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BOROUGH



OF LUTON.

ANNUAL REPORT

ON THE

Health, Sanitary Conditions,

ETC., OF THE

Borough of Luton,

FOR THE YEAR 1920.

BY

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Medical Officer of Health,

Medical Officer to the Education Committee,

Medical Superintendent of Infectious Diseases

and Small Pox Hospitals,

Police Surgeon.



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*Public Health Department,
Waller Street,
Luton,
June 1st, 1921.*

*To His Worship the Mayor, Aldermen, and Councillors
of the Borough of Luton.*

Gentlemen,

I have the honour to submit to you my eighth Annual Report as Medical Officer of Health, which is also the forty-second Annual Report on the Health, Sanitary Conditions, &c., of the Borough.

It gives me great pleasure to acknowledge the valuable assistance I have received in carrying out my duties from the various members of the staff of the Health Department, all of whom have rendered loyal and efficient service. I should also like to place on record the splendid work done by the Matron, and Staff, of Spittlesea Hospital.

I have the honour to be,

Gentlemen,

Your obedient servant,

W. ARCHIBALD.

*Statistical Memoranda for 1920 compared with the
three previous years.*

	Year 1917.	1918.	1919.	1920.
Population (including Military)	60,426	60,853	58,758	
„ (Civil)	54,208	54,310	56,406	58,654
Birth Rate per 1,000 living ...	16'7	16'4	16'6	25'7
Death Rate	11'8	13'2	10'3	9'9
Infantile Death Rate per } 1,000 births	86'5	87	88'1	59'4
Total Zymotic Death Rate ...	'79	2'8	'58	'58
Tuberculosis Death Rate (all kinds)	1'45	1'54	'95	'82

Population.

The population of the Borough of Luton at the middle of the year 1920 was estimated at 58,654. During the years of the war, the Registrar General furnished each Medical Officer of Health with two estimates of the population, one estimation including military billeted in the district, and the other for the civil population alone. This practice has been dropped this year, and only one estimate (that referred to above) has been supplied. The official estimate of the Medical Officer of Health agrees with the Registrar General's estimate, and can be accepted as being as nearly accurate as possible. Errors in estimating the population are more apt to be found in the years immediately preceding the Census, owing to the difficulty in accurately estimating at that period.

The "natural increase" in the population during the year, or the excess of births over deaths is 839, the highest ever recorded in the Borough. The largest increase previously recorded was in 1908, when the natural increase was 733. Last year it was 399. Two factors contributed to this record figure, namely a high birth rate and a low death rate.

The following table shows the progress made by the Borough since the year 1861, and gives the census population, the increase since the previous census, the average yearly increase during each inter-censal period, the number of inhabited houses, and the rateable value as at 31st March in each year.

Year.	Population according to Census Reports.	Increase since previous Census.	Average yearly increase during each inter-censal period.	Inhabited houses.	Rateable value at 31st March.
1861	15,329	4,681	468.1	2,724	£32,341
1871	17,317	1,988	198.8	3,345	£48,651
1881	23,960	6,643	664.3	4,597	£80,807
1891	30,053	6,093	609.3	6,141	£112,000
1901	36,404	6,351	635.1	7,736	£150,545
1911	49,978	13,574	1,357.4	10,962	£212,458

The Ward distribution of the population calculated from the returns of the last census is shown in the following table, which also shows the persons per acre in each Ward.

In calculating the density of the population per Ward, and in the town as a whole, all vacant spaces, recreation grounds and parks, are included in the measurements.

Ward.	Area in Acres.	Population			Persons per Acre
		Males	Females	Total	
North	874	8,832	10,114	18,946	22
East	590	9,028	9,718	18,746	32
West	1,670	9,686	11,276	20,962	13
Total	3,134	27,546	31,108	58,654	19

Births.

1397 births were registered during the year as compared with 976 in 1919, an increase of 421. This is by far the largest number of births ever registered in the Borough, being higher than any recorded even in pre-war years. On the Registrar General's estimate of the population (58,654) this gives a birth rate of 25·7 per 1000 of the population, as compared with 16·6 in 1919 and 16·4 in 1918. The 1918 rate was the lowest ever recorded in Luton.

The rates since 1912 are given for comparison:—

Year.	Birth rate.	Year.	Birth rate.
1912	22·8	1917	16·7
1913	23·8	1918	16·4
1914	23·9	1919	16·6
1915	21·2	1920	25·7
1916	21·4		

The following table is inserted to show how the local figures compare with England and Wales, the 96 large towns, the 148 smaller towns and London.

BIRTH RATES, 1919.

England and Wales ...	25·4	per 1000 of population.
96 Great Towns ...	26·2	„ „ „
148 Smaller Towns ...	24·9	„ „ „
London ...	26·5	„ „ „
Luton ...	25·7	„ „ „

SUMMARY.

Total Births ...	1397
Total Deaths under 1 year ...	86
Infantile Death Rate (corrected) ...	60·0 per 1,000 births
Birth Rate... ..	25·7 per 1,000 pop.
Percentage of Illegitimate to Total Births ...	4·2%

ILLEGITIMACY.—During the year 69 births out of a total of 1397 were illegitimate, compared with 77 out of a total of 976 in 1919. The amount of illegitimacy is best shown by stating it as a percentage of the total births per annum, and when so treated the local figures are of interest. The following Table gives the local figures from 1914 onwards.

Year.	Number of illegitimate births.	Percentage of total births,
1914	45	3·4
1915	52	4·2
1916	52	4·6
1917	77	7·5
1918	74	7·4
1919	77	7·8
1920	69	4·2

This table shows that the illegitimacy rate, which had practically doubled itself during the war years, had returned to its normal pre-war standard.

Deaths.

The total number of deaths registered in the Borough during 1920 was 566, as compared with 593 in 1919. 45 deaths of residents occurred in other places, and have been credited to Luton. 30 of the deaths registered here were of persons belonging to other districts, so that the total corrected deaths for the year is 581, as compared with the same number in 1919, 728 in 1918, and 634 in 1917. On the estimated population of the year, this gives a crude death rate of 9.9 per 1000 of the population.

Death rates of various localities can only be accurately compared when the actual age and sex distribution of the population is known.

