	..	..	..	..
Suffocation, overlying .. ..				..	..	..	..	..	..	..	..	..	..
Injury at birth				1	..	..	..	1	..	..	..	..	1
Atelectasis				1	1	..	..	2	..	..	..	..	2
{ Congenital Malformations				1	..	..	..	1	..	..	..	..	1
{ Premature birth				14	3	3	1	21	1	..	..	..	22
{ Atrophy, Debility and Marasmus				3	3	..	..	6	1	..	1	1	9
Other Causes				1	..	..	..	1	1	3	..	2	7
TOTALS ..				24	7	5	4	40	13	16	12	11	92
Nett Births registered during the calendar year of 1919				{ legitimate 1072		{ illegitimate 86		Nett Deaths registered during the calendar year of 1919		{ legitimate infants 82		{ illegitimate infants 10	

BIRTHS.

During the year 1919, 1,160 births were registered, of which 86 were illegitimate. These divided into sexes for each quarter of the year, were as follows:—

	Males	Females	Total
1st Quarter	111	106	217
2nd Quarter	138	134	272
3rd Quarter	147	154	301
4th Quarter	183	187	370
Totals	579	581	1,160

The per centage of Illegitimate Births to total Birth Rate is given in the table below for the last six years:—

1914—5.7 per cent.	1917—6.4 per cent.
1915—5.5 „	1918—7.7 „
1916—5.1 „	1919—7.4 „

Information supplied by Registrar-General showed that there were 14 outward transfers and 12 inward, leaving a balance of two births to be subtracted. The nett number of births belonging to the City of Lincoln is therefore 1,158. The Birth-rate for the year was 18.2 per 1,000 of the population, calculated on a basis of 63,107, the figure given by Registrar-General.

Comparative Table of Birth-rate, Death-rate and Infantile Mortality as far as ascertainable in 1919:—

	Death-rate per 1,000	Birth-rate per 1,000	Infantile Mortality per 1,000 Births
England and Wales ..	13.8	18.5	89.
96 Greater Towns, including London .. }	13.8	19.0	93.
148 Smaller Towns ..	12.6	18.3	90.
London	13.4	18.3	85.
Lincoln	11.98	18.2	79.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1919 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.		Number.	Rate.	Of Non-residents registered in the District.	Of residents not registered in the District.	Under 1 year.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1914	60,172	1,335	1,336	22.2	804	13.3	74	21	123	92.1	751	12.4
1915	55,226	1,189	1,182	21.4	929	16.2	142	42	118	99.9	829	15.1
1916	55,078	1,272	1,271	21.2	868	15.2	142	26	96	75.5	752	13.6
1917	65,341	1,110	1,113	17.0	878	14.9	149	48	95	85.3	777	13.2
1918	BR 67,348 DR 60,707	1,204	1,206	17.9	1,149	18.9	266	36	87	72.	919	15.3
1919	BR 63,107 DR 60,581	1,160	1,158	18.2	856	14.1	151	21	92	79.	726	11.98

Area of District in acres } 3,755 Total Population at all ages ... 52,285 } At Census
(land and inland water) } Total families or separate occupiers 13,281 } 1911.

Preservation of Infant Life.

NOTIFICATION OF BIRTHS ACT.

Under the Notification of Births Act, every birth should be notified to the Medical Officer of Health within 36 hours. This should be done by a person in attendance at the time or within six hours of the occurrence, and by the father of the child if resident in the house at the time. This Act does not affect the registration of the Birth with the Registrar.

During the year it was found necessary to send out 171 Notices to parents, pointing out their duties under this Act, and asking them to comply forthwith. In every case the warning given was followed by receipt of the proper notification.

The work of the year may be briefly summarised as follows:—

Birth enquiry visits	...	...	...	...	960
„ „ re-visits	...	...	...	...	3275
Notices sent out re Notification of Births	...				171

HOUSING CONDITIONS.

Houses where parents were in lodgings ...	67
„ with two families or more occupying separate rooms	71
„ with no through ventilation ...	14
„ with unsuitable food storage accommodation	14
„ overcrowded	21
„ dirty and ill-kept	20
„ dark	9
„ damp	1

NUISANCES DISCOVERED.

No ashes bins	25
Defective ashes bins	38
Water-closets defective	24
Drains choked	12
Various defects	18

INFANT WELFARE CENTRE.

The commodious premises at 34, Newland, continue to give general satisfaction.

In addition to good office and clinic accommodation there is a fine open yard and shelter for perambulators.

The rooms at the Centre are light and airy, and are warmed by hot-water pipes.

CLINIC REPORT.

1,537 mothers with babies attended the Centre during the year.

Total number of attendances made, 7,825.

The following table summarises the attendance at the Centre during the year 1919:—

No. of Babies first visits.		No. of attendances of babies who have previously attended.		Kesteven Babies Attendances.	Total
Under 2 yrs.	Over 2 yrs.	Under 2 yrs.	Over 2 yrs.		
649	52	6,325	179	620	7,825

Of the previous number (1,537) 634 were seen by the Doctor, and made a total of 1,170 attendances.