In order to make the returns of the various districts comparable, the Registrar General has furnished each Medical Officer with a factor for correction of the crude or registered death rate. The crude death rate multiplied by the factor gives the death rate as it would appear in a "standard population" *i.e.*, a population embracing the same age and sex distribution as England and Wales. The factor for Luton is 1.0334, so that the "corrected" death rate for the Borough is 10.2 per 1000 of the population, compared with 10.6 in 1919, 13.8 in 1918, and 11.9 in 1917.

THE PRINCIPAL CAUSES OF DEATH.

ORGANIC HEART DISEASE was the certified cause of 51 deaths. Of these 13 occurred at the highest age period (65 years and upwards). This is equal to a death rate of .86 per 1000 of the population.

BRONCHITIS caused 63 deaths, a rate of 1.07 per 1000 living. 13 of these deaths were of children under 1 year of age and 42 at the highest age period.

CANCER was responsible for 56 deaths, equal to a death rate of .95 per 1000 of the population. 21 of these deaths were at the highest age period.

CONGENITAL DEBILITY caused 48 deaths, giving a death rate of .82 per 1000 of the population.

PHTHISIS.—36 deaths were registered as due to Phthisis Pulmonalis, giving a Phthisis death rate of .61 per 1000 of the population.

Other Tuberculous diseases were responsible for 11 deaths. The following table gives the age incidents of these deaths:—

	Under 1 yr.	1-2 years.	2-5 years.	5-15 years.	15-25 years.	25-45 years.	45-65 years.	Over 65 yrs.
Phthisis ...	...	...	...	2	7	18	8	1
Other Tub-Diseases	...	...	3	1	3	3	1	...
Totals ...	...	...	3	3	10	21	9	1

One feature of the above table is that it shows clearly how the age-period of greatest fatality for this disease is higher than in former years. In other words, the effect of sanatorium treatment is to prolong the disease in fatal cases, so that instead of the period 15-25 having the highest death rate, it is in the following age group, 25-45, where this is found.

ZYMOTIC DEATH RATE. 34 deaths were due to Zymotic Diseases during the year. The actual Zymotic death rate is therefore .58 per 1,000 of the population as against the same rate in 1919 and 2.8 in 1918. The number of deaths from the various Zymotic Diseases was as follows:—

Influenza	...	...	9
Whooping Cough	...	...	5
Diphtheria	...	...	11
Diarrhoea	...	...	5
Scarlet Fever...	...	...	—
Enteric Fever	...	...	1
Measles	...	...	3
			34

The following Table shows the number of deaths from each Zymotic Disease, with the death rate per 1,000 compared with corresponding figures for England and Wales, the 96 large towns and 148 smaller towns:—

BIRTH-RATE, DEATH-RATE AND ANALYSIS OF MORTALITY DURING THE YEAR 1920.
(Provisional figures. Populations estimated to the middle of 1920 have been used for the purpose of this Table.
The mortality rates refer to the whole population as regards England and Wales, but only to civilians as regards London and the groups of towns).

	Birth-rates per 1,000 total population.	ANNUAL DEATH-RATE PER 1,000 LIVING.									RATE PER 1,000 BIRTHS.				PERCENTAGE OF TOTAL DEATHS.			
		All Causes	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping cough.	Diphtheria.	Influenza.	Violence.	Diarrhoea and Enteritis (under 2 Years).	Total Deaths under One Year.	Deaths in Public Institutions.	Certified Causes.	Inquest Cases.	Uncertified Causes of Death.		
England and Wales ...	25.4	12.4	0.01	0.00	0.19	0.04	0.11	0.15	0.28	0.48	8.3	80	24.3	92.2	6.6	1.2		
96 Great Towns, including London (Census Populations exceeding 50,000) ...	26.2	12.5	0.01	0.00	0.22	0.04	0.14	0.16	0.31	0.43	10.4	85	31.3	92.2	7.1	0.7		
148 Smaller Towns (Census Populations 20,000—50,000) ...	24.9	11.3	0.02	0.00	0.19	0.03	0.10	0.14	0.27	0.38	7.8	80	16.5	93.2	5.3	1.5		
London ...	26.5	12.4	0.01	0.00	0.22	0.05	0.17	0.22	0.30	0.47	9.5	75	46.8	91.2	8.6	0.2		
LUTON ...	25.7	9.9	0.01	0.00	0.03	0.00	0.05	0.18	0.09	0.16	3.5	60	16.6	98.4	4.3	0.2		

Deaths in Institutions.

103 deaths occurred in Institutions in the Borough during 1920, and the following Table shows the number of residents and non-residents who died in these various Institutions:—

	Residents.	Non-Residents.
Luton Infirmary (Poor Law) ...	47	14
Bute Hospital	20	11
Children's Home	7	2
Other	—	2
	74	29
	103	

The causes of these deaths were as follows:—

Bronchitis	12
Pneumonia	6
Organic Heart Disease ...	9
Cancer	10
Accidents	4
Tubercular Disease ...	5
Nephritis	1
Whooping Cough	1
Pluerisy	1
Appendicitis	5
Old Age	14
Other Diseases	35
	103

Inquests.

During the year 41 deaths were reported to the Coroner, and 24 of these were subject to an inquest.

The verdicts are hereunder classified:—

Accidents	14
Suicide	1
Heart Failure	9
	24

Infectious Diseases.

The number of notifications under the Notification Acts and Amendments, received during the year amounted to 214.

No special epidemic prevalence was observed.

Scarlet Fever.

39 cases of this disease were notified during the year, as compared with the same number in 1919, 27 in 1918, 23 in 1917 and 43 in 1916. As has been the case in recent years the disease was of a very mild type, not one case terminating fatally. The diagnosis of this mild form of Scarlet Fever presents many serious difficulties, and for this reason several of the cases were only discovered and notified on the appearance of desquamation.

22 cases were removed to hospital for treatment (60%). The 39 cases involved 29 households.

The following table shows the behaviour of the disease in the Borough since 1897 :—

Year.	No. of cases.	Year.	No. of cases.	Year.	No. of cases.
1897	185	1905	30	1913	321
1898	75	1906	180	1914	246
1899	43	1907	92	1915	128
1900	62	1908	42	1916	43
1901	268	1909	177	1917	23
1902	89	1910	123	1918	27
1903	68	1911	74	1919	39
1904	65	1912	57	1920	39

Enteric Fever.

During the year, 3 cases of Enteric Fever were notified to the Medical Officer of Health, and one of these cases was treated in hospital. Two households were involved, and after isolation no further cases developed. No serious defects in sanitation were discovered in any of the houses, and the source of infection was never traced. One case, terminating fatally, was reported from another town and accepted as belonging to Luton. The infection was caught abroad. All the local cases recovered. This disease has been rare in the Borough during recent years, and the following table gives the number of cases recorded annually since 1897 :—

Year.	No. of cases.	Year.	No. of cases.	Year.	No. of cases.
1897	37	1905	6	1913	9
1898	16	1906	9	1914	3
1899	28	1907	9	1915	7
1900	22	1908	9	1916	5
1901	19	1909	4	1917	0
1902	7	1910	2	1918	2
1903	5	1911	36	1919	8
1904	5	1912	13	1920	3

Diphtheria.

In this disease as in other infectious disorders, the chief agent in spreading infection is the mild unrecognised case. Parents are still dilatory in calling in medical aid. No epidemic prevalence was noticed during the year, but a department in one of the local schools was involved in a small series of attacks, all traced to a mild case only recognized on the appearance of paralysis. The usual preventive measures, isolation, disinfection and swabbing throats of contacts have been in operation, and 207 swabs were examined during the year. 63 of the cases were treated in hospital (63%) and in the other instances home isolation was considered adequate in all respects.

The necessity for more hospital accommodation for this and other infectious diseases is fully recognised by the Sanitary Committee, and the plans for extension and modernization of the existing hospital are prepared. The work however has been held up by the shortage of labour and the urgent need for housing accommodation.

The following table gives the number of notifications and deaths each year since 1897 :—

Year.	No. of cases.	Deaths.	Year.	No. of cases.	Deaths.	Year.	No. of cases.	Deaths.
1897	12	3	1905	7	0	1913	166	15
1898	39	13	1906	103	16	1914	568	72
1899	50	7	1907	103	24	1915	301	32
1900	11	5	1908	56	8	1916	305	27
1901	12	2	1909	75	12	1917	110	4
1902	17	0	1910	32	3	1918	100	10
1903	18	0	1911	45	25	1919	58	3
1904	4	1	1912	22	2	1920	97	11

Puerperal Fever.

Three cases of this disease, all of which terminated fatally, were notified during the year. The usual precautions were taken in each case.

The following Table gives the number of cases treated in the Hospital for Diphtheria, Scarlet and Typhoid Fevers:—

Disease.	Sex.	Remaining in at end of 1919.	Admitted during 1919.	Recovered.	Died.	Remaining in at end of 1920.
Scarlet Fever ..	M.	2	19	18	...	3
	F.	2	22	21	...	3
Diphtheria ...		— 4	— 41	— 39		— 6
	M.	1	40	38	3	6
	F.	4	56	48	6	...
Typhoid ...		— 5	— 96	— 86	— 9	— 6
	M.	...	...	...	...	...
	F.	...	1	1	...	...
Total ...		—	— 1	— 1		
		9	138	126	9	12

Tuberculosis.

By the kindness of Dr. C. G. Welch, the County Tuberculosis Officer, I am able to publish the following particulars as to the diagnosis and treatment of cases examined at the dispensary, Church Street, Luton, in 1920:—

			Insured.	Non-Insured.	Total.
Number of cases examined	...	...	125	93	218
Pulmonary Tuberculosis	...	...	57	22	79
Surgical	...	...	4	4	8
Under Observation	...	...	—	17	17
Not Tuberculous	...	...	64	50	114
Dispensary Treatment	...	...	4	22	26
Domiciliary	...	...	20	—	20
Sanatorium	...	...	28	12	40
Under own Doctor	...	...	5	8	13
Left the County	...	...	4	1	5

The number of attendances of patients at the Luton Dispensary during the year was 4,026.

As in previous years Dr. Welch has kindly examined a number of school children referred to him from the School Clinic, suffering from glandular and pulmonary tuberculosis. Some of these have been sent to the Harpenden Sanatorium.

The following Table gives the number of notifications of Tuberculosis received during the year:—

Form A.	Form B.	Form C.	Form D.	Total.
Pulmonary, 107 } 122	...	32 } 32	19 } 21	158 } 175
Other ... 15 }		— }	2 }	17 }
... 9 Duals ...	...	9 Duals	7 Duals	25 Pul. Duals

Infectious Diseases Notification and Prevention Act.

The following Table shows the number of cases notified under the provisions of the Infectious Diseases Notification Act each year since its adoption in the Borough:—

Year.	Name of Disease.														
	Scarlet Fever.	Erysipelas.	Typhoid Fever.	Diphtheria.	Membranous Croup.	Puerperal Fever.	Continued Fever.	Variola.	Choleraic Diarrhoea.	Anthrax.	Acute Poliomyelitis.	Ophthalmia Neonatorum.	Measles.	Cerebro Spinal Fever.	Totals.
1896	236	35	16	13	2	3	1	1	...	...	...	...	...	...	307
1897	185	53	37	12	...	6	6	...	1	...	...	...	...	...	300
1898	75	36	16	39	3	2	2	...	...	1	...	...	...	...	174
1899	43	52	28	50	6	8	1	...	...	...	...	...	...	...	188
1900	62	40	22	11	7	8	2	...	...	...	...	...	...	...	152
1901	268	59	19	12	2	8	2	2	...	...	...	...	...	...	372
1902	89	30	7	17	...	3	4	5	...	...	...	...	...	...	155
1903	68	35	5	18	...	7	...	...	...	...	...	...	...	...	133
1904	65	49	5	4	1	6	1	...	...	...	...	...	...	...	131
1905	30	46	6	7	...	3	...	...	...	...	...	...	...	...	92
1906	180	52	9	103	1	...	...	...	...	...	...	...	...	...	345
1907	92	40	9	103	...	3	...	...	...	...	...	...	...	...	247
1908	49	20	9	56	...	4	...	...	...	...	...	...	...	...	138
1909	177	30	4	73	2	2	...	...	...	...	...	...	...	...	288
1910	123	46	3	32	...	5	...	...	...	...	...	...	...	...	209
1911	74	42	36	45	...	1	2	...	...	...	...	...	...	...	200
1912	57	33	13	22	...	5	...	...	...	...	4	...	...	...	134
1913	321	66	9	166	...	3	...	...	...	...	1	...	...	...	556
1914	246	42	3	568	...	2	...	...	...	...	...	10	...	...	871
1915	128	48	7	301	...	3	...	...	...	...	...	9	...	3	499
1916	43	16	5	305	...	2	...	...	...	...	1	5	237	2	615
1917	23	18	...	110	...	...	...	...	...	1	...	5	886	1	1044
1918	27	6	2	100	...	...	...	...	...	...	1	3	303	3	445
1919	36	23	8	58	...	1	...	...	...	...	...	12	59	...	197
1920	39	19	3	97	...	3	...	...	...	...	...	5	6	...	214
Totals	2736	944	281	2322	24	88	21	8	1	2	7	49	1491	9	8016

Laboratory Work.