Of these :—

Referred to Hospital	...	...	...	61
„ „ District Nursing Association				13
„ „ Private Doctor	...	...		23
„ „ Dispensary	...	...	...	44
Voluntary workers assisting at Centre	...	...		15
Attendances made by Voluntary Workers	...			273
Callers at Office other than Mothers and Babies				1,103

ANTE-NATAL CASES.

Sixty-nine Expectant Mothers applied to the Centre.

Medical advice and treatment given	...	9
Transferred to County Hospital	...	2
Normal cases	...	14
Milk allowed	...	20
Food and milk allowed	...	24
		—
Total	...	69
		—

POST-NATAL CASES.

Seventy-one Mothers applied on their own behalf after childbirth.

Medical advice and treatment given	...	5
Normal cases	...	66
Of these :—		
Milk allowed	...	51
Food and milk allowed	...	13
Transferred to private doctor	...	1
„ „ hospital	...	1
		—
Total	...	66
		—

NECESSITOUS CASES.

Home Helps provided	...	39
Home Nurses „	...	5
Children under 5 years supplied with cow's milk	...	120
Children under 2 years of age supplied with Dried Milk below cost price	...	144

MATERNITY HOME.

The Home was opened on 1st September, 1919.

Cases admitted	...	...	...	...	36
Patients discharged	...	...	...	...	30
Patients still in the Home 1st January	...				6
Private doctors in attendance	...	...			4

Three Pupil Midwives were accepted and started work on 11th October, 1919.

DISTRICT MIDWIFERY.

A Municipal Midwife was appointed in July, and commenced work in October.

Cases attended from 11th October—31st December ... 107

Midwives' Act.

Six Midwives gave notification of their intention of practising during the year.

Twenty-three records of sending for medical help were notified to the Maternity and Child Welfare Department, in accordance with the requirements of the Central Midwives' Board, also :—

- 2 records of death of mother.
- 1 record of septic infection.
- 27 still-births were notified.

Twenty-four visits of inspection to Midwives were made, re their house, bag and appliances.

NOTIFICATION OF OPHTHALMIA NEONATORUM.

Cases notified by Medical Practitioners	...			5
„ „ „ Midwives	...	...		4
Visits paid by Health Visitors	...	...		15
„ „ Nurses	...	...	...	36

Prevalence and Control of Acute Infectious Disease.

SCARLET FEVER.

During 1919 there were 100 cases of Scarlet Fever notified in the City, as compared with 133 cases in 1918.

The number of cases notified in each year for the past ten years is given below :—

1910—170	1915—119
1911—221	1916—148
1912—97	1917—133
1913—92	1918—133
1914—170	1919—100

There were no deaths attributable to this disease which is a sufficient guarantee of its mild character.

Sixty-four of the notified cases were removed to the City Hospital.

As in previous years the Medical Officer of Health offered his services to medical men in cases of doubtful diagnosis.

On the notification of a case, details of the sanitary condition of the premises and any possible source of infection were investigated.

DIPHTHERIA.

Seventy-two cases of Diphtheria were notified during 1919, as compared with 61 notifications in 1918.

Six deaths resulted from this cause, giving a case mortality of 8.3 per cent.

1908 case mortality	12.5	1914 case mortality	9.4
1909 „ „	11.0	1915 „ „	19.6
1910 „ „	8.5	1916 „ „	5.1
1911 „ „	6.9	1917 „ „	9.6
1912 „ „	2.4	1918 „ „	6.5
1913 „ „	4.4	1919 „ „	8.3

The notifications received during the last ten years are as follows:—

1910—152	1915—56
1911—145	1916—78
1912—122	1917—52
1913—67	1918—61
1914—95	1919—72

Sixty-three of the cases were removed to the City Hospital.

TYPHOID FEVER.

Five cases of Typhoid Fever were notified in 1919. There were no deaths.

Four cases were removed to Hospital.

SMALL-POX.

Two cases were notified, both were removed to the Small-Pox Hospital. The first case on 5th April, and the second on 10th April. Both had been vaccinated in infancy, and made a good recovery without any untoward effect.

It is worthy of note that a case of Small-Pox occurred in the 4th Northern Territorial Hospital, on 20th February, the soldier having apparently been infected just prior to leaving Alexandria. He had previously been vaccinated, and was removed to the Small-Pox Hospital. The disease ran a mild course, and he made an uninterrupted recovery.

Unfortunately, a soldier contact in the same Ward at the 4th Northern Hospital, who had never been vaccinated, contracted the disease, and was removed to the Small-Pox Hospital on 8th March. The disease was severe, and he died on 17th March.

It was not found possible to connect the incidence of the two cases in the City with the outbreak at the 4th Northern Hospital. A month had elapsed, from the removal of the last military case to Hospital, and the notification of the first civilian case.