The diagnosis of cases of Diphtheria has been greatly assisted by the examination of swabs in the laboratory, swabs sent by medical practitioners being examined free of charge. In addition, swabs are taken from the throats of patients in the Isolation Hospital. During the last 8 years the following examinations have been carried out by the Medical Officer of Health:—

YEAR.	Swabs for Diphtheria Bacilli.			Sputum for Tubercle Bacilli.			Blood for Typhoid Fever.		
	Positive.	Negative.	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.
1913	56	30	86	14	26	40	...	...	...
1914	130	383	513	15	50	65	1	...	1
1915	318	1,028	1,346	3	13	16	...	2	2
1916	292	849	1,141	...	4	4	...	2	2
1917	79	388	467	...	8	8	...	...	...
1918	68	323	391	...	5	5	...	...	...
1919	21	63	84	...	...	...	...	...	...
1920	48	159	207	...	...	...	3	2	5

Infant Mortality.

86 children under one year of age died during the year, as compared with the same number in 1919. The infantile death rate *i.e.*, the deaths of children under one year of age per 1000 children born is 60, the lowest on record.

The following figures are given for comparison.

Place.	Deaths under 1 year per 1000 births.
England and Wales	80
96 Great Towns	85
148 Smaller Towns	80
Luton	60

The dangers attending the early periods of life have always been realized, but systematic effort to guard against the risks to which the infants of the poorer classes are exposed, is a comparatively recent development. For many years attention has been arrested by the high mortality during the earlier years of life, and it had been customary in statistical returns to differentiate the deaths below five years of age from deaths taking place above that age. Later, the enormous wastage at the very beginning of life, by the deaths of infants below 12 months of age, began to be realized, and special investigations were made into its causation.

In all large towns, obvious contributory factors in the destruction of infant life are to be found in insanitary courts and alleys, insanitary dwellings, overcrowding, ignorance on the part of parents, extreme squalor, the dirty and neglected conditions under which large sections of the labouring classes and their families are living, and the prevalence of intemperance. As improvement has proceeded, and some of the grosser factors are gradually lessened, or eliminated, it is obvious that necessary care and attention are not given to the infant. Very commonly it is handed over to the custody of little children or irresponsible persons, whilst those really responsible are engaged in some other occupation. The children of the very poor are in this way exposed to neglect and inattention which, together with improper food and scanty clothing, are reflected in the sacrifice of life.

There is one outstanding fact which points the way very clearly to one direction by which this sacrifice may be lessened.

Mortality amongst infants is always highest during the summer and autumn months, a severe and fatal form of diarrhoea regularly appearing amongst infants during those seasons. Careful study and observation has brought to light the fact that this disease is closely associated with polluted food; it has been conclusively shown that infants whose mothers did not suckle them fell victims to this disease in a proportion nearly twenty times as great as those infants who were fed in the natural way. It is found that the substitutes usually given for mother's milk are eminently unsuitable in character, or are grossly contaminated by exposure to polluting influences before they are given to the infant. No one has ever doubted that there is only one way in which infants can be properly fed, and that is by the mothers' milk, some of the reasons for this being that milk, as nature intended it to be given to infants, is never once exposed to the air, that it passes directly at the time of manufacture in the gland, to the stomach; its composition, temperature and mixture, adapt it to the varying needs of the offspring as its age increases; it has neither abstractions, adulterations, preservatives, nor uncleanness; it is moreover, bacteriologically clean and pure. No artificial food can equal this.

Without referring further to the great sanitary operations gradually evolved as time progresses, the more specific methods adopted in lessening this form of disease may be summarised to include—

1. Instruction for the mother;
2. More healthful surroundings for the infant; and
3. When the mother's milk is not available to ensure a clean and suitable substitute.

It is a well established fact, that educative measures are required by which mothers in the poorer districts should receive some advice and guidance in regard to the feeding and rearing of infants, more especially during the hot weather; and the efforts of the Maternity and Child Welfare Committee of the Borough, have been devoted to this object during the year. The Health Visitors have visited all births notified in the Borough, and have also made calls on expectant mothers, regarding whom they have had information. The Notification of Births Act helps greatly in this work, but much more could be done were it possible to notify pregnancies, say, at the end of the 6th month. Much valuable advice could then be given to ignorant mothers *before* the arrival of the baby, and proper preparations could be made beforehand. During the year there were 37 still births. These are not included either in the birth or death returns, but they represent a wastage which in many instances might be prevented were early information available. The five Baby Centres, carried on by the voluntary workers, have also done splendid work during the year, and the machinery of these Centres is constantly working at high pressure. Free medical advice is given in all cases, suitable foodstuffs &c., are provided at cost price, and every endeavour is made to induce mothers to attend the Clinics. The invaluable assistance of the voluntary workers cannot be too highly appreciated, and it is no exaggeration to state that the record low rate of Infantile Mortality for the year (59'4) is in great measure due to their untiring efforts. The work is onerous and in many ways unpleasant, but the cheery welcome extended at all the Centres is a great inducement to mothers to attend.

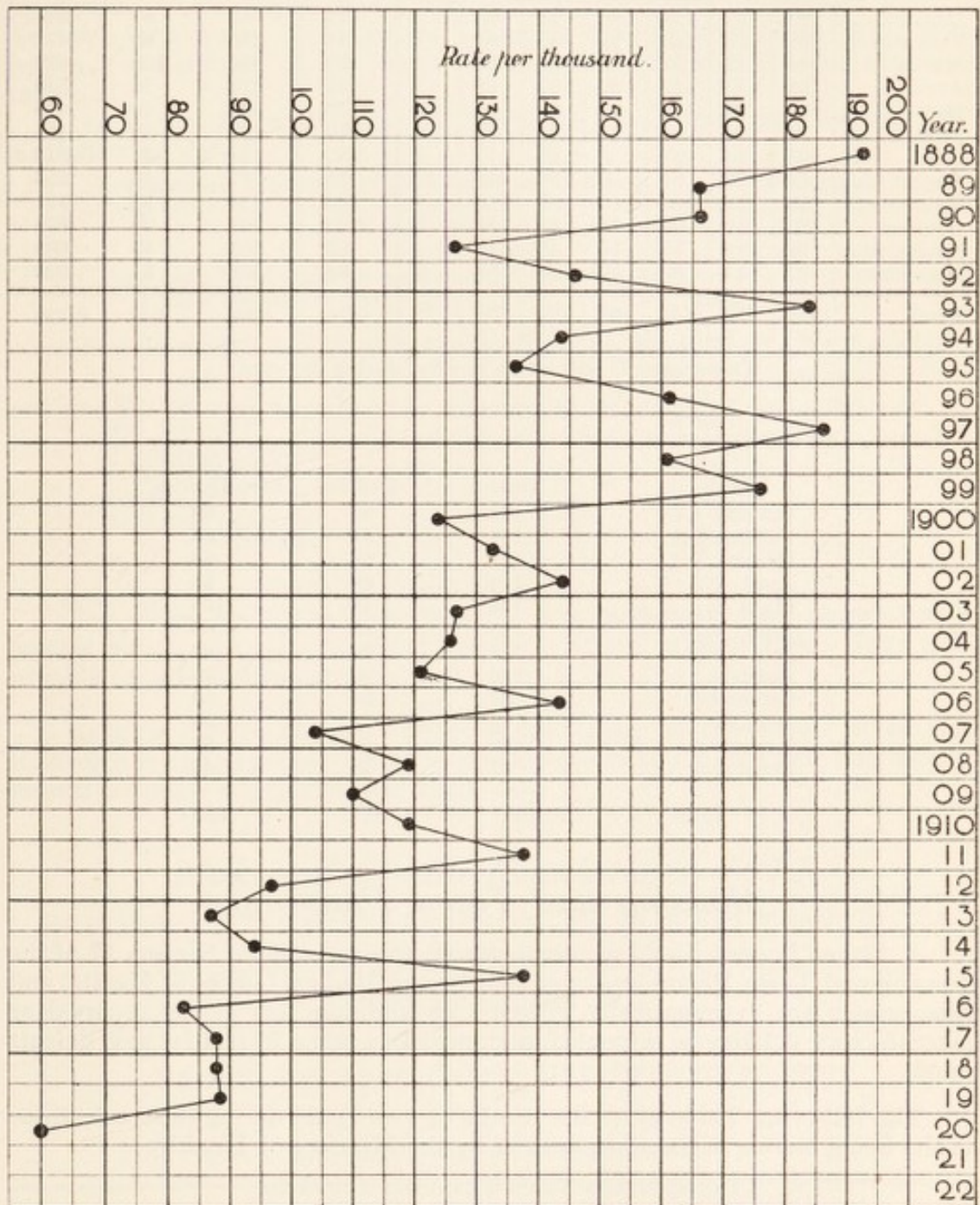
The following table gives a summary of the attendances made at the various Centres during the year, and shows a great increase from former years.

1920. Month.	Number of Attendances at Centres.											
	Church St. (Monday).		Church St. (Thursday).		Castle Street.		Cobden Street.		Bury Park.		Totals.	
	Consul- tations.	Infants weighed	Consul- tations.	Infants weighed	Consul- tations.	Infants weighed	Consul- tations.	Infants weighed	Consul- tations.	Infants weighed	Consul- tations.	Infants weighed
January ...	69	75	65	103	70	82	60	65	51	159	315	484
February ...	109	141	43	78	50	79	89	102	34	71	325	471
March ...	87	107	88	109	92	116	128	147	66	134	461	613
April ...	80	101	50	67	74	99	86	93	57	113	347	473
May ...	73	93	45	75	62	74	101	105	57	124	338	471
June ...	95	121	86	130	53	75	163	202	86	169	483	697
July ...	86	116	77	113	87	122	86	118	93	204	429	673
August ...	91	162	52	99	48	92	94	133	48	97	333	583
September ...	105	147	83	151	104	124	92	152	71	184	455	758
October ...	86	126	59	121	84	133	79	141	87	194	395	715
November ...	109	142	54	121	78	130	100	189	65	150	406	732
December ...	53	69	44	82	53	78	59	78	34	83	243	390
TOTALS	1043	1400	746	1249	855	1205	1137	1525	749	1682	4530	7060

Owing to the loss of the records for the first 6 months of 1919, only the figures for the latter half of the year were available. During the last 6 months of 1919, 2,762 children attended the Centres and 1,443 were seen by the Medical Officer. During the same period for the year under review these numbers were 3,851 and 2,271 respectively, an increase of 28%.

Included in the 86 deaths are 10 of illegitimate children. The infant mortality rate for legitimate children is therefore 56'6 per 1000 births, and for illegitimate children 145 per 1000 births, nearly three times the rate for legitimate children.

The following diagram shows the course of infant mortality in the Borough since 1888.



Work of the Health Visitors.

The result of the year's work is given in tabular form below.

1920.	MOTHER.							1920. Home Visits by Health Visitors.			
	WORK.		HEALTH.		Attendance at Child Birth.		Hist'y of Tuber- culosis	1st Visits.	Re-Visits.	Special Visits.	Total Visits.
	House	Other	Good.	Bad.	Doctor	M'wife					
January ...	95	42	118	19	74	63	5	172	152	57	381
February ...	102	38	123	17	59	81	3	151	236	85	472
March ...	64	27	73	18	38	53	1	123	390	109	622
April ...	82	58	128	22	77	63	2	145	328	75	548
May ...	99	26	107	18	61	64	5	110	325	40	475
June ...	89	27	99	17	64	52	2	140	287	28	455
July ...	108	34	137	5	69	73	2	133	154	31	318
August ...	64	23	81	6	39	48	0	73	267	16	356
September ...	96	29	105	20	69	56	1	148	521	52	721
October ...	95	19	99	15	62	52	2	143	507	29	679
November ...	73	16	75	14	49	40	0	53	593	43	689
December ...	82	14	86	10	61	35	3	84	508	31	623
Total ...	1059	353	1231	181	722	680	26	1475	4268	596	6,339

There were 37 still births notified during the year.