A Medical Officer of the Ministry of Health came over to Lincoln at the time to confer with me and assist in the investigations.

I should like to acknowledge the help given by the Staff at the City Hospital and Health Office, which was of the utmost importance, and succeeded in arresting any further spread of the disease.

It may be noted that the last outbreak in Lincoln occurred in 1904.

Prevalence and Control over Tuberculosis.

PULMONARY TUBERCULOSIS.

Under the Tuberculosis Regulations, 1912, 56 cases of Phthisis were notified.

The total number of deaths from Phthisis in 1919 was 57, and equivalent to a death-rate .94 per 1,000.

DEATHS FROM PHTHISIS SINCE 1906.

<i>Year</i>	<i>Est Pop,</i>	<i>Deaths</i>	<i>D.R.</i> <i>per 1000</i>	<i>Year</i>	<i>Est Pop.</i>	<i>Deaths</i>	<i>D.R.</i> <i>per 1000</i>
1906	52,611	51	'95	1913	59,322	57	'96
1907	53,341	68	1'38	1914	60,172	44	'73
1908	54,017	68	1'30	1915	55,226	55	'99
1909	54,765	63	1'18	1916	55,079	55	'99
1910	55,474	45	'85	1917	58,617	65	1'10
1911	57,285	60	1'40	1918	60,707	64	'95
1912	58,358	56	'96	1919	60,581	57	'94

FORMS OF TUBERCULOSIS OTHER THAN PHTHISIS.

There were 32 cases notified under the above head, giving the following classification :—

Tuberculosis of Glands in neck	..	...	7
„ „ Joints	...	...	8
„ „ Bone	...	...	5
„ „ Peritoneum and Mesentery			
„ „ Glands	...	...	6
„ „ Meninges	...	...	5
„ „ Larynx	...	..	1
			—
			32
			—

ADMINISTRATIVE MEASURES in force in Lincoln for dealing with Tuberculosis.

These have been given fully in the report for 1914.

Arrangements have now been completed for advice and treatment to be given at the Dispensary for Dawber patients as well as facilities for institutional treatment. 174 insured persons and 75 Dawber patients attended the Dispensary in 1919.

The Phthisis Nurse paid 4,372 primary visits to patients during the year, inclusive of 1,162 re-visits to bed-ridden cases.

I would venture to call attention to certain experiments which are being carried out in the management of Labour Colonies for Tuberculosis patients. They are considered by experts likely to be of more use than Sanatoria, and patients should have the opportunity of proceeding to one of these if they wish on their discharge from Sanatorium. At present there are no Labour Colonies in Lincolnshire, but it would seem that some of the demobilised Aircraft Camps could have been adapted for this purpose.

Influenza Epidemic in 1st Quarter of 1919.

Administrative Measures taken in Lincoln to check Influenza.

Nearly the whole of the cases occurred in the 1st Quarter of the year.

There were 63 civilian deaths from Influenza:—34 males and 29 females.

Of the 34 male deaths:—

2 died between the age of 1 and 5				
1	"	"	5	" 15
9	"	"	15	" 25
10	"	"	25	" 45
9	"	"	45	" 65
3	"	"	65	" upwards.

Of the 29 female deaths :—

4 died between the age of 1 and 5			
0	"	"	5 " 15
2	"	"	15 " 25
10	"	"	25 " 45
8	"	"	45 " 65
5	"	"	65 " upwards.

There were 18 deaths of soldiers in Military Hospitals in addition to the civilian deaths.

Posters on precautions against Influenza were put up by order of the Health Committee; in addition this poster was advertised in the Local Papers. I believe it had good effect.

Two of our School Nurses; Nurse Woods, Tuberculosis Nurse; and Mrs. Hubbard, Health Visitor, were available for paying special visits to homes; 130 visits were paid, and 27 patients were visited.

Two cases were removed to the City Hospital for treatment.

By the kindness of Mr. Kent, as Trustee of the Dawber Charity, it was possible to advertise for Home Helps in houses where the mother was ill. In 24 cases Home Helps were sent.

This assistance was much appreciated by the public.

Arrangements were made with the Public Places of Amusement to prevent continuous performance of long duration, for the disinfection of the Halls before Performances, and for the exclusion of children under 14 years of age, during the period of School closure.

The Elementary Schools were closed for a period of about three weeks.

Vaccine was offered to various Hospitals and Institutions, and to any practitioner desirous of availing himself of its use.

A large number of the deaths in the epidemic were due to pneumonic condition of the lungs.

CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1919.