The following Table shows the number of births per month, the number of deaths, and the excess of births over deaths:—

Month.	Births.	Deaths.	Excess of Births over Deaths.
January ...	139	50	89
February ...	134	51	83
March ...	121	58	63
April ...	119	62	57
May ...	148	43	105
June ...	113	45	68
July ...	118	36	82
August ...	110	32	78
September ...	84	34	50
October ...	118	52	66
November ...	106	52	54
December ...	87	52	35
Total ...	1397	567	830

Housing and Town Planning.

A list of houses likely to come under the purview of Section 17 of the Housing and Town Planning Act is kept by the Medical Officer of Health, and these houses are systematically visited. In addition, any house reported as unsatisfactory is likewise inspected, and measures taken to rectify any defects found.

The following Table gives the results of visits paid during the year, these results being shown in the form desired by the Ministry of Health:—

HOUSING AND TOWN PLANNING ACT, 1909.

1	Number of dwelling houses inspected	...	...	...	...	530
2	Number found on inspection unfit for human habitation	...	...	...	...	31
3	Number of Representations made to Local Authority	...	...	...	...	None
4	Number of Closing Orders made by Local Authority	...	...	...	...	None
5	Number of Houses, which, after C.O. had been made, were made fit for human habitation	...	...	...	All defects were remedied without C. O.	
6	General character of defects found	...	...	...	General dis-repair of plaster and wood-work, dampness on wall and inadequate ventilation.	

Sanitary Circumstances of the District.

1.—WATER SUPPLY. The water supply of the Borough is derived from three tube wells, each 320 feet deep from the surface (in the chalk), and iron tubes are inserted down the bores so that no water can percolate into the bore holes until the depth of 100 feet from the surface. The water is pumped from these wells to reservoirs on Hart Hill, from which the town is supplied by gravitation. Two water towers are necessary to supply the highest parts of the town with water. The analyst's reports have always been highly satisfactory, the hardness of the water being its only drawback. The supply is unlimited.

The Water Engineer (Mr. W. R. Phillips) has kindly supplied me with the following data:—

Average daily consumption per head of population...	...	26.7 gallons
Total capacity of Storage Reservoir	...	3,622,000 ..
" Water Tower, Hart Lane	...	42,000 ..
" " Bailey Hill... ..	...	72,000 ..
Total quantity of water pumped during the 12 months ending December, 1920	...	664,217,716 ..

The following is a copy of a recent report of the Analyst (Mr. Colwell):

Total Solids	...	30.1 grains per gallon
Chlorine	...	1.47 ..
Free Ammonia	...	0.0001 ..
Albuminoid Ammonia	...	0.0003 ..
Oxygen absorbed (4 hours at 80° F)	...	0.009 ..
Nitrogen as Nitrates	...	0.298 ..
Hardness—Total	...	19.2 ..
" Permanent	...	6.2 ..
Nitrites	...	Nil ..

The above results indicate that this is a moderately hard water of great organic purity, and is in excellent condition at the present time. It is quite suitable for all dietetic purposes.

RIVERS AND STREAMS. There is one river, by name the River Lea. Its source is at Leagrave, two miles outside the Borough. There has been no serious pollution during the year 1920.

Milk and Cream Regulations, 1912.

REPORT OF ADMINISTRATION IN CONNECTION WITH THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

REPORT FOR YEAR ENDED 31ST DECEMBER, 1920.

1. Milk ; and Cream not sold as Preserved Cream.

	(a) Number of Samples examined for the presence of a Preservative.	(b) Number in which Preservative was reported to be present, and percentage of Preservative found in each Sample.
Milk ...	92	—
Cream ...	2	—

Nature of preservative in each case in column (b) and action taken under the Regulations in regard to it.

2. Cream sold as Preserved Cream.

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(1) Correct Statements made	...	2
(2) Statements incorrect	...	0

Total	...	2
-------	-----	---

(3) Percentage of Preservative found in each sample...	Nil
Percentage stated on Statutory label	... Nil

(b) Determinations made of milk fat in cream sold as preserved cream.

(1) Above 35 per cent.	...	Nil
(2) Below 35 per cent.	...	Nil

Total	...	Nil
-------	-----	-----

(c) Instances where (apart from analysis) the requirements as to labelling or declarations of preserved cream in Article 5 (1) and the proviso in Article 5 (2) of the Regulations have not been observed.—Nil.

(d) Particulars of each case in which the Regulations have not been complied with and action taken.—Nil.

3. Thickening Substances. Any evidence of their addition to Cream or to Preserved Cream. Action taken where found.—Nil.

4. Other observations, if any.—Nil.

If samples of cream are taken for the purpose of the Sale of Food and Drugs Acts, the Analyst should include the results of his examination of the samples in his usual quarterly report, but if they are obtained for the purpose of the Regulations, he should make separate reports on the analysis of the samples and the Authority should forward copies of such reports to the Medical Officer of Health to enable him to prepare his Report.

The Ministry would be glad if, for the purposes of tabulation, the Authority would instruct the Medical Officer of Health to transmit to the Ministry in the month of January a copy of his Report on the administration of the Regulations.

MINISTRY OF HEALTH,

WHITEHALL, LONDON, S.W.1.

JANUARY, 1921.

*Premises and Occupations which can be controlled
by Byelaws or Regulations.*

COMMON LODGING HOUSES. The Chief Constable is the Inspector of Common Lodging Houses, and when he discovers any conditions requiring attention, these are immediately reported to the Health Department and steps taken to remedy the same. They are as satisfactory as these places can be from a health point of view. There are three licenced Common Lodging Houses in the Borough, containing 28 rooms, 84 beds, and providing accommodation for 106 persons. Last year an average of 66 persons were accommodated therein per night, the total number accommodated being 24,111.