NOTIFIABLE DISEASES.	NUMBER OF CASES NOTIFIED.							
	At all ages.	At all Ages—Years.						
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.
Small Pox	2	...	...	..	1	1	...	...
Cholera (C) Plague (P).....	...	...	...	...	...	...	...	...
Diphtheria (including Membranous croup)	72	1	10	52	6	3	...	...
Erysipelas	21	...	2	3	4	7	5	...
Scarlet Fever	100	1	15	72	7	5	...	...
Typhus Fever.. .....	..	...	...	..	..	...	...	...
Enteric Fever.....	5	...	...	...	2	3	...	...
Relapsing Fever (R) Continued Fever (C) .....	...	...	...	...	...	...	...	...
Puerperal Fever.....	1	...	...	..	1	...	...	...
Cerebro-spinal Meningitis.. .....	...	...	...	...	...	...	...	...
Poliomyelitis ... .....	..	...	...	...	...	...	...	...
Ophthalmia Neonatorum	3	2	1	..	...	...	...	...
Pulmonary Tuberculosis	56	...	1	11	18	17	7	2
Other forms of Tuberculosis.....	32	1	4	14	8	5	..	...
Measles	35	1	14	17	3	...	...	...
Malaria	4	...	...	...	2	2	...	...
Encephalitis Lethargica	3	...	...	...	1	1	1	...
Pneumonia (All Forms)	55	..	2	6	28	11	8	...
TOTALS	389	6	49	175	81	55	21	2

MEASLES.

During the year 35 cases were notified, fortunately there were no deaths.

These figures compare with 1,330 cases notified in 1918 and 27 deaths.

Measles is a disease which attacks a locality with a somewhat irregular incidence, but is usually present in severe Epidemic form every third or fourth year.

Notification of this disease has now been withdrawn as from 1st January, 1920.

CEREBRO-SPINAL FEVER.

There were no cases notified during the year.

WHOOPIING COUGH.

Quoting from School Report, I am able to give the cases of Whooping Cough arising in the Schools during 1919.

The following gives the monthly incidence :—

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1	—	—	—	—	—	—	—	12	2	6	13	34

Six deaths due to this disease occurred during the year.

CITY HOSPITAL

(Dawber Sanatorium Pavilion.)

Sixteen cases remained in at the end of 1918.

160 fresh cases were admitted during the year, 51 of these being Discharged Soldiers.

35 cases remained in at the end of 1919.

129 cases were discharged improved, and 12 died in Hospital.

(FEVER PAVILIONS).

180 cases were under treatment in the City Hospital Pavilions during 1919, 20 of these cases remaining in from 1918. 22 of these were military patients.

Of 160 fresh cases admitted during 1919 there were :—

Civilians 138—

Scarlet Fever	Diph- theria.	Typhoid.	Cerebro- Spinal.	Mumps	Measles	Influ- enza	Chicken Pox.	Erysipe- las.	Scabies	Tonsil- itis.	Small Pox.
64	63	4	0	0	1	2	0	1	0	0	3

Military 22—

5	2	2	2	2	4	0	1	0	1	1	2
—	—	—	—	—	—	—	—	—	—	—	—
69	65	6	2	2	5	2	1	1	1	1	5
—	—	—	—	—	—	—	—	—	—	—	—

I should like to acknowledge the great assistance given by Miss O'Kane who has been indefatigable in her endeavours to maintain a high standard of efficiency in every department of the City Hospital.

Examinations carried out at the Bacteriological Laboratory.

Year, 1919.

EXAMINED.	Positive.	Negative	Total
Diphtheria	153	386	539
Sputum for Tuberculosis	47	149	196
Widal Test for Typhoid Fever	1	7	8
Ringworms	4	1	5
Other examinations of a varied character	13	3	16
Totals	218	546	764

School Hygiene.

For particulars of School Closure, etc., see School Report.

Water Supply and Sewerage.

There is nothing fresh to report since 1918. Full details given in Surveyor's Report.

Premises which can be controlled by Bye-Laws or Regulations.

Mr. STREET reports :—

COMMON LODGING HOUSES.

Five houses are registered as Common Lodging Houses, with accommodation for 155 lodgers:—

Arthur Taylor, 31, Waterside South, with accommodation for	53
Joseph Smith, 27, Waterside North,	16
S. Armstrong, 8, Waterside South	25
Edwin Holland, 33, Waterside North	54
Edwin Holland, 14, Waterside North	7
	<hr/>
Total ...	155

These places have been visited regularly.

Food.

Unsound Meat and Food destroyed during 1919:—

					sts.	lbs.	
Beef	62 carcasses with offals ...	...	...	...	2,579	2	tuberculous
"	10 " " "	...	...	...	432	0	non-tuberculous
"	parts of 25 carcasses ...	...	...	...	260	4	tuberculous
"	" 14 " "	...	...	...	52	2	non-tuberculous
Mutton	94 carcasses with offals ...	...	...	...	2,820	12	unsound
"	parts of 6 carcasses ...	...	...	...	4	13	unsound
Pork	8 carcasses with offals ...	...	...	...	62	10	tuberculous
"	5 " " "	...	...	...	37	6	non-tuberculous
"	parts of 3 carcasses ...	...	...	...	9	2	tuberculous
"	" 2 " "	...	...	...	2	0	non-tuberculous
Veal	11 carcasses with offals ...	...	...	...	90	13	unsound
"	parts of 3 carcasses ...	...	...	...	1	0	"
Offals, Miscellaneous	...	...	...	...	540	7	"
Frozen Meat	...	...	...	...	0	11	"
Hams	...	...	...	...	309	0	"
Bacon	...	...	...	...	195	4 $\frac{3}{4}$	"
Fish	...	...	...	...	296	5	"
Rabbits	...	...	...	...	103	9	"

Unsound Meat and Food destroyed—*continued.*

					sts.	lbs.	
Tinned Fish	...	...	...	...	1	5	Unsound
Tinned Meat	...	...	...	...	17	1	"
Tinned Fruit	...	...	...	...	1	10½	"
Tinned Milk	...	...	...	...	35	11	"
Dates	...	...	...	...	3,493	8¾	"
Figs	...	...	...	...	14	4	"
Flour	...	...	...	...	16	0	"
Jam	...	...	...	...	3	4	"
Butter	...	...	...	...	8	12½	"
Cheese	...	...	...	...	11	7	"
Total					11,401	10½	

Milk 12 gallons.

sts.	lbs.	
2,911	4	tuberculous
523	8	non-tuberculous
7,966	12½	unsound
11,401	10½	Total

ANIMALS SLAUGHTERED AT THE PUBLIC

ABATTOIR from JANUARY to DECEMBER, 1919.

Beast	...	...	...	...	2,450
Sheep	...	...	...	...	9,783
Pigs	...	...	...	...	2,785
Calves	...	...	...	...	345
Total	...	...	...	...	15,363

PRIVATE SLAUGHTERHOUSES.

1	Herrick, J. W.	...	Craven Street...	... licensed
2	Nissler, J. A. & Sons	...	High Street „
3	Leachman, George G.	..	St. Paul's Lane	... „
4	Industrial Co-operative Society		Brayford Wharf	... „
5	Sowerby, George	...	7, Sincil Street	... registered
6	Curtis, A. W. & G. Barrand		rear of 171 High St.	... „
7	Maddison, J. B.	...	St. Paul's Lane	... „
8	Hill, Mrs. R. & Taylor Bros,		Alfred Street „
9	Horton, E.	..	Peel Street „
10	Dalton, S. S.	...	Boundary Street	... „
11	Applewhite, Charles Wm.	...	Occupation Lane	... „
12	Varty, J.	...	Grantham Street	... „
13	Pateman, F. J.	...	43, Newport „

Meat Inspection.

In August, 1918, our Public Abattoir was taken over by the Government as a centre under the Dead Weight Basis. This entailed a great increase in the work and responsibility of inspecting the meat, as all grades from the surrounding districts had to be sent to this dépôt.

The trouble was accentuated by an absence of proper inspection facilities in our present building.

The figures given below, as to the quantities of meat and other foods destroyed for the past years, show the enormous increase for 1919.

1913 ...	1,765 stones destroyed	1916 ...	1,301 stones destroyed.
1914 ...	1,556 „	1917 ..	2,054 „
1915 ...	1,707 „	1918 ...	4,056 „
		1919 ...	11,401 „

List of Samples submitted for Analysis

UNDER THE SALE OF FOOD AND DRUGS ACT,
DURING THE YEAR, 1919.

Milk	...	74	(63 Official and 11 Informal Samples)
Ground Ginger		7	(Informal Samples)
White Pepper		5	do.
Cocoa	...	4	do.
Mustard	...	3	do.
Coffee	...	2	do.
Ground Rice		9	do.
Baking Powder		5	do.
Camphorated Oil		3	(1 Official and 2 Informal Samples)
Olive Oil	...	2	(Informal Samples)
Total	..	<u>114</u>	

Milk Samples (Official).

There were 63 Official Samples of New Milk taken during the year 1919, eight of which were adulterated. Particulars of the eight samples are given below.

PROSECUTIONS.

The following samples, Nos. 52 and 53, were taken from the same Milkseller.

No. in Record.	Date 1919.	Adulteration.	Article.	Fine.	Cost.
52	Sept 6	Milk Fat ... 3.1 per cent. Non Fatty Solids 8.24 " Water ... 88.66 " <u>100.00</u> "	New Milk.	£10	—
53	Sept 6	Milk Fat ... 3.9 per cent. Non Fatty Solids 8.2 " Water ... 88.8 " <u>100.0</u> "	"	No judgement given in 2nd case.	

MILK SAMPLES (Official)—(continued).

Number of Official Adulterated Samples in which no proceedings were taken.