OFFENSIVE TRADES. There are no offensive trades as defined by Section 112 of the Public Health Act, 1875, in the Borough. The Local Government Board on 30th June, 1911, made an order under Section 51 of the Public Health (Amendment) Act, 1907, declaring the trades of Fish Fryer and Dealer in Hides, Skins and Fat to be offensive trades. Since that date no businesses of that description have been allowed to be set up in the Borough, unless by the sanction of the Council. Byelaws are now in operation.

Schools.

The Sanitary condition of the Schools in Luton is on the whole satisfactory. The Schools are supplied with water from the public water supply.

The measures taken to prevent the spread of infectious diseases in the Schools are described in the Annual Report of the Education Committee.

General Sanitary Work.

COWSHEDS. The Cowsheds in the Borough were regularly inspected, and were found generally to be kept clean and tidy. Any defects noticed were dealt with by written or verbal notice, and no legal proceedings were taken during the year.

BAKEHOUSES. There are in the Borough, 54 Bakehouses on the register, and 16 of these are underground. The only defect noticed in them during the year was a fairly general delay in the half-yearly lime-washing, but this matter was remedied on being pointed out to the Bakers concerned. The premises are all in a satisfactory state.

PRIVATE SLAUGHTER HOUSES. Owing to the number of private slaughter houses, and their distribution throughout the Borough, efficient inspection of meat intended for human food is hindered. There is undoubtedly, a pressing need for a public abattoir, where all meat could be carefully inspected before distribution. During the year, 24 licenses have been renewed.

MORTUARY. The Public Mortuary shared the fate of the Town Hall and the only accommodation of this nature available at present is the Mortuary at the Bute Hospital. The Borough Council have arranged for the use of same until a new building can be erected.

PRIVIES. There are only three privies in the Borough. Two are situated at the Laundry, Dunstable Road, and until quite recently no drainage was available. It is expected that they will be connected up to the sewer shortly. One is at 43, Kings Road. Here the position and contour of the ground makes drainage impossible. No nuisance has been caused.

During the year, as in previous years, much has been done to keep property in a state of repair by means of sanitary inspections.

The following list shows the nature of the cases which have been dealt with by the Sanitary Inspector during the year:—

Insanitary Dwellings	39	Defective ventilation pipes	6
No receptacles for ashes	100	Accumulation of manure	16
Water apparatus to W.C.s out of order	92	Defective coppers	7
Drains and W.C.s blocked	194	Slaughter houses requiring limewashing	4
Defective W.C.s and Drains	56	Other nuisances	37
„ pavings	3	Bakehouses requiring limewashing ...	17
„ floors, ceilings, spoutings, &c.	108		
„ ash tins	177		
Insanitary and defective ashpits ...	—	Total	856

406 notices were served in connection with the above nuisances.

The following table shows the number of loads of refuse collected annually since 1905, also the number dealt with at the Destructor and the number disposed of elsewhere:—

Year.	Loads Collected.	Loads sent to Destructor.	Loads sent Elsewhere.
1905	15,021	7,891	7,130
1906	15,726	12,062	3,644
1907	16,243	13,984	2,309
1908	16,572	13,422	3,150
1909	16,412	12,718	3,694
1910	16,575	13,335	3,240
1911	17,025	15,855	1,170
1912	17,587	14,170	3,417
1913	18,458	16,340	2,118
1914	20,245	16,840	3,405
1915	20,856	16,409	4,367
1916	18,457	16,773	1,674
1917	10,174	9,335	829
1918	10,060	8,694	1,366
(part) 1919	6,647	6,307	340
1920	14,813	13,806	1,007

The following table shows the number of ash tins and other receptacles in use in the Borough:—

Ash Tins ...	...	...	...	10,160
Boxes*	...	...	...	160
Open Ashpits	...	...	...	790
Closed	...	...	...	883
				11,993

*When boxes are found in use a notice is served, asking for a proper tin to be provided.

Factory and Workshops Act, 1901.

By the 132nd section of this Act, the Medical Officer is required to report upon the administration of the Act as regards workshops and workplaces. A copy of such report has to be sent to the Secretary of State. As is to be expected, the number of workshops in which the straw trade is carried on is very large in the Borough of Luton. Generally speaking, the workshops are kept in a very satisfactory condition, the cleanly state of the materials used in the manufacture of hats making such a state of affairs easily obtainable.

The following table show the details of inspections carried out during the year 1920 under the Act:—

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Premises.	Number of Inspections.	Number of Written Notices.
Factories (including Factory Laundries) ...	10	0
Workshops (including Workshop Laundries) ...	189	17
Workplaces (other than Outworkers' premises) ...	65	5
Total ...	264	22

DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars.	No. of Defects Found.	No. of Defects Remedied.
Nuisances under the Public Health Acts :—		
Want of Cleanliness	15	15
Overcrowding	...	...
Other Nuisances	1	1
Sanitary Accommodation { Insufficient	1	1
{ Unsuitable or defective	...	...
{ Not separate for sexes	...	...
Total	17	17

HOME WORK.

OUTWORKERS' LISTS (Section 107) :—	
Nature of Work—Wearing Apparel—Making, &c. :—	
Lists received from Employers sending twice in the year	8
Outworkers—Workmen	12
Lists received from Employers sending once in the year	...
Outworkers—Workmen	...
OUTWORK IN INFECTED PREMISES (Sections 109, 110) :—	
Instances	...
Orders made (Section 110)	...

REGISTERED WORKSHOPS AND OTHER MATTERS.

REGISTERED WORKSHOPS :—	
Total number of Workshops on Register	313*
OTHER MATTERS :—	
Matters notified to H.M. Inspector of Factories :—	
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (sec. 5, 1901) :—	...
Notified by H.M. Inspector	...
Reports (of action taken) sent to H.M. Inspector... ..	...

*New records not yet completed.

Food and Drugs Act.