No. in Record.	Date.	Results.			Remarks.
3	1919 May 12	Milk Fat ...	3.36	per cent.	Cautioned on Committee's recommendation.
		Non Fatty Solids	7.74	"	
		Water ...	88.90	"	
			<u>100.00</u>	"	
6	June 13	Milk Fat ...	2.62	per cent.	Bought Milk outside the City. Satisfactory explanation given to Committee. Advised to obtain a guarantee. Cautioned.
		Non Fatty Solids	8.84	"	
		Water ...	88.54	"	
			<u>100.00</u>	"	
61	Sept. 24	Milk Fat ...	3.52	per cent.	Bought Milk from farmer outside the City. Satisfactory explanation given to Committee. Advised to obtain a guarantee. Cows appealed to. Good Milk given. Cautioned.
		Non Fatty Solids	7.9	"	
		Water ...	88.58	"	
			<u>100.00</u>	"	
65	Sept. 24	Milk Fat ...	2.8	per cent.	Bought Milk from cow-keeper outside the City. Satisfactory statement given. Advised to obtain a guarantee. Cows appealed to. Milk below the standard given. Cautioned.
		Non Fatty Solids	8.55	"	
		Water ...	88.65	"	
			<u>100.00</u>	"	
90	Oct. 9	Milk Fat ...	2.33	per cent.	Milk bought from farmer outside the City. Satisfactory explanation given to Committee. Advised to obtain a guarantee. Cautioned.
		Non Fatty Solids	8.51	"	
		Water ...	89.16	"	
			<u>100.00</u>	"	
102	Nov. 22	Milk Fat ...	2.40	per cent.	Milk bought outside the City. Satisfactory explanation given. Advised to obtain a guarantee. Cautioned.
		Non Fatty Solids	9.03	"	
		Water ...	88.57	"	
			<u>100.00</u>	"	

MILK SAMPLES (Informal).

There were 11 Informal Samples of new milk submitted for Analysis during the year 1919, 3 of which proved to be adulterated. Particulars of these 3 samples are given in the following table.

No. in Record.	Date.	Results.		Remarks.
30	May 12	Milk Fat ...	2.3 per cent.	Official Sample taken Found to be adulterated Satisfactory explanation given.
		Non Fatty Solids	8.7 "	
		Water ...	89.0 "	
			<u>100.0</u> "	
32	May 12	Milk Fat ...	2.91 per cent.	Satisfactory explanation given. Milk from outside the City.
		Non Fatty Solids	8.71 "	
		Water ...	88.38 "	
			<u>100.00</u> "	
84	Oct 9	Milk Fat ...	2.5 per cent.	Samples taken from 2 cows outside the City. (Cows not well at the time).
		Non Fatty Solids	8.8 "	
		Water ...	88.7 "	
			<u>100.0</u> "	

No. in Record.	Date, 1919.	Article.	Result.	Remarks.
115	Dec. 11	Camphorated Oil.	Camphor. 20. Olive Oil. 43. Mineral Oil. 37. <u>100.0</u>	(Informal Sample). Official Sample taken.
119	Dec. 31	Camphorated Oil.	Camphor. 21.0 Olive Oil. 59.5 Mineral Oil. 19.5 <u>100.0</u>	This Sample was taken from the same Chemist as Informal Sample No 115. Cautioned.
74	Oct. 8	Baking Powder.	Available Carbonic Acid 1%	Shopkeeper not selling. Baking Powder in future (Informal Sample).

Rats and Mice Order, 1918-1919.

The responsibility of carrying out the duties under this Order have been placed upon the Health Department.

Mr. Street has been appointed as the Executive Officer and the methods he has adopted have proved very efficient.

He reports that premises have been treated with the various poisons recommended by the Board of Agriculture with very satisfactory results, trapping has also been done, and in addition to Mr. Fulton (Professional Rat Catcher) being employed the following members of the Health Staff and the others mentioned below have been working under his supervision:—

HEALTH DEPARTMENT.

Mr. Garner.

„ Hoe.

„ Jeffery.

SURVEYOR'S DEPARTMENT.

Mr. Brown, ... Sewers, etc.

„ Kennington, ... Commons, river banks, etc.

„ Applewhite, ... Sewage Farm.

„ Mawer, ... Destructor Works.

The whole of the large firms as well as the various tradesmen in the City have given their earnest attention to the destruction of the vermin, and have men specially engaged regularly on this work.

Up to the present time it has not been necessary to serve notices either on owners or occupiers to destroy these pests, they have willingly complied with instructions.

He is pleased to report that the work has been very satisfactorily carried out.

At the present time very few complaints are being received about the pests.

Rag Flock Act.

A number of Inspections have been made of premises where Rag Flock is used in the making of articles of bedding and furniture and samples of flock taken.

Three samples were submitted to the Public Analyst for test, and he reported all Samples within the standard of impurity laid down (30 parts of chlorine in 100,000 parts of flock).

The samples examined showed :—

	No. 1.	No. 2.	No. 3.
Soluble Chlorides, equal to Chlorine	26.6	6.65	28.8

GENUINE.

American Gooseberry Mildew Order and the Wart Disease of Potatoes Order.

Mr. STREET is the Executive Officer under these orders, and reports that they have been carried out to the satisfaction of the officials inspecting on behalf of the Board of Agriculture and Fisheries.

Shops Act.

This is still carried out by the Health Department. Mr. STREET is the Executive Officer, and reports that very few complaints have been received during the year, and no prosecutions were instituted.

Report on Canal Boats for the Year 1919.

The following work has been carried out under the Canal Boats Act during the year :—

Number of Boats on Register	...	...	80
Number of Inspections made	...	...	72
Number of Boats inspected	...	...	69
Number of Boats without Papers	...	...	18
Number of men on Board	...	...	147
Number of women on Board	...	...	40
Number of children on Board	...	...	26

The following defects were found :—

- 5 Boats required painting.
- 2 „ „ re-numbering.
- 1 Boat „ re-lettering.
- 3 cases of Diphtheria occurred.
- 1 boat was quarantined.
- 1 „ disinfected.

Housing.

The following are the particulars of the action taken during 1919, under the Housing, Town Planning, etc., Act, 1909 :—

No. of Dwelling-houses inspected under and for the purpose of Section 17.	Number of representations made to the Local Authority with a view to the making of closing orders.	Number of Closing Orders made.	Number of Dwelling-houses the defects in which were remedied without the making of closing orders.	Number of Dwelling-houses which, after the making of Closing Orders, were put in a fit state for human habitation.	The general character of the defects found to exist.
408	0 No representations made this year, owing to lack of housing accommodation.	0	30	0	Dampness, insufficient light and ventilation, defective drainage, and unsuitable accommodation for house refuse.

CHARACTER AND SUFFICIENCY OF HOUSES.

There are in the City 14,099 houses, of which 12,895 are within the limit of rent applicable to the District under Sec. 14 of the Housing and Town Planning Act, viz., £26 per annum.

One house and fourteen huts were brought into assessment between 1st April, 1919, and 31st March, 1920.

Plans for fifteen houses and sixteen huts were passed during the same period.

About fifty houses have been completed at the time of writing by the Ministry of Munitions, and one occupied on the Wragby Road site. Fifty houses are also in course of erection on the same site under the management of the Lincoln Corporation.

Returns have been made to the Ministry of Health on the housing requirements of Lincoln both at present and during the next few years, and a definite housing campaign has been undertaken.

A certain area has quite recently been represented to the Health Committee as suitable for an improvement scheme under Part I of the Housing Acts. This included about 150 houses.

A Housing Census is now taking place to obtain information as to the number of double families, overcrowding and size, and accommodation of existing houses, and should be of great value in determining our present needs.

This Census does not, however, take the place of a proper sanitary survey of defective houses, which will entail additions to the Staff of the Health Department, especially in view of the impending extension of the Borough.

At the present time houses which are unfit cannot be closed owing to lack of accommodation.

FACTORY AND WORKSHOPS' ACTS.—The statistical tables given below show the details of inspections under the Act during the year.

INSPECTIONS.

PREMISES	NUMBER OF		
	Inspections	Written Notices	Prosecutions
Factories } Workshops }	254	3	...
Total.....	254	3	...

DEFECTS FOUND.

PARTICULARS	NUMBER OF DEFECTS			No. of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
Want of Cleanliness.....	29	29	...	...
Want of Ventilation.....	1	1	...	...
Overcrowding	1	1	...	...
Want of Drainage of Floors .....	...	...	...	...
Other Nuisances	4	4	...	...
Sanitary Accommodation—	...	...	...	...
Insufficient	1	1	...	...
Unsuitable or Defective	8	8	...	...
Not separate for sexes.....	1	1	...	...
Illegal occupation of underground Bakehouses .....	...	...	...	...
Breach of Special Sanitary requirements for Bakehouses .....	...	...	...	...
Total.....	45	45	...	...

OUTWORKERS' LIST. SECTION 107.										OUTWORK IN UNWHOLESOME PREMISES. SECTION 108.	
NATURE OF WORK.	List received from Employers.						Notices served on occupiers as to keeping or sending of Lists.	Prosecutions.		Instances.	Notices served.
	Sending twice in the year.			Sending once in the year.				Failing to keep or permit inspection of Lists.	Failing to send List.		
	Lists.	Outworkers.		Lists.	Outworkers.						
		Contractors.	Workmen.		Contractors.	Workmen.					
	Making Wearing Apparel ...	13	0	94	2	0	4	0	0		
Pea Picking ...	0	0	0	0	0	0	0	0	0	0	

4.—REGISTERED WORKSHOPS.		5.—OTHER MATTERS.		
Workshops on the Register (s. 131) at the end of the year. (1)	Number (2)	Class. (1)	Number (2)	
Important cases of workshops such as workshop bakehouses may be enumerated here.	No. of Bakehouses on register ...	Matters notified to H.M. Inspector of Factories:—	3	
	" " other workplaces ...	Failure to affix Abstract of the Factory and Workshop Act (s. 133) ...	22	
		Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	22	
		Other notices of new workplaces received from H.M. Inspector ...	18	
		Underground Bakehouses (s. 101) :—	0	
		Certificates granted during the year ...	0	
		In use at the end of the year ...	0	
Total number of workshops on Register ...	466			

SUMMARY OF THE WORK OF THE SANITARY STAFF.