In connection with this Act 182 samples were submitted to the Public Analyst for examination as follows :—

105 samples of New Milk; 8 each of Butter, Lard and Jam; 7 of Self-Raising Flour; 5 of Sausages; 3 each of Tincture of Rhubarb, Margarine and Sweet Spirits of Nitre; 2 each of Cream, Malt Vinegar, Pepper, Syrup of Rhubarb, Baking Powder, Sal Volatile and Dripping; and 1 each of Lime Juice Cordial, Cloves, Peppermint, Blackcurrant, Rasin Wine Flavour, Pea Flour, Ground Ginger, Cheese, Cocoa, Mustard, Fish Paste, Syrup, Tincture of Iodine, Tincture of Quinine, Syrup of Figs, Gregory Powder, Camphorated Oil, and Honey and Borax.

Of these, 13 samples were reported by the analyst to be adulterated as shown in the following table:—

Article submitted for Analyst.	Who submitted the sample.	Result of Analysis.	Sum paid for Analysis.	Observations.
New Milk	Sanitary Inspector	Adulterated 8.3% deficient in fat	13/-	Vendor fined £2 including costs
"	"	Adulterated 10.0% deficient in fat	13/-	Vendor fined £1 : 5 : 0 including costs
"	"	Adulterated 23.3% deficient in fat	13/-	Vendor fined £1 : 10 : 0 including costs
"	"	Adulterated 42.3% deficient in fat	13/-	Vendor fined £2 including costs
"	"	Adulterated 25.6% deficient in fat	13/-	Vendor fined £3 including costs
"	"	Adulterated 6.6% deficient in fat	13/-	Vendor fined £2 : 10 : 0 including costs
"	"	Adulterated 3.6% added water	13/-	Vendor cautioned
"	"	Adulterated 10.3% added water	13/-	Vendor fined £1 : 5 : 0 and 13/- costs
"	"	Adulterated 13.0% deficient in fat	13/-	Vendor fined £1 including costs
"	"	Adulterated 19.0% deficient in fat	13/-	Vendor fined £1 : 10 : 0 including costs
"	"	Adulterated 7.2% added water	13/-	Paid 18/- costs
"	"	Adulterated 11.0% deficient in fat	13/-	No action taken
"	"	Adulterated 16.3% deficient in fat	13/-	" " "

The following articles were inspected at the request of the owners before being exposed for sale, and were found unfit for sale and forthwith condemned and destroyed:—

English beef, mutton and pork (total weight) 881 stone 2 lbs.; imported meat (total weight) 86 stone 5 lbs.; 9 cwts. 2 qrs. 14 lbs. of bacon; 14 lbs. of dates; 25 tins of salmon; 8 barrels of mackerel; three boxes of mixed fish; 3 boxes of haddocks; 4 stone of cat fish; 1 box and 6 stone of fresh herrings; 1 box of bream; 5 boxes of fillets; 4 stone of dabs; 81 tins of tomatoes; 2 boxes and 2 doz. kidneys; 17 lbs. of liver; 4 tins of corned beef; 2 crates and 66 rabbits; 3 tins of sardines; 1 tin of crayfish; 8 tins of tinned fruits; 112 tins of condensed milk; 72 eggs; 2 cwts. of figs; 38 boxes of apples; 2½ barrels of pears; 61½ lbs. of butter were found unfit for table use.

TABLE I.—Vital Statistics of Whole District during 1920 and previous years.

Year.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Net Deaths belonging to the District.			
		Uncorrected Number	Net		Number	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number	Rate.					Number	Rate per 1000 Nett Births	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1910	49,000	1233	1233	25.2	559	11.4	...	...	147	119.2	542	11.06
1911	50,500	1223	1223	24.2	670	13.3	19	30	168	137.3	681	13.5
1912	52,750	1202	1204	22.8	572	10.8	19	25	119	99	578	10.9
1913	54,720	1305	1309	23.8	631	11.5	16	28	115	87.8	643	11.7
1914	56,120	1326	1330	23.7	696	12.6	30	46	126	94.7	712	13.0
1915	57,383	1213	1219	21.2	773	13.3	20	52	167	137.0	805	14.0
1916	57,646	1227	1234	21.43	616	11.6	26	16	100	81.0	606	11.4
1917	60,426	1008	1017	16.7	640	11.8	46	40	88	86.5	634	11.9
1918	60,853	984	1000	16.4	721	13.2	53	60	87	87.0	728	13.8
1919	58,758	973	976	16.4	593	10.5	55	43	86	88.1	581	10.3
1920	58,654	1,397	1,410	25.7	566	9.9	30	45	86	60.0	581	9.9

Total Population at all ages ... 49,978 } At Census, 1911.
 Total families or separate occupiers 11,205 }
 Area of District—3134 acres.

TABLE IV.—Infant Mortality.

1920. 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 1 month.	1-3 months.	3-6 months.	6-9 months.	9-12 months.	Total Deaths under 1 year.
All Causes	Certified ...	26	5	3	4	38	20	11	7	2	78
	Uncertified...	3	...	...	...	3	...	2	1	...	6
Measles	...	...	...	...	...	...	1	...	...	...	1
Whooping Cough	...	...	...	...	...	...	1	...	...	...	1
Diphtheria and Croup	...	...	...	...	1	1	...	...	...	...	1
Erysipelas	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis	...	...	...	...	...	...	...	...	1	...	1
Meningitis, not Tuberculous	...	...	...	...	...	...	...	1	...	...	1
Convulsions...	...	...	...	...	...	...	1	1	...	...	2
Laryngitis	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	...	...	...	1	1	2	6	1	4	1	14
Pneumonia (all forms)	...	...	...	...	...	...	...	2	1	1	4
Diarrhoea	...	...	...	...	...	...	1	4	...	...	5
Enteritis	...	...	...	...	...	...	...	...	...	...	...
Gastritis	...	...	...	...	...	...	...	...	...	...	...
Suffocation, overlying	...	...	...	...	...	...	...	...	...	...	...
Congenital Malformations	...	4	1	...	1	6	...	...	1	...	7
Premature birth	...	9	2	...	...	11	3	...	...	...	14
Atrophy, Debility and Marasmus	...	11	2	2	1	16	6	1	...	...	23
Other causes	...	5	...	...	...	5	1	3	1	...	10
Totals	...	29	5	3	4	41	20	13	8	2	84

Nett Births in } legitimate, 1328.
 the year. } illegitimate, 69.

Nett Deaths in } legitimate infants, 74.
 the year of } illegitimate infants, 10.

Deaths registered during the Calendar Year 1920 classified by Age and Cause.

[illegible]