The Staff at the Health Department consists of the Medical Officer of Health, the Acting Chief Sanitary Inspector, two Assistant Inspectors, Disinfector, and two Clerks.

I wish to refer to the loyal support of my staff during the past year, and would specially mention the valuable work of Mr. C. Street as Acting Chief Inspector.

Informal notices served	498
Circular letters re notices	100
Privy Vaults abolished	3
New water-closets provided	34
W.C. pans provided	34
,, connected to traps	24
,, cleansed	42
,, cisterns repaired	107
,, overflow pipes repaired	32
,, flush pipes repaired	25
,, supply pipes repaired	86
,, seats repaired	3
Choked W.C.'s cleansed	125
Drains tested with smoke, etc.	217
,, found defective and repaired	50
,, relaid	33
,, found choked and cleansed	211
New inspection chambers built	22
Manhole covers provided	13
Drain ventilating pipes tested	237
,, choked	35
,, repaired	29
,, fixed new	4
,, lengthened	12
Sink waste pipes trapped	14
,, repaired	36
,, catchpits abolished	0
Eaves spouts and down spouts repaired	36
Yards and passages asphalted	63
Defective roofs repaired	32
Foul sinks removed	14

Windows of houses made to open	...	...	...	0
Ashpits abolished	...	...	...	14
Covered metal ashes bins provided	...	...	...	206
Houses inspected	...	...	...	408
,, found to be dirty	...	...	...	16
,, cleansed	...	...	...	15
,, found to be overcrowded	...	...	...	29
Pig-styes inspected	...	...	...	40
,, found in insanitary condition	...	...	...	7
Visits to Cowsheds, Dairies and Milkshops	...	...	...	129
,, Common Lodging Houses	...	...	...	25
,, Abattoir and private slaughter-houses	...	...	...	600
,, Cattle Market, Butter Market and New Market	...	...	...	300
,, Ice Cream Shops	...	...	...	20
,, Fried Fish Shops	...	...	...	100
,, Canal Boats	...	...	...	72
Complaints investigated	...	...	...	751
Re-visits re-complaints	...	...	...	167
Works inspected	...	...	...	169
Living Vans inspected at Fair-time	...	...	...	68
Cases of notifiable infectious diseases investigated	...	...	...	218
,, ,, ,, ,, re-visited	...	...	...	114
,, Phthisis (not including above) investigated	...	...	...	23
,, ,, ,, re-visited	...	...	...	0
,, Tuberculosis (other than phthisis) investigated	...	...	...	3
,, ,, ,, re-visited	...	...	...	0
,, Non-notifiable diseases visited	...	...	...	8
,, Infectious diseases removed to Hospital	...	...	...	124
Premises disinfected	...	...	...	1039
Bundles of wearing apparel passed through steam disinfectors	...	...	...	28
Beddings and mattresses	...	...	...	296
Bundles of bed-clothing, etc.	...	...	...	284
Verminous beddings and mattresses destroyed	...	...	...	34
Rooms stoved to destroy vermin	...	...	...	40
Notices to education re infectious cases in school children	...	...	...	238
Children excluded from School	...	...	...	294
Miscellaneous Visits	...	...	...	937
Housing Enquiry Visits	...	...	...	150
Visits to Factories, Workshops and Bakehouses	...	...	...	254

RAINFALL

1919	Total Depth in inches	Greatest Daily Fall		No. of Rainy Days
		Depth	Date	
January	2.74	.61	3rd	23
February	2.27	1.04	16th	13
March	2.59	.53	19th	16
April	1.73	.50	27th	15
May	0.76	.39	24th	8
June	1.21	.31	24th	12
July	2.67	.65	3rd	12
August	2.51	.69	28th	11
September	1.76	.62	22th	12
October	1.93	.64	23rd	13
November	1.85	.28	3rd	23
December	2.96	.43	26th	23
Total, 1919.. ..	24.98			181
Total, 1918.. ..	21.12			169

RAINFALL, 1895 to 1919.

Year	Inches	Year	Inches	Year	Inches	Year	Inches
1895	24.27	1902	21.43	1909	27.24	1916	26.69
1896	26.50	1903	29.53	1910	24.83	1917	20.80
1897	26.29	1904	19.72	1911	18.88	1918	21.12
1898	20.59	1905	18.22	1912	27.76	1919	24.98
1899	26.57	1906	23.53	1913	19.80		
1900	27.01	1907	24.47	1914	20.42		
1901	23.01	1908	20.75	1915	27.52